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KI INDA DIX

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9. Use solar lamps or torch instead of candles or lighter for light in damaged buildings and/or tents.
10. If the tents are in group, better to arrange at least one fire extinguisher for every 5 tents.
11. Keep emergency numbers with you such as nearest police station, Fire Brigade, Hospital etc.
12. If fire catches you Stop, Drop and Roll
13. Acquire simple skills for putting off fire e.g. using fire extinguisher, water, mud, green leaves etc.
14. In case of fire, try to put off immediately, but if it is beyond of your capacity, inform professional fire responders.

An initiative under NSET implemented program "Promoting Public Private Partnership for Earthquake Risk Management (3PERM)" supported by USAID/OFDA.

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SOON, THE MONSOON

Nepal’s disaster isn’t over yet: it is just moving into the next phase

If there were still doubts about just how challenging the rainy season will be to compound the misery unleashed by the earthquakes, the landslide on the Kali Gandaki in Myagdi district last week was a timely reminder. If the entire side of a mountain could fall into a major Himalayan river, blocking it for 16 hours even though it was 120km from the epicentre and there were no big aftershocks at the time, imagine what it will be like when the rains arrive.

Even as we write this on Tuesday night, a M5 aftershock with an epicentre in Rasuwa is rocking central Nepal. The mountains are still trembling, the slopes are unstable – all that is needed is water and gravity to complete the vicious cycle. Within a month, the monsoon will arrive unleashing the rains on these crumbly slopes. Central Nepal gets between 1,500-3,000mm of annual precipitation in an average year, and 85 per cent of that usually falls in the four months between June-September.

Villages and settlements in the direct path of existing landslides need to be urgently relocated. For Rasuwa, Sindhupalchok and Dolakha this means just about every other market town along the highways that follow rivers. Although many have already left, it will be a gigantic task to move the others to safer places.

Nepal’s disaster isn’t over yet: it is just moving into the next phase. The government’s relief mechanism needs to go back into rescue mode. It needs to be on high alert to detect, assess, evacuate and organise the release of water impounded by landslide lakes. Given the shortage of helicopters and low cloud cover, this is going to severely test rapid response teams. Information has to be prompt and credible so there is no crying wolf, and spreading unnecessary panic downstream. In a sense, we are looking at multiple Kali Gandakis and slope failures on the scale of the Jure disaster on the Bhote Kosi last year.

We were lucky this time that the shaking in the 25 April quake and the 12 May aftershock were not severe enough to affect the moraine dams of numerous glacial lakes in central Nepal and Tibet. These feed into both Bhote Kosis



KUNDA DIXIT

as well as other glacier-fed rivers originating in Nepal. In a year with more-than-average winter and spring snowfall, the lake levels are high and moraines have been weakened, the monsoon could compound the threat. An early warning system that coordinates between China, various Nepali line ministries and the security forces need to be put quickly

into place for this monsoon and beyond. We may not always be as lucky as we were in Myagdi last week because the Kali Gandaki landslide lake emptied itself out gradually.

However, the real emergency will be of the silent kind. Even at the best of times, the monsoon is a period of gastrointestinal infections. Millions of people are displaced or

YOUR SAY

www.nepalitimes.com

GROWING BACK

The Ministry of Agriculture needs to look at promoting Fairtrade cotton farming and other forms of Fairtrade produced goods - not just handicrafts - but agricultural products that carry the FLO label ('Living off the land', Editorial, #759). This way people can earn a decent living from the land and farmers will gain the respect and salaries they deserve.

Sara Parker

■ It is essential to move away from corporate level farming and encourage use of technology in agriculture.

K Dulal

■ 'We are planting crops out of necessity to grow food, but our hearts are not in it ('Growing back', Sonia Awale, #759)'. This really sums up the emotions of farmers post-earthquake. Besides places which need emergency food supplies, farmers in most of the 15 districts are in urgent need of shelter and a sense that things are getting back to normal. That nuance is missing in most coverage of this crisis.

