

FXB / DPRI Case Series 1
October 2015

On Shaky Ground: Disaster Preparedness and Response in Nepal

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Case Study Scenario:

On June 25, 2015, Prime Minister Sushil Koirala officially proposed the formation of the National Reconstruction Authority, a new government entity tasked with planning and overseeing sustainable and durable reconstruction. The agency would be run by engineers and disaster management professionals, forming critical partnerships with government agencies, international organizations, financial institutions, and civil society. The ultimate goal of the National Reconstruction Authority is to create a “stronger, inclusive, and sustainable society.”

However, the National Reconstruction Authority could not be immediately operationalized as Nepal’s Constituent Assembly was focused on the imminent adoption of the new constitution. The bill proposing the Reconstruction Authority had to be tabled on September 16, 2015. On September 20, Nepal adopted a new constitution replacing the Interim Constitution of 2007. There was a great sense of urgency amongst the people of Nepal, and across all political parties, for the Reconstruction Authority to finally begin its work.

Vice-Chairman of the Planning Commission of Nepal, Mr. Govind Raj Pokhrel was appointed CEO of the Reconstruction Authority in August. It is now mid-October 2015, and he is anxious to get started. The monsoons are receding and he knows that the rains have wreaked havoc in many parts of Nepal affected by the dual earthquakes in May. The cold Himalayan winter is fast approaching.

Where should Mr. Pokhrel begin?

What groups now need the most help? Are there Nepalis who have not yet received aid, or are at risk of not receiving adequate reconstruction help?

What should Mr. Pokhrel’s priority interventions be? How can he help make communities more resilient for the next earthquake?

PART 1: PRE-EARTHQUAKE NEPAL

BACKGROUND

Nepal is a small landlocked country between India and China and is among the least developed countries in the world. In 2014, Nepal's population had reached 28 million, of whom one fourth lived below poverty line. Nepal had a per capita GDP of USD 2,400, ranking 197 out of 230 countries (1).

Nepal is divided into three ecological zones. The *Terai* plains are fertile, have a tropical climate, and are heavily populated and farmed. The plains have a developed transportation and communication network. The *pahar* or hill region covers 42 percent of the country, contains both the Kathmandu and Pokhara Valleys and is heavily urbanized (2). The *parbat* or mountainous region covers 35 percent of the country, with altitudes ranging from 3,000 to 8,000 meters, and is the least populated. It has little to no communication facilities or road access.

Demographics

Nepal's population is relatively young, with more than half the population under 24 years of age (see Table 1). Life expectancy is 68 years, commensurate with neighboring countries in the region (3). There are 125 different castes or ethnic groups in Nepal and over 123 recognized languages; more than 80 percent of the people are Hindu. Though prohibited by law, Nepal's caste system continues to be a persistent aspect of its social organization. Patriarchy is entrenched in Nepal and the overwhelming majority of women have no independent source of income.

TABLE 1: Age and gender distribution of Nepal

Age	Percent of Population	M:F Ratio
0-14 years	30.72	1.038
15-24 years	22.51	1.016
25-54 years	36.5	0.93
55-64 years	5.67	0.96
65 years and older	4.6	0.86

Source: Central Intelligence Agency, The World Factbook, Nepal.

Society: The Disadvantage of Gender

In 2013, the Global Gender Gap Index ranked Nepal low, 121st of 136 countries, in male-female equality.¹ Throughout the country, men are typically treated with greater importance in the social, religious, and economic spheres, while women's roles are often restricted to caregiving and housekeeping. Women experience a higher workload, lower educational opportunities and have low literacy rates. Daughters are seen as an economic burden as they not only leave their parents' homes after marriage, but may also cost their parents a substantial dowry (3).

¹ The Global Gender Gap was developed by the World Economic Forum in 2006 and measures any gender-based disparities among access to various resources and opportunities within countries. There are four categories that comprise the index: economic participation and opportunity, political empowerment, health and survival, and educational attainment. In 2014, Iceland ranked first, with the least disparities among genders, while Yemen ranked last (48).

According to a 2015 report by the UN Inter-Agency Standing Committee, 80 percent of women surveyed indicated they had experienced or were currently experiencing gender-based violence (3). These rates are even higher among the low-caste Dalits, widows, and the disabled, as these groups experience additional vulnerabilities on top of their sex. Recent laws have been enacted to curb rates of sexual harassment and child marriage, improve inheritance rights, and recognize that rape within a marriage is illegal. However, these laws are rarely enforced (4).

Society: Discrimination by Birth

The caste system is pervasive in Nepali society. Although outlawed in 1962, a complex web of caste and ethnic loyalties ensure that millions are denied equal access and protection under the law. The *Dalits*, or untouchables, are the most vulnerable, and though they constitute approximately 12 percent of the total population, they have no representation in high offices of government. The *Janjati* tribes constitute over one third of the country's population and yet constitute only about seven percent of government representatives. The *Madeshis* of the *Terai* plain, and most closely linked to India, also feel particularly vulnerable as a result of the geographic divisions drawn under the new constitution.

Economy

Agriculture comprises one third of Nepal's GDP and engages 70 percent of its population. Remittances contribute to almost one fourth of the economy (1). Throughout the last decade, there has been a surge of Nepali citizens emigrating to seek employment in Malaysia, Saudi Arabia, Kuwait, and Qatar, among other countries. The majority of Nepali migrants go to India due to the open border agreement (1).

Years of political disruption, lack of governance, and an absence of a hospitable business environment have deprived the country of industrial advancement. Nepal's landlocked geography, dependence on India and China for access to ports, poor road infrastructure, and persistent power deficits further thwart its industrial growth. Current industrial activity mainly consists of processing agricultural products, including tobacco, sugar cane, and grain.

Rapid Urbanization

The population of the Kathmandu Valley has increased over 500 percent since 1955, and has resulted in unplanned and unregulated urban development. Though Nepal's National Building Code (NBC) was officially codified in 1994, its statutes are rarely enforced. Only three of the 58 municipalities in Nepal have attempted to incorporate NBC regulations into their building permit processes, with little success. There is a scarcity of trained professionals in the construction sector. Only 10 percent of home constructions are supervised by trained engineers and the vast majority of new constructions do not adhere to safety codes (5). The hundreds of temples and monasteries in Kathmandu are made of brick and materials of low tensile strength, and are highly susceptible to earthquakes (5).

Government Instability

Government instability has long been the norm in Nepal. Between 1996 and 2006, the Communist Party of Nepal (Maoist) launched a violent struggle against the government with the stated aim of reducing inequalities resulting from disputes among ethnicities, castes, and gender. The goal of the Maoists was to end the monarchy. Over 13,000 people, including police,

insurgents, and civilians were killed in the conflicts (3). By 2004, over 200,000 people were displaced. Of those who were imprisoned, 70 percent said various parties tortured them. There were numerous cases of human rights abuses against children. During this uprising, in 2001, the majority of the royal family were killed by Crown Prince Dipendra, in what is now referred to as the “royal massacre.”

In April 2006, the major political parties and Maoists came to a tentative peace arrangement that resulted in Nepal becoming a federal republic; the Interim Constitution was drafted in 2007 (3). Unable to bring consensus among Nepal’s various stakeholders, the first Constituent Assembly was dissolved, and the second Constituent Assembly was convened in 2013 with the aim of drafting a new constitution for Nepal, which had yet to be finalized in April 2015.²

Nepal is divided into five administrative regions: far west, mid-west, west, central, and east, and into 75 districts. Districts are divided into 3,915 rural Village Development Committees (VDCs) and 58 urban municipalities (2). Given the absence of a functional government for over a decade, the VDC secretaries are the only government representatives at the local level. The government continues to be overly represented by the *Bahun* caste, Hindus, and males, while indigenous groups, people from the *Terai* plains, and females are severely underrepresented (6).

Health and Health Systems

Nepal has a poor health infrastructure, and the government instability has prevented cohesive public health planning to address preventable causes of morbidity and mortality. The infant mortality rate is high, at 39.14 deaths per 1,000 live births, and the maternal mortality ratio is 190 per 100,000 live births (7). In 2015, the under five mortality rate was 36 per 1,000 live births (8).

While the majority have access to tap or well-water, only 56 percent of the urban population and 44 percent of the rural population have access to an improved sanitation facility (1). Food and water borne illnesses are prevalent and include Hepatitis A, E, and typhoid fever; vector borne diseases such as dengue and Japanese encephalitis are also endemic to the region. Non-communicable diseases are on the rise and contributed to 60 percent of all deaths by 2014. Cancer, diabetes, respiratory disease, and cardiovascular disease are the leading causes of mortality (9).

The healthcare system falls far short of need. During the armed conflict, many community health posts were targeted and destroyed, and health care workers were killed, further reducing both the physical infrastructure and personnel in the healthcare sector (3). In 2002, there were about two physicians per 10,000 people, closer to the WHO African Region average, than the global average of 13.

Prior to the earthquake the hospital bed capacity in Kathmandu was estimated at 2,200. The hospitals were always full, and an additional 3,500 patients were treated on mattresses laid out on floors or in a nearby outdoor space (10). In 2002, 14 of the 50 hospitals in Kathmandu Valley were chosen to undergo a structural vulnerability assessment. The study concluded that in the case of a high magnitude earthquake, close to 30 percent of the facilities would collapse; 60 percent would be unable to deliver a reasonable standard of care; only 10 percent would be

² The new constitution came into effect on September 20, 2015.

partially functional; and none would retain full capacity (11). Nepal also lacks a comprehensive Emergency Medical System and ambulance service and does not have adequately trained medical first responders (10).

Food Security and Nutritional Status

According to the UN Food and Agriculture Organization (FAO), the nutritional status of Nepali mothers and children under five is extremely poor, with no improvement in the last two decades. Nepal is among ten countries in the world with the highest stunting prevalence. About 40 percent of children have moderate to severe stunting, and 11 percent have wasting, with a larger prevalence of severe malnutrition in the mountainous and hill regions (12). Among the bottom 20 percent of the Nepali population, over 40 percent of children under five were underweight, compared with 10 percent in the top 20 percent of the population (13). See Exhibit 1 for nutrition indicators prior to the earthquake.

In 2013, Nepal's National Planning Commission (NPC) reported that the number of stunted children had declined from 57 percent in 2001 to 41 percent in 2011, yet this level was still short of the 30 percent target set by the U.N. (14). See Exhibit 2 for key findings of the National Planning Commission Report.

Food insecurity is the driving contributor to this widespread malnutrition. Though the proportion of people dependent on self-production is decreasing, half of Nepal's 27 million people live in areas of rugged terrain where people eat what they grow, or are highly dependent on the local markets (15). There is great seasonal variability in food availability and this affects both birth weight and growth throughout childhood. Fresh fruits and vegetables are not available year round, which contributes to iron and vitamin deficiencies. In large swathes of Nepal, agricultural activities still constitute the predominant means of income. Winter crops are largely wheat and barley and are typically harvested by the end of March. Summer crops like maize, millet, and paddy are planted around the same time (15). At higher altitudes, winter crops are harvested later, in May and June. Food stocks in the mountainous regions are particularly lean prior to the harvests and the populations are dependent on markets to buy food.

Geological Vulnerability to Earthquakes

The geologic composition of the Kathmandu Valley makes it exceptionally vulnerable to earthquakes due to its location on the Himalayan Mountain Belt, where the Eurasia plate collided with the Indian subcontinent over 40 million years ago. This resulted in the formation of the Himalaya mountain range. This valley is located on a thrust fault: the Indian tectonic plate moves against the Eurasia plate at a rate of 45 millimeters annually, towards the north-northwest (3). In addition, the Kathmandu Valley is situated on a former lake basin, composed of soft sediments. This particular composition amplifies seismic waves, resulting in magnified ground shaking during earthquakes. Much of Kathmandu is also prone to liquefaction, especially those areas located near the rivers, where water-saturated soil becomes partially liquid during the ground shaking. The combined effect of these geological characteristics results in widespread destruction of built structures that are not adequately supported by the shifting soft soil (10). The hilly and mountainous regions suffer from increased landslides during and after the tremors (16).

According to historic seismology records, major earthquakes are expected in the region once every 75 years. The last major earthquake was the Great Bihar earthquake in 1934, an 8.4

magnitude earthquake, which destroyed 20 percent of the buildings in Kathmandu, and damaged twice as many. There were over 8,500 casualties (10).

Over the past two decades, several experts have cautioned about Nepal's lack of preparedness for a major earthquake. Nepal has the institutional frameworks that delineate their commitment to increase disaster preparedness, including the Disaster Relief Act of 1982, yet these laws rarely correlate with increased expenditures in budget allocations, making it difficult to achieve the desired goals (17).