Jens

■ Very timely and well-presented story on agriculture. For a sector that is so important to the country, it remains ignored by the political culture. The earthquake should be a wakeup call to

get it right and give priority to farmers' livelihoods. Thank you for focusing on a neglected but an important part of our recovery.

Dina

CRUMBLD PALACES

It has come to public notice that the reluctance of the army to vacate the front building, where the State Hall is located led to the collapse of the beautiful structure ('Crumbling palaces', Sahina Shrestha, #759). The Singha Darbar Reconstruction Committee is said to have made repeated requests to the army for four years to vacate that portion for retrofitting. The structure could have possibly survived the shock of the earthquake had it been retrofitted.

Nameless

■ People are bribing officials for the red sticker to avail loans at 2% interest rates. Also engineers who originally passed building plans, which are now destroyed are reluctant to give red stickers to buildings which need to be brought down, lest they get punished in the future by some fact finding committee. Even NEA engineers are full of corrupt officers who have been passing sub standard designs for many years. Unless some independent panel of engineers led by a strong willed individual take hold of the

reconstruction phase, Nepal is destined to follow the Haiti path.

Namah

■ Such a shame.

Anita Gurung

DISABLED AGAIN

Life is tough for disabled on a good day in Nepal, can't imagine how it must be right now ('Physically challenged again', Manisha Gauchan, #759). Need is different and urgent for disabled.

Amod Pyakurel

■ This is sad. Nepal is not a handicapped friendly country and to imagine the conditions now after the disaster is heartbreaking. Relief efforts should focus on the disabled.

Neema

TOURISM DOWN

If Nepal had a second international airport out of the affected areas then tourists could arrive and trek without fear and travel warnings could be lifted. But, like so many things, the "top" politicians have not let that happen.

Jamie McGuinness

■ I think Nepal's tourism can be revived in a year but that will be possible only if we follow guidelines of a new possible structural reform of the sector.

Nirmal Ghimire

WOMEN POWER

Many years ago, staying at a resort in Chitwan National Park I saw a group of Nepali women carrying head loads of firewood as they waded through a shallow river at the height of summer ('We will bend but we will not break', Anjana Rajbhandary, #759). They radiated strength, courage, not fatalism but a quiet acknowledgement that life is hard, but we will get through the day.

Ashok

DÉJÀ VU

Interesting piece on the situation of two refugee communities after the earthquake ('Déjà vu for Tibet's refugees', Tsering Dolker Gurung, #759). This article also makes me question the differential treatment of the two refugees mentioned- the Bhutanese and the Tibetans- by the government of Nepal. While the government has been fully supportive of third country settlement programs for the Bhutanese refugees, why isn't it doing the same for the Tibetans who have been in the country longer and do not enjoy any basic rights?

Tashi Lama

■ Just give them the travel documents and let them go wherever they want to. Why hang on to them, torture them mentally and try to milk the Chinese government for some money.

Nam

THIS WEEK

Most liked on Facebook
Living off the land, Editorial (74 likes)



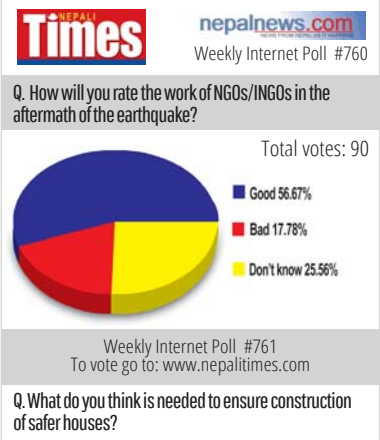
TOMOO HOZUMI / UNICEF (142 SHARES)

Most shared on Facebook
More than 25,000 schools were destroyed and damaged during the earthquake. This one in Muchhuk in Gorkha district only has its door intact after it collapsed on 25 April, killing four teachers.