Questions

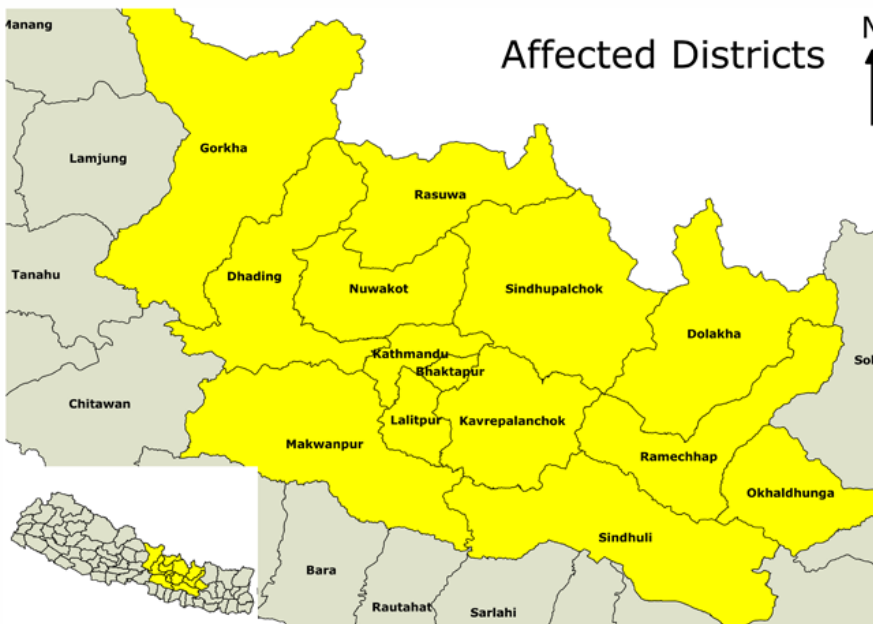
- 1. How vulnerable is Nepal to earthquakes? Reflect on Nepal's infrastructure, with a particular focus on regional variation, communication, transportation, and access.**
 - 2. Which groups of people are likely to suffer most in the case of a natural disaster?**
 - 3. What challenges do the underlying rates of malnutrition and food insecurity pose to disaster mitigation and response planning?**
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PART 2

FIRST EARTHQUAKE

On April 25, 2015, at 11:56 am, Nepal suffered a devastating 7.8 magnitude earthquake with its epicenter in Barpak, Gorkha district, 77 kilometers northwest of Kathmandu. This was the largest earthquake to hit the nation since 1934, and claimed over 8,000 lives in the initial weeks (18). See Exhibit 3A for a map portraying the density of mortality by district. On April 26, the U.S. Geological Survey predicted in the week after the earthquake that there was a 54 percent chance of an aftershock of 6.0 magnitude or higher (19).

FIGURE 1: Map of the 14 Most Affected Districts



Source: Earthquake Relief Information, Kathmandu Living Labs,
<http://kathmandulivinglabs.github.io/quake-maps/#affected-areas>.

Over 288,000 houses were destroyed and over 254,000 damaged from the earthquake (18). See Exhibit 3B for maps depicting the density of the damage by district. Public and historic structures were reduced to rubble. Fourteen of the 39 affected districts were designated as the most severely affected. Hundreds of aftershocks followed, one reaching a magnitude of 6.7 (14). Hundreds of thousands were displaced from their homes and in the immediate days, most camped outside for fear of continuing tremors. Others travelled to neighboring districts to seek support from their extended families and communities, with UN reports indicating that nearly 2.8 million people were displaced throughout the country (20).

The earthquake killed 78 people in India, 25 in China, and 18 climbers on Mount Everest. The base camps were severely damaged, injuring 61 climbers, and trapping many others. The assistance for those trapped on Everest came quickly, with 140 people evacuated by April 27, before operations were suspended due to poor weather conditions (19).

NATIONAL RESPONSE

Nepal's Central Natural Disaster Relief Committee met within two hours of the earthquake as is mandated by the Disaster Relief Act of 1982. The committee declared an emergency in 14 districts, including Bhaktapur, Kathmandu, and Lalitpur in the densely populated Kathmandu Valley, along with Gorkha, Sindhupalchok, Dhading, Kavre, Dolakha, Nuwakot, Ramechhap, Sindhuli, Rasuwa, Makwanpur, and Okhaldhunga. Aid was prioritized to these areas (21).

The committee then established a Response Coordination Center to facilitate search and rescue (SAR) operations, and enable coordination between government and international humanitarian aid organizations. On April 29, the Ministry of Home Affairs (MOHA) established an information desk to disseminate information on the rescue and relief operations, with updates every four hours. By May 2, 132,754 Nepali security personnel were engaged in the search and rescue (SAR) operations (21). The government allocated 1.35 billion Nepali Rupees (approximately USD 12,868,000) to the 14 most affected districts.

The National Red Cross Society (NRCS) also activated its Emergency Operation Center at its headquarters, as well as in the three affected districts in Kathmandu Valley. NRCS aired public messages urging their volunteers to contact the nearest Red Cross branch and volunteer in the relief operations (22).

International Actors and Military Aid

Kathmandu's Tribhuvan International Airport remained closed during the first few days after the earthquake due to aftershocks. The Airport was also unable to handle the amount of traffic that the international aid response brought. This bottleneck had been predicted in analyses as far back as 2010 (23). In spite of the government's plan to issue 20,000 gratis visas and customs waivers, many foreign teams reported difficulties in getting permission to land in Nepal. Time slots for flights with humanitarian cargo and personnel were initially limited.

The initial delay notwithstanding, major aid organizations responded quickly, providing essential items such as medical care and supplies, shelter materials, clothing, and food items. Immediately after the first earthquake, the Nepali government urged foreign NGOs to work through local partners to enhance sustainability. The government formally requested SAR teams on May 3, but at that point there were already 76 international SAR teams in Nepal (24). Additionally, 141 registered foreign medical teams (FMTs) were deployed across the country. The United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) established the first two humanitarian hubs in Gorkha District Headquarters and Chautara in Sindhupalchok.

Eighteen countries dispatched military personnel to help with SAR, medical aid, and engineering operations. The Nepali and Indian militaries were mobilized on a massive scale to lead the rescue operations, as is the norm in both countries. To coordinate the military responders, the government set up a Multi-National Military Coordination Center (MNMCC) where desks were set up by country, instead of by sector or cluster as is the norm in humanitarian response. This arrangement made multi-lateral, sector-wise coordination more difficult (25). Initially, the Indian and Chinese militaries, the largest foreign militaries in Nepal, did not even utilize the MNMCC, instead coordinating their operations through their own command centers, not far from the MNMCC. Other coordination centers included the National Emergency Operations Center, the Onsite Operations Center, and the staging area at the airport. To respond to these multi-center coordination challenges, OCHA established a Joint Operations Cell on May 8 to coordinate logistics, evacuations, and address security issues cohesively whenever possible (25).

Insurmountable Heights

The tenth OCHA Situation Report on May 4 acknowledged that while Kathmandu, Gorkha, and Sindhupalchok were receiving aid, many remote and mountainous districts and villages remained hard to reach. Air access was going to be the lifeline of aid to large bands of the remote population in dire need of food and medical assistance (25).

The Nepali and Indian militaries initiated helicopter SAR operations as early as April 26. The private sector also offered helicopters for the effort. Supporting militaries and agencies had 19 other helicopters, wholly insufficient to reach all the areas in need; yet several helicopters were dispatched to rescue foreigners (26).