Most popular on Twitter
WFP starts high-altitude operation by Stéphane Huët (164 retweets, 116 favourites)

Most visited online page
Tourism is down, but not out by Om Astha Rai (2,246 views)

Most commented
Tourism is down, but not out by Om Astha Rai (19 comments)



living in temporary shelters like this one in Kathmandu hunkering down for a thunderstorm this week (*pic, overleaf*). The risk of water-borne diseases is very high for the coming months. This approaching crisis will coincide with obstructed highways and helicopters will be grounded by bad weather. On top of all this, the health infrastructure in 14 districts around Kathmandu have been severely damaged.

In Chautara, the main wing of the Sindhupalchok District Hospital which was inaugurated earlier this year is so badly damaged it needs to work out of tents for at least three more years. Of the 75 health posts in the district, 66 do not exist anymore. Female Community Health Volunteers (FCHVs) who have been the backbone of Nepal's progress in maternal and child health are severely traumatised by loss of family members and homes in all 14 districts.

Thankfully, public awareness about sanitation and safe water is higher than it used to be, and the government is gearing up with medicines. The Department of Health Services Logistics Division in Teku is a hive of activity these days. X-ray machines are being loaded for dispatch to Chautara and Charikot, a truckful of peanut paste is headed off to Rasuwa, and cold boxes with anti-tetanus vaccines are being rushed to Gorkha.

The health authorities are working seamlessly with WHO and UNICEF, which immediately flew in their Nepali staff from countries in the region to work alongside the government in the field. As we report on page 14-15, despite awareness and the preparation, this is going to be a monsoon of misery and ill health. The main task is to keep outbreaks in check, focus on the most vulnerable populations including 1.7 million children, the new borns and an estimated 160,000 pregnant women in the affected areas, tackle malnutrition that makes children more prone to infections.

Nepal has taken dramatic strides in maternal and child health in the past 15 years, those gains are in serious jeopardy because of the earthquake. A lot of the credit for that success goes to rural health workers and FCHVs, and it is by backstopping them and boosting their morale that we will address the challenge of not just this monsoon, but of the future.

The task ahead is not just to reconstruct destroyed hospitals, but to rebuild the health system so that Nepalis don't have to die because they cannot reach or afford quality health care.

Rock and a hard place

It doesn't help that the Nepali state is intolerant, and the international community is oozing with arrogance

Nepalis are squeezed: between boulders, revolutionary leftists and oppressive rightists, between tradition and modernity, and as we've recently realised, between the Indian and Eurasian tectonic plates.



ONE TO MANY
Bidushi Dhungel

If you think about it, we are also sandwiched between seamlessly corrupt, inefficient governments and arrogant less-than-transparent donors. Which is probably why, when the earthquake hit on 25 April, most people didn't turn to the government or donors for help, they turned to each other. People want to give directly to survivors through volunteers on the ground.

The lack of a better alternative is probably what spurred on the 'resilient' Nepali nature in all the relief work as well. It's a rubbish place to be as a people, unable to trust our own government and bureaucracy and to be equally suspicious of other governments and foreign organisations here to 'help'.

For many years now, those who work for the government and bureaucracy have been almost unanimously considered corrupt, greedy, and inefficient by Nepalis, and also by foreign aid organisations and governments. Increasingly, however, the latter bunch – the donors—are also considered opaque and inefficient in a classier and less-obvious way.

As Nepalis, we pour our frustrations rightly on this government and bureaucracy, considering any corruption and inefficiency on part of this state is paid by our tax money. And to think that our money supports red tape is infuriating. But none of this is 'new' news, and the lack of state presence long predates the earthquake. Not only have we known this, but well-meaning foreigners have spent millions of dollars in efforts to create an 'accountable' state for us. But, surely, accountability would be best learnt if the donors implementing the programs led by example. That way, the beneficiaries might actually take the lesson seriously, instead of signing up just for the free ride.

The holier-than-thou position of much of Nepal's aid regime is the real problem. That wouldn't be the case were our government more capable, but it isn't. The donor argument is that working through the government invites dealing with corruption and delays. Unfortunately, instead of trying to strengthen the government and make it accountable, many donors are quick to bypass it, deepening the accountability crisis. So when the Nepali government says, for example, that not giving directly to the PM Relief Fund is a way to profit from Nepal's disaster, one can't help but feel there is an ounce of weight to the argument.

For example, one wonders why the PM's Relief Fund has collected a mere \$39 million even as individuals like Joanna Lumley raised \$50 million for Nepal. That money went to the Disasters Emergency Committee, a coalition of 13 UK charities working on relief in Nepal. Granted if that money came into the PM Relief Fund perhaps some of it would be siphoned off, against which we may have been able to rally. But can we guarantee that all the \$50 million which Ms Lumley has selflessly worked to raise will even make it to Nepal? The answer is probably not. And we probably won't be able to say a thing about it, either.

Donor-government tension during this crisis was exemplified by Chinook helicopters that Britain offered, but was declined by the Nepal Army. The official government stance was 'technical': they are loud, heavy, came too late, and could 'blow off roofs'. Unsurprisingly, the burden of Nepal's dysfunctional politics, fuelled by a controversy-obsessed media, did not spare this justification and instead dragged into an otherwise logistical question, our geopolitics, issues of sovereignty and nationalism. Because, surely, nothing in Nepal can be spared of these obsessions — not even an earthquake.

One government official said about the Chinook fiasco, "There is some politics involved." It is ever more apparent that the 'politics' here is merely an attempt to politicise what should have been understood as a logistic mishap on the giving and receiving end. It diverted attention away from the real crisis, and offered room to widen mistrust among and between various state and non-state actors. This case is almost emblematic of the business as usual mindset that Nepal and some concerned outsiders continue to harbour at the expense of relief efforts on the ground. It doesn't help when the state machinery and political parties are intolerant, and the international community is oozing with arrogance.

The ghosts of Haiti's post-earthquake aid disaster seem to be haunting our political class more than is necessary, especially considering that this free-for-all aid regime in Nepal is certainly not a new phenomenon. It seems both the state, political parties and their leaders, along with some members of the international community and NGOs are putting their interests ahead of the crisis at hand. As for the Nepali state, on whose shoulder the greatest burden of rebuilding trust (and Nepal) lies, now is certainly not the time to be focusing on other countries and organisations overstepping their boundaries.

While Nepalis continue to fund our own less-than-satisfactory government, citizens from countries afar continue to fund a more powerful and resource-rich parallel government in Nepal. And in times of crisis, it is difficult for Nepalis to rely on any one over the other. The great task is to create a system that is accountable to the people. But for this, it is not only the government which will need to be pinched and prodded.



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Political aftershocks

This is not the time to get bogged down in a debate about forming a national unity government

The 25 April earthquake was so shocking that for the first few days there didn't seem to be anyone in charge. But as the dust settled, two aspects became clear: responsibility, and utter insensitivity. In Majhigaon of Sindhupalchok all 46 houses were destroyed or damaged, and two weeks ago they were just getting temporary shelters ready without any help from anyone. Like most survivors, people are getting on with their lives, not expecting the government to come to their aid. When the 12 May aftershock came there was really nothing left to destroy in Majhigaon.