On May 8, two Chinook helicopters sent by the UK government waited across the border in India. Human rights organizations reported that the Nepali government was upset over the UK's recent prosecution of a Nepali colonel over torture allegations from Nepal's civil war, and had denied the helicopters permission to enter (27).

By mid-May the rescue operations had already suffered from three helicopter crashes resulting in the deaths of diplomats, U.S. Marines, soldiers, and aid workers. The lack of a reliable register of potential landing spots (and a shortage of landing spots per se) would continue to compound rescue and aid delivery.

Due to the difficulty in reaching certain areas of northern Gorkha, and other remote, earthquake-affected regions, organizations such as the International Organization for Migration (IOM) and other relief agencies began to employ porters, mountaineers, and even long-distance runners to transport aid across the challenging terrain to reach those in need (18).

SECOND EARTHQUAKE

By May 3, the Government of Nepal issued formal letters of appreciation to the foreign urban search and rescue (USAR) teams, requesting they make their exit plans, officially closing the international USAR phase of the response efforts. This directive extended to over 50 USAR teams from 23 different countries. By then, the USAR operations had only resulted in 16 live rescues and the recovery of 179 bodies (28).

There had been a series of aftershocks of magnitude greater than 6.0 since the first earthquake. On May 12, 12:50 pm, Nepal experienced a second large earthquake of magnitude 7.3. The epicenter was 76 kilometers northeast of Kathmandu, in Sindhupalchok District (29). The second earthquake resulted in an additional 150 deaths and resulted in further damage to shelters, caused landslides, and affected road access.

By May 15, according to the IOM, approximately 315,000 people in ten of the 14 most affected districts were not accessible by road, of whom 75,000 were also not accessible by air (30).

HEALTH CARE RESPONSE

The immediate health need was focused on caring for those with traumatic injuries, and assessing the state of healthcare facilities in the aftermath of the earthquake. Displacement, overcrowding, limited potable water, abysmal sanitation facilities, and poor hygiene increased the potential for disease outbreaks. Table 2 provides a snapshot of the death and injury toll, as well as the damage estimates from some of the worst affected districts in the Kathmandu Valley.

TABLE 2: Damage estimates from select Kathmandu Valley Districts

Districts	Deaths	Injured	Houses Completely Damaged	Partially Damaged	Health Facilities Completely Destroyed	Facilities Partially Damaged	Functional Facilities
Bhaktapur	333	2,101	18,900	9,090	8	9	5
Kathmandu	1,222	7,864	36,973	50,753	7	45	21
Lalitpur	174	3,052	17,444	8,064	10	22	12

Source: World Health Organization, Nepal Earthquake: Health Cluster Bulletin No. 5, 28 May – 3 June 2015.

By mid-May, the Health Emergency Operation Center instituted a post-earthquake surveillance system covering 66 hospitals and temporary camps in Kathmandu Valley, and 30 outside. Central referral hospitals suffered significant damage. The Bir Hospital lost 400 beds, the maternity hospital lost 300 beds, Patan Hospital lost clinical blocks, and Sukhraj Hospital lost residential and storage blocks (29). In total 1,150 health facilities were totally (459) or partially (691) damaged in the 14 affected districts. The majority were primary health care centers and village health posts in hard to reach areas (29).

At the end of May, government officials concluded that there was no additional need for FMTs. Of the 42 FMTs (802 persons, including 264 doctors and 236 nurses) that were still in country, fewer than 10 FMTs were asked to stay long-term. Some would integrate their services within the health system development, while others were assigned to large type-two field hospitals (18)

³ At that point, 170 partners had distributed over 20 tons of medicine.

UNICEF established shelter homes in eight highly affected districts for pregnant women, postnatal mothers and their newborns, and children under five. In collaboration with other agencies, UNICEF distributed family hygiene kits, dignity kits and relief packages (<http://www.unfpa.org/resources/dignity-kit-nepal-earthquake>) (29). Reproductive health services were provided to 6,500 people in Kavre, Kathmandu, Lalitpur, Bhaktapur, Rasuwa, Sindhuli and Makwanpur by early June.

³ According to WHO standards, type-two field hospitals must be able to provide acute inpatient care, as well as general and obstetric surgery for trauma patients and other conditions. If required, this hospital must possess the capability to perform seven major or 15 minor surgeries per day, at a minimum, and must have at least 20 inpatient beds for every operating table. In addition, they must be able to function 24 hours a day, seven days a week, if necessary. Key services of type-two field hospitals include surgical triage, basic fracture management, advanced life support, and basic anesthesia, x-ray and laboratory services, and blood transfusions, among others (49).

Nepal then began to focus on revitalizing essential primary health care services (29). To restore access where clinics were damaged or destroyed, the WFP and WHO deployed 50 Medical Camp Kits throughout the 14 affected districts (32).

Rehabilitation Needs

By early June, the need for long-term care and rehabilitation facilities was evident. It was estimated that 429 patients in the Kathmandu Valley hospitals were in need of longer-term treatment support and over 250 patients needed rehabilitation support. A second wave of patients with complications from their initial injuries started appearing at the health facilities. The Ministry of Health and Population (MOHP) confirmed that follow-up care would be provided free of charge in the public and district hospitals in Kathmandu, and in all of the district hospitals in the 14 most affected districts (29).

The MOHP also identified step-down facilities in Kathmandu Valley. With support from International Medical Corps and Handicap International, additional rehabilitation facilities were set up in three of the worst affected districts, Gorkha, Nuwakot, and Sindhupalchok (29).

Patients had also started expressing their desire to return to their hometowns and the IOM began extending their patient transport program to districts outside Kathmandu Valley, provided that access to rehabilitation facilities was assured. By June 5, Handicap International had already completed 2,953 physiotherapy sessions and distributed 287 assistive devices (29).

Mental Health

Prior to the disaster, there was only one psychiatric hospital in Nepal. There were approximately 0.22 psychiatrists and 0.06 psychologists per 100,000 population, almost all of whom were located in Kathmandu (33). This ratio is equivalent to approximately 100 psychiatrists and a dozen clinical psychologists serving a country of 32 million people (34). The WHO estimates that between 5 and 10 percent of people affected by a humanitarian disaster or emergency will consequently suffer from a mental health issue (35). The Government of Nepal allocated 0.08 percent of its budget to mental health in 2015, the third lowest in the world, and lacks the human resources required to deal with a mental health crisis of this magnitude (34).

In the immediate aftermath of the earthquake, UNICEF created a Psychosocial Support working group and the WHO created a Mental Health working group to help address these issues. The WHO provided mobile health clinics to address the shortage of psychiatrists and psychologists, in an attempt to reach the rural areas. At one such clinic in Kathmandu, which saw approximately 500 patients per day, at least 10 percent reported having mental health issues (35). Programs such as UNICEF's child friendly spaces are also aimed at improving the mental health of those affected by the disaster, and help them return to a life that is more typical for them.

FOOD SECURITY

A household survey conducted by the Nepal Food Security Cluster estimated that over 1.4 million people, not including those in Kathmandu Valley, were in need of *immediate* food

assistance, as of May 20.⁴ 1.1 million lived in the heavily damaged areas of the seismic belt, 90,000 in the severely affected but sparsely populated mountainous areas, and 250,000 in the less severely damaged but densely populated southern areas (11). While these numbers largely reflected chronic under-nutrition, the earthquake exacerbated the limited access many villages had to food, making the need for food assistance urgent.

Overall, 55 percent of households lost more than half of their cereal stocks and 80 percent lost their entire food stocks, amounting to an estimated total loss of 52,000 metric tons of grain stocks. Damage to standing crops was less than initially feared. However, widespread seed losses and damage to agricultural tools threatened to significantly impair livelihood regeneration in the affected population. Exhibit 4 illustrates the loss to agricultural assets. While food insecurity was typically higher in the mountainous regions during May and June, it is not as widespread a problem in a normal year as it was after the earthquakes, due to the decreased functionality of local markets.

TABLE 3: Food security indicators before and after the 2015 earthquakes

Food Security Indicator	Before the earthquake⁵	After the earthquake
Poor food consumption (percent of households)	7.6 percent (considered low)	19 percent (considered significant)
Reliance on food assistance (percent of households)	<0.1 percent (considered minimal)	35 percent (considered very high)
Use of negative coping strategies (percent of households)	<1 percent (considered low)	35 percent (considered high)

Source: Food Security Cluster, Nepal: A Report on the Food Security Impact of the 2015 Earthquake.

In order to address the issue of longer-term food insecurity, the FAO explored ways to procure rice seeds in Nepal and India to distribute among Nepali farmers (28). Humanitarian actors were restricted to only distributing seeds that were currently registered in Nepal (18).

Food Assistance

By early May, 2,264 metric tons of food was distributed in 14 districts. Over 15,000 children were estimated to have severe acute malnutrition requiring therapeutic feeding, and 70,000 children with moderate acute malnutrition required supplementary food (31). By May 5, 250,000 boxes of micronutrient powder had been distributed to 12 districts. See Exhibit 5 for additional data on food security.

However, villages in the remote hilly regions remained inaccessible. These hamlets could only be reached after several days of trekking or by treacherous helicopter routes. The dwellings in these regions had suffered a great deal of damage and the trails connecting the remote mountain areas to markets and large settlements were destroyed (31). Markets serving these regions were late to open and the fear of landslides kept people away. In the mountains,

⁴ Households that were considered to be highly or severely food insecure, based on poor and borderline consumption and poor dietary adversity, were designated as in need of immediate food assistance (31).

⁵ Based on the 2013/2014 NeKSAP (Nepal Food Security Monitoring System) household surveys.

livelihoods are dependent on livestock rearing, as cropping is largely limited to potatoes and barley, both of which are bartered for rice and pulses with lower hill communities in the summer (31). Food security continued to be a challenge in the remote mountainous regions.

With food supplies significantly depleted all around, household food consumption dropped. Women were the first to reduce the frequency, size, and diversity of their meals, putting those that were pregnant or lactating at an even greater risk of malnutrition (31). Post-earthquake, 13 percent of surveyed households were female-headed as compared to 10 percent prior to the earthquake (31). Among female-headed households, 53 percent were found to have poor food consumption, as compared to 44 percent of male-headed households. In Gorkha and Lamjung district, the percentage of female-headed households is high, at 33 and 40 percent, respectively (36).

Water Sanitation and Hygiene (WASH)

As of June 2, the WASH cluster estimated that 1.1 million people needed water services, 1 million people needed sanitation services, and 3 million people needed hygiene services (37). The WASH cluster targeted 5.2 million people in the 14 most affected districts. OCHA estimated that these targets would require USD 63 million, of which only 27 percent was funded. To prevent the further spread of disease from open defecation and water contamination, the WASH cluster aimed to provide monetary assistance to support people in rebuilding destroyed toilets or constructing new ones if they did not previously have a toilet. See Exhibit 6 for an overview of the WASH situation as of May 24.

As predicted, the risk of waterborne diseases greatly increased after the earthquake. Between April 30 and May 24, the Ministry of Health and Population conducted risk assessments in Kathmandu, Gorkha, Dhading, Kavrepalanchowk, Sindhupalchok, Bhaktapur, and Lalitpur districts and found that 74 percent of the water samples collected were unfit for drinking (38). Within months, cases of cholera had also been confirmed in parts of Kathmandu and Lalitpur (38). However, the number of infected people was likely much higher, as only about one in 10 patients with diarrheal diseases seek treatment at healthcare facilities (38). The large number of displaced people and the high mobility of aid workers increased the chances of cholera spreading outside the confines of these regions.

SHELTER

With 2.2 million people estimated to have lost their homes, a rapid response was essential (39). By April 30, the government had established 16 camps for IDPs within the Kathmandu Valley, which provided shelter to approximately 24,000 people in 13 of the camps.

An Oxfam assessment of three Village Development Committees (VDCs) as of May 6 (Khadag Bhanjyang, Madanpur, and Thaprek) in Nuwakot District determined that between 80 and 90 percent of the traditional stone or brick buildings were destroyed, including grain storage shelters and animal sheds. Approximately 75 percent of latrines were also destroyed in these VDCs, highlighting the urgent need for shelter assistance in rural areas (40). In addition, an assessment completed by the Government of Canada in Bhaktapur District, identified that between 50 and 70 percent of buildings were uninhabitable in early May, while 10 percent were completely destroyed (40).

Key informant interviews conducted in May, in 64 of the 79 VDCs in Sindhupalchok, determined that the earthquakes had damaged 99 percent of the houses and displaced 88 percent of people in the district (41). Additionally, 93 percent of those surveyed indicated their personal need for humanitarian assistance, while 38 percent felt they needed immediate interventions (42).

By June 30, 43,448 households had either not been reached or had not received adequate supplies to begin rebuilding and reconstructing their houses. The Shelter Cluster aimed to support 350,000 families with non-food items and some form of emergency shelter. In addition they would provide 125,000 families with material to promote self-recovery. Self-recovery support included corrugated galvanized iron (CGI) sheets or cash distributions, combined with training and technical assistance to promote longer-term resilience and ensure that the beneficiaries had durable shelter prior to the impending monsoons. For the most part, people in the mountain regions had not received any of this aid (43). Of the families whose homes were destroyed, approximately 60 percent had identified CGI as their most urgent need in terms of shelter (39). Only 21 percent of households felt that their temporary shelters would withstand the monsoon.

Distribution of shelter materials held challenges. There was a shortage of CGI in the local markets, in addition to customs delays, taxes on shelter materials, and the high cost of transporting these materials into the most remote regions (39). Access was further limited by the monsoons.