THE DEADLINE
Damakant Jayshi

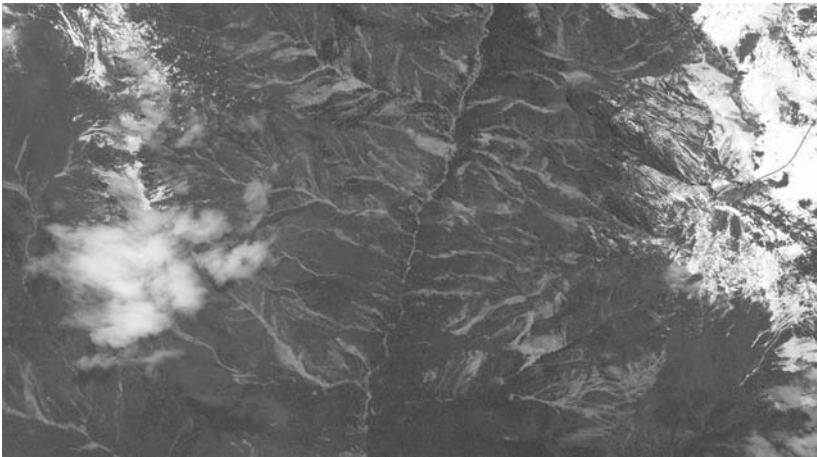
The same story was repeated in Barpak of Gorkha close to the epicentre where 90 per cent of the houses were destroyed. The sense of self-help and community spirit was so strong that reconstruction began almost immediately. Majhigaon, Barpak and many other settlements in Central Nepal are inspirations to the rest of us. A lot needs to be done for the people and places devastated by the earthquake, but the local people are already on it. Now zoom in on what our politicians are up to. It took them a whole month to even register that there had been an earthquake, and even then it was just to do a photo-op with hard hats. They were too busy calling for the formation of a national government. Later, someone turned that to 'national unity government' after realising the current government, a duly elected one commanding a two-thirds majority, was already a 'national' one. Because the call for a new government to speed up reconstruction and rehabilitation sounded so hollow, politicians and some commentators suggested such a government would also help draft the constitution by consensus. But how is that possible? These same leaders have been discussing the contents of the new statute for seven years, and they will suddenly come to a consensus because

of an earthquake? The opposition, naturally, is the one calling for a national government most vociferously. They were joined by some from the ruling parties who were missing the action. Where else do you find the call to replace a popularly elected government with some political concoction during a disaster? Not during Fukushima in Japan, not during the Kashmir earthquake in Pakistan, and not in Sri Lanka after the tsunami. Let's suppose for a moment that such a government is necessary. Who will lead it? No one has cared to explain how a national unity government could do a better job than the existing one if it is going to be the same discredited politicians running the show. Haven't we seen how these leaders performed (or didn't) when in government? It's not just has-been prime ministers excited about the prospect of a national government, wanna-be prime ministers are, too. So far, the discussion has centred on including UCPN (Maoist) and Madhes-based political parties in the new setup. If it is a national unity government, what about RPP-Nepal led by Kamal Thapa? If his party joins, what happens to 'constitution-writing by consensus'? The opposition has scuttled democratic constitution-writing, and now is hankering to be part of a new government to do it. History sure repeats itself as a farce. The landslides have begun and the monsoon is approaching. It's not just the hills and mountains, we will see flash flood disasters striking Tarai as the Chure forests are cut for reconstruction. Despite reminders and warnings from experts for last 10 years, no government had seen the urgency of setting up a Disaster Management Authority. The only way not to let the situation get worse is to appoint an efficient, honest manager to not just look into post-quake reconstruction but also deal with other natural disasters. Baburam Bhattarai has expressed an interest to head such a body, but although he may know a thing or two about urban planning his past may preclude his candidacy. This unnecessary nonsense of a unity government has gone too far. It will only hamper ongoing relief and reconstruction. What we need is a robust opposition to monitor the government's response to the earthquake so it is fast and equitable.  @damakant

Quake from space

AYESHA SHAKYA

The 25 April earthquake and the swarm of high-intensity aftershocks in the past month have made the mountains of Central Nepal highly unstable, and the approaching monsoon rains could trigger landslides and block rivers. After the earthquake, Nepal must now be prepared for secondary disasters like rockfalls, slope failures, glacial lake outburst floods and avalanches. Early warning could save lives, but how can we monitor these dangers? An international volunteer team made up of the Kathmandu-based International Centre for Integrated Mountain Development (ICIMOD), the National Aerospace and Space Administration (NASA) the University of Arizona, Chinese Academy of Sciences, the US Geological Survey, British Geological Survey and Durham University have been using high-resolution satellite imagery to map and assess these hazards.