Despite the request for USD 98.2 million for shelter from the UN Flash Appeal, only USD 24.2 million had been received as of June, leaving a USD 74 million deficit (39). These needs would only increase as monsoons, landslides, and the harsh Himalayan winter would cause further damage to homes.

PROTECTION

Between 12,000 and 15,000 girls are trafficked from Nepal each year, with the majority ending up in Indian brothels. Child marriage, as a means of “securing the future” of young girls, was prevalent among large sections of the poor, even before the earthquake. Approximately 41 percent of Nepali girls are married before their eighteenth birthday, and about 10 percent before they turn fifteen (44).

The heightened insecurity resulting from the destruction and displacement caused by the earthquakes is likely to have worsened child protection issues, including early marriage, child labor, gender based violence, and trafficking. Reliable data are not available, but by September, UNICEF and its partners had intercepted over 793 people at risk of trafficking at Nepal’s border with India.

After the first earthquake UNICEF began working immediately with the Central Child Welfare Board (CCWB) and 14 District Child Welfare Boards (DCWBs) to register and reunite children that had been separated from their parents. Among government-designated formal displacement sites, UNICEF and staff from four local NGOs collaborated to identify orphaned, separated, or unaccompanied children (45). At the end of May, 109 of 135 children had been reunited with their families (46).

UNICEF also entered a partnership with the MOHA and the Nepal Police to help prevent trafficking, especially to India, by strengthening police checkpoints and police stations. Other partnerships with the Ministry of Women, Children, and Social Welfare's anti-trafficking unit and NGOs in the area aimed to promote awareness and create interception points along the border (46). In addition, the Government of Nepal suspended all inter-country adoption shortly after the first earthquake.

RECONSTRUCTION

As of August 14, the Nepali Reconstruction Authority had received pledges of approximately 670 billion Nepali rupees (about USD 6.7 billion) and their work is yet to begin.

The monsoons had receded by the end of October and the cold Himalayan winter months will soon begin. Hundreds of thousands are still displaced. Most of those living in the hills and mountains of Nepal that needed help after the earthquake had not been reached prior to the monsoons. The rains may have exacerbated their food insecurity, the instability of their shelters, and their health and nutrition status (47). There is growing concern among aid organizations and NGOs that the disenfranchised are receiving the least aid. As early as June 2015, Amnesty International had called for an end to discrimination in the relief efforts, highlighting the large disparities in material and financial aid across caste and ethnic groups.

Weeks before the earthquake, in March 2015, the Third UN World Conference on Disaster Risk Reduction met in Japan to adopt the Sendai Framework for Disaster Risk Reduction 2015-2030. The Framework outlines four priorities for action to prevent new and reduce existing disaster risks: (i) Understanding disaster risk; (ii) Strengthening disaster risk governance to manage disaster risk; (iii) Investing in disaster reduction for resilience; and (iv) Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation, and reconstruction. It aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods, and health, and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries over the next 15 years.

Questions

1) What must CEO Pokhrel do to meet the Sendai Framework's goals? Focus your responses on health, food security, shelter and protection needs of the Nepali community.

2) Which groups of people will need the most protection this winter, and over the coming years?

3) What measures should the CEO undertake to improve food security in the remote areas? How can their nutritional status be improved?

4) How will CEO Pokhrel ensure equity in "building back better"? What human rights instruments can aid you in your argument?

EXHIBIT 1: Nepal Nutrition Indicators

Time Period	Low Birthweight (percent)	Early Initiation of Breastfeeding (percent)	Exclusive Breastfeeding <6 months (percent)	Introduction of solid, semi-solid, or soft foods 6-8 months (percent)	Breastfeeding at age 2 (percent)	Iodized Salt Consumption (percent)
2008-2012	18	45	70	66	93	80

Time Period	Underweight (percent)		Stunting (percent)	Wasting (percent)	Overweight (percent)	Vitamin A Supplementation, Full Coverage (percent), 2012
	Moderate and Severe	Severe	Moderate and Severe	Moderate and Severe	Moderate and Severe	
2008-2012	29	8	41	11	2	95

Source: UNICEF, The State of the World's Children 2014: Every Child Counts.

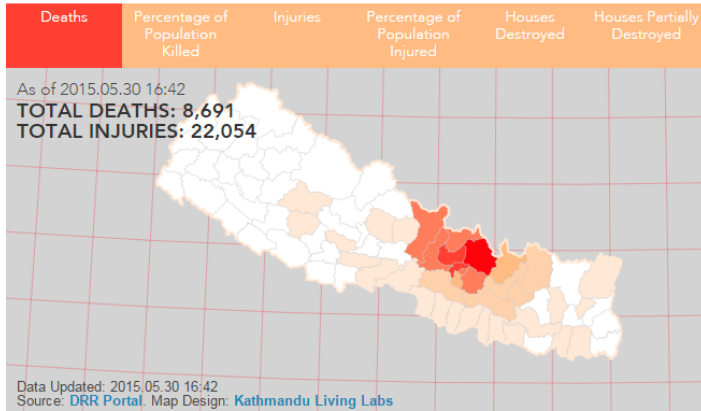
EXHIBIT 2: Key findings of the National Planning Commission Report

- Remittance income and urbanization typically reduce poverty, while improving nutrition and food security;
- Households are more dependent on purchased food than they have been in the past;
- The proportion of female-headed households has almost doubled since 1995/1996;
- With agricultural growth stagnating and urbanization increasing, population growth and changing consumption patterns are increasing the demand for food;
- The price of food has increased significantly in the past few years, despite improvements in infrastructure and decreased transportation costs in some of the rural areas;
- Wasting has remained practically unchanged

Source: National Planning Commission – Central Bureau of Statistics, Nepal Thematic Report on Food Security and Nutrition 2013.

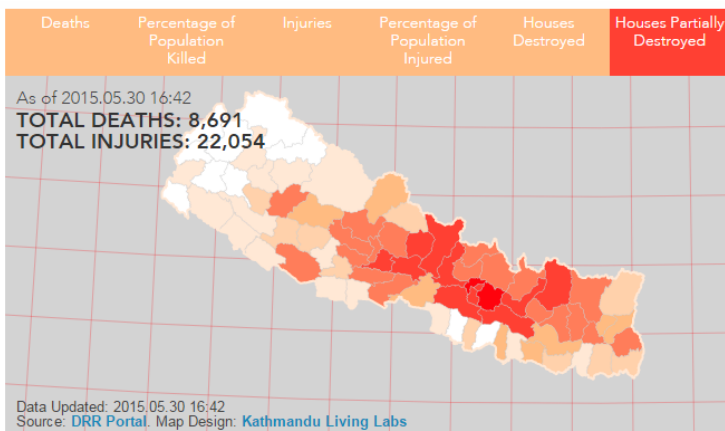
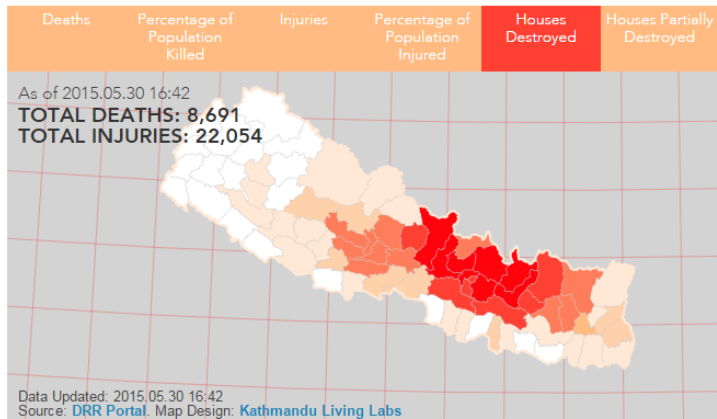
EXHIBIT 3A: Map of deaths by district as of May 30, 2015

Note: darker hues indicate higher frequencies of deaths and injuries.



Source: Earthquake Relief Information, Kathmandu Living Labs,
<http://kathmandulivinglabs.github.io/quake-maps/#affected-areas>.

EXHIBIT 3B: Map of houses destroyed by district as of May 30, 2015.



Source: Earthquake Relief Information, Kathmandu Living Labs,
<http://kathmandulivinglabs.github.io/quake-maps/#affected-areas>.

EXHIBIT 4: Livelihood Asset Losses

Asset	Households reporting agricultural losses (percent)
Plough	26
Spade	43
Sickle	41
Doko (basket)	49
Tractor	<1
Livestock shelter	35
Carts	1
Water tanks	1

Source: Food Security Cluster, Nepal: A Report on the Food Security Impact of the 2015 Earthquake.

EXHIBIT 5: Food Security Statistical Profile

		Food Consumption				Vulnerability				Need for food assistance	
		1	2	3	4	5	6	7			
Food Security Profile (% of Households)		Food Consumption Score (FCS)		Poor Dietary Diversity	Coping strategy index		Market access	Based on analysis (Poor FCS or reduced meals or limited portions at least once in past week)		Based on field monitors observation	
		Poor	Borderline	Acceptable	< 4 food groups out of 7 **excludes 'sugar/honey'	Could not recover food stocks	Low coping (1-17)	High coping (>17)	(food items available AND less than 2 hrs away)		
Geographically	1 All affected districts	19%	27%	54%	19%	38%	53%	14%	45%	46%	77%
	2 Phase 1 - Minimally food insecure (minimal)	14%	24%	62%	8%	8%	27%	5%	81%	27%	45%
	3 Phase 2 - Moderately food insecure (stressed)	15%	28%	57%	16%	43%	59%	16%	61%	53%	88%
	4 Phase 3 - Highly food insecure (crisis)	23%	28%	48%	26%	54%	71%	15%	35%	47%	91%
	5 Phase 4 - Severely food insecure (emergency)	35%	31%	34%	46%	79%	57%	43%	0%	95%	100%
Household composition	6 Male headed households	18%	26%	55%	18%	39%	54%	14%	47%	46%	77%
	7 Female headed households	20%	33%	47%	24%	32%	47%	16%	37%	48%	76%
	8 Vulnerable household (PWL, chronic ill or disabled member)	26%	28%	46%	21%	44%	60%	12%	42%	55%	79%
Caste / ethnicity	9 Elderly headed household	22%	27%	51%	26%	38%	59%	22%	47%	64%	84%
	10 Brahmin / Chhetri	10%	25%	65%	11%	41%	54%	10%	44%	36%	76%
	11 Dalit	31%	27%	42%	33%	48%	67%	13%	42%	55%	89%
Main economic activity	12 Janajati	22%	29%	50%	21%	35%	49%	17%	47%	50%	75%
	13 Crop farming	18%	26%	56%	18%	43%	55%	15%	50%	47%	78%
	14 Livestock raising	16%	28%	56%	16%	41%	53%	18%	52%	52%	83%
	15 Agricultural and other daily labour	31%	32%	37%	28%	49%	55%	25%	50%	65%	86%
	16 Salaried and skilled employment	15%	29%	56%	14%	39%	55%	13%	42%	45%	75%
17 Wholesale and retail trading	15%	20%	64%	15%	40%	36%	16%	38%	34%	62%	
18 Remittances	15%	21%	64%	16%	38%	41%	21%	43%	44%	72%	

Source: Food Security Cluster, Nepal: A Report on the Food Security Impact of the 2015 Earthquake.

EXHIBIT 6: WASH Situation by District, as of May 24

District	Water	Sanitation
	Percent without access to a protected water source	Percent with heavy damage or destruction of their sanitation system
Bhaktapur	18	11
Dhading	18	28
Dolakha	32	23
Gorkha	30	40
Kavre	12	10
Kathmandu	15	13
Lalitpur	12	11
Makwanpur	7	12
Nuwakot	70	30
Okhaldhunga	30	40
Ramechhap	20	20
Rasuwa	30	40
Sindhuli	20	30
Sindhupalchok	50	40

Source: DWSS, UNICEF, Nepal 2015 Earthquake Response – WASH Cluster.

References

1. Central Intelligence Agency. The World Factbook - Nepal [Internet]. 2015 [cited 2015 Oct 5]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/np.html>
2. Ministry of Health and Population (MOHP), New ERA, ICF International. Nepal Demographic and Health Survey 2011 [Internet]. 2012. Available from: [http://www.dhsprogram.com/pubs/pdf/FR257/FR257\[13April2012\].pdf](http://www.dhsprogram.com/pubs/pdf/FR257/FR257[13April2012].pdf)
3. Inter-Agency Standing Committee (IASC) Reference Group for Mental Health and Psychosocial Support in Emergency Settings. Nepal Earthquakes 2015: Desk Review of Existing Information with Relevance to Mental Health and Psychosocial Support. Kathmandu, Nepal; 2015.
4. Tuladhar S, Khanal KR, K.C. L, Ghimire PK, Onta K. Women's Empowerment and Spousal Violence in Relation to Health Outcomes in Nepal, Further Analysis of the 2011 Nepal Demographic and Health Survey. Kathmandu, Nepal; 2013.
5. Bhattarai K, Conway D. Urban Vulnerabilities in the Kathmandu Valley, Nepal: Visualizations of Human/Hazard Interactions. J Geogr Inf Syst [Internet]. 2010;02:63–84. Available from: <http://www.scirp.org/journal/PaperDownload.aspx?DOI=10.4236/jgis.2010.22012>
6. Jamil I, Dangal R. The state of bureaucratic representativeness and administrative culture in Nepal. Contemp South Asia [Internet]. 2009;17(2):193–211. Available from: <http://www.tandfonline.com/doi/abs/10.1080/09584930802346497>
7. World Bank. Maternal mortality ratio (modeled estimate, per 100,000 live births) | Data [Internet]. [cited 2015 Oct 7]. Available from: <http://data.worldbank.org/indicator/SH.STA.MMRT>
8. Bank W. Mortality rate, under-5 (per 1,000 live births) | Data [Internet]. [cited 2015 Oct 30]. Available from: <http://data.worldbank.org/indicator/SH.DYN.MORT>
9. World Health Organization. Nepal Noncommunicable Diseases Country Profile. 2014.
10. Hsiao K-H. Preparing for the Next Major Earthquake: Health Sector Preparedness and Resilience in Kathmandu, Nepal. Boston, MA; 2015. p. 1–17.
11. World Health Organisation Emergency and Humanitarian Action, Ministry of Health Department of Health Services. Mitigating Earthquake Risk in Health Facilities: A Structural Vulnerability Assessment of Hospitals in Kathmandu Valley. Kathmandu, Nepal; 2002. p. 1–118.
12. UNICEF. The State of the World's Children 2014: Every Child Counts [Internet]. New York, New York; 2014. Available from: http://www.unicef.org/sowc2014/numbers/documents/english/SOWC2014_InNumbers_28Jan.pdf
13. UNICEF. Statistics | Nepal [Internet]. 2013 [cited 2015 Oct 14]. Available from: http://www.unicef.org/infobycountry/nepal_nepal_statistics.html