DIGITAL GLOBE/ICIMOD

REMOTE SENSING: High-resolution satellite imagery, like this of Helambu on 8 May, can help the country assess hazards from landslides and save lives

"The greatest risks right now are landslides," says Arun Bhakta Shrestha of ICIMOD, which has located 3,000 landslides triggered by the quake, many of which could grow in size and destructive capacity. Gorkha, Rasuwa, Dhading and Sindhupalchok have the highest number of landslides, and based on satellite imagery researchers now have an inventory of potentially deadly ones with their location and size pinpointed, and if they pose any danger to blocking rivers. One potentially dangerous landslide after the 25 April earthquake came down on the Marsyangdi River in Lower Pisang Village of Manang district. After analysing this river blockage, Shrestha says researchers created a model for which way the river would flow if the dam was to breach. At the moment, the threat of a landslide is still there if the

dam is breached and a more accurate estimate of the volume of water is needed. In other areas, concerned locals have directly reached out to scientists for information. For example, there was some panic that the Tso Rolpa glacial lake might burst following the 12 May aftershock because of its proximity to the epicentre. "Comparing before-after images of the area and monitoring the shake intensity, we came to the conclusion that there was no additional risk," says Shrestha, and the government passed this information back to the Dolakha district administration. But another team of researchers from the United Nations Development Programme (UNDP) made an on-site inspection of the moraine dam at Tso Rolpa and installed a community-based early warning system in coordination with the Department of Hydrology and Meteorology.

"The system is installed close to the lake. If the water rises to a dangerous level a warning will be received and disseminated through SMS to downstream communities," says Vijaya Singh, assistant country director of UNDP. Satellite imagery has also been used to assess the damage caused by avalanches, specifically in Langtang where an entire village of 500 people was buried by an avalanche that also destroyed ICIMOD's Langtang observatory station. While GIS and remote sensing is a good starting point in the assessment of future hazards, it

has its downsides. High-resolution imagery cannot be accessed on a regular basis and cloud cover can block views when they are urgently needed. "We are planning on using radar imaging so that high-resolution satellite images can be taken despite the presence of clouds," says Basanta Shrestha, Director of Strategic Cooperation at ICIMOD. Researchers are now preparing for more detailed mapping of pictures so that they can try to predict which areas pose a danger to human habitation. They will be using both satellite imagery and site visits to cross validate. Alert mechanisms and early warning systems, similar to the one installed in Tso Rolpa, will then be placed. 



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 Before-after images 

Haiti on our minds


STÉPHANE HUËT

Haiti is to the Caribbean, perhaps, what Nepal is to South Asia. One of the lowest per capita incomes, political instability, environmental concerns, and of course the earthquake. A Google search of Haiti+Nepal will mostly bring up one common word: 'cholera'. Yet, last week Haitian president Michel Martelly sent \$1 million to Nepal for relief operations after the earthquake here. The reaction among Haitians on social media was mixed to this act of generosity to a people on the other side of the world. Some said it would have been more useful to reconstruct their own country. Indeed, even five years after the 12 January 2010 earthquake, Haiti is still reeling from the shock. Nelson Deshommes, a journalist based in Port-au-Prince thinks reconstruction is a myth: "Displaced people are still in camps five years later, temporary shelters have become permanent slums." The Haiti disaster was many times worse. Although it was only 7 magnitude, the epicentre was right underneath the capital, Port-au-Prince, and 300,000 people were killed. Wilney Taris, communication head at the

Haitian senate says the country wasn't prepared for such a disaster