14. National Planning Commission - Central Bureau of Statistics. Nepal Thematic Report on Food Security and Nutrition 2013. 2013.
15. Food and Agriculture Organization of the United Nations. Nutrition country profiles: Nepal summary [Internet]. 2010 [cited 2015 Oct 9]. Available from: http://www.fao.org/ag/agn/nutrition/nep_en.stm
16. Government of Nepal. National Strategy for Disaster Risk Management in Nepal. 2008. p. 1–108.
17. Chan EYY, Lee PPY. Disaster Case Studies Series: The Sikkim Earthquake in Nepal, 2011. 2014.
18. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #11 | May 11, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs11>
19. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #2 | April 27, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs02>
20. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #4 | April 29, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs04>
21. Ministry of Home Affairs. Nepal Earthquake 2072, Situation Update as of 5th May. 2015.
22. International Federation of Red Cross and Red Crescent Societies. Information bulletin, Nepal: Earthquake. 2015.
23. Dixit AM. National Society for Earthquake Technology - Nepal (NSET). BBC Nepali interview;
24. Government of Nepal. International Search and Rescue Teams - Nepal Disaster Risk Reduction Portal. Kathmandu, Nepal;
25. Bollettino V, Kreutzer T. The Use of Civil-Military and Defense Assets and Coordination in Nepal. 2015.
26. United Nations Office for the Coordination of Humanitarian Affairs. Nepal: Earthquake 2015, Situation Report No. 10 (as of 4 May 2015). 2015.
27. Amnesty International. Nepal: Earthquake Recovery Must Safeguard Human Rights. 2015.
28. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #8 | May 4, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs08>
29. World Health Organization. Nepal Earthquake, Health Cluster Bulletin No. 5, 28 May - 3 June 2015. 2015.

30. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #13 | May 15, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs13>
31. Food Security Cluster. Nepal: A report on the food security impact of the 2015 earthquake. 2015.
32. World Health Organization. In Nepal's Dhading district, Medical Camp Kits are all set to replace damaged primary health facilities [Internet]. World Health Organization, South-East Asia Regional Office; 2015 [cited 2015 Oct 5]. Available from: <http://www.searo.who.int/entity/emergencies/crises/nepal/medical-camp-kits/en/>
33. International Medical Corps. Rapid Mental Health and Psychosocial Support Situational Assessment Services, Identified Needs, and Recommendations following the April and May 2015 Earthquakes in Nepal. 2015.
34. Macaskill A, Mahr K. Mental health worry for Nepalis traumatized by aftershocks. Reuters [Internet]. Kathmandu, Nepal; 2015 May 13 [cited 2015 Oct 9]; Available from: <http://www.reuters.com/article/2015/05/13/us-quake-nepal-health-idUSKBN0NY1Q320150513>
35. World Health Organization. Mobile health clinics help tackle post-earthquake mental health problems in Nepal [Internet]. World Health Organization; 2015 [cited 2015 Oct 9]. Available from: <http://www.who.int/features/2015/mental-health-in-nepal/en/>
36. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #12 | May 13, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs12>
37. DWSS, UNICEF. Nepal 2015 Earthquake Response - WASH Cluster. Kathmandu, Nepal; 2015.
38. Shrestha HK. Cholera remains uncontrolled in capital. Nepal Mountain News [Internet]. Kathmandu; 2015 [cited 2015 Oct 8]; Available from: <http://www.nepalmountainnews.com/cms/2015/08/18/cholera-remains-uncontrolled-in-capital/>
39. Nepal Shelter Cluster. Shelter: Nepal Earthquake Cluster Brief, June 2015. 2015.
40. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #9 | May 6, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs09>
41. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #19 | June 4, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs19>
42. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #20 | June 12, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs20>

43. United Nations Office for the Coordination of Humanitarian Affairs. Nepal: Earthquake 2015, Situation Report No. 20 (as of 3 June 2015). 2015.
44. Girls Not Brides. Child marriage in Nepal: what about girls? [Internet]. 2013 [cited 2015 Oct 26]. Available from: <http://www.girlsnotbrides.org/child-marriage-in-nepal-what-about-girls/>
45. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #7 | May 3, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs07>
46. UNICEF. Child Protection Earthquake Response, April-May 2015. 2015.
47. U.S. Agency for International Development. Nepal Earthquake - Fact Sheet #21 | June 25, 2015 [Internet]. 2015 [cited 2015 Oct 15]. Available from: <https://www.usaid.gov/nepal-earthquake/fy15/fs21>
48. Schwab K, Eide EB, Zahidi S, Bekhouche Y, Ugarte PP, Camus J, et al. The Global Gender Gap Report 2014 [Internet]. Geneva; 2012. Available from: <http://books.google.com/books?hl=en&lr=&id=4yQv13Sug3kC&oi=fnd&pg=PP7&dq=The+Global+Gender+Gap+Report&ots=ir-e4DxUqB&sig=0-Omm-VF5dQprlIVdYZ6UMqhti4>
<http://books.google.com/books?hl=en&lr=&id=4yQv13Sug3kC&oi=fnd&pg=PP7&dq=The+global+gender+gap+report+200>
49. Norton I, von Schreeb J, Aitken P, Herard P, Lajolo C. Classification and Minimum Standards for Foreign Medical Teams in Sudden Onset [Internet]. 2013. Available from: http://www.who.int/hac/global_health_cluster/fmt_guidelines_september2013.pdf?ua=1



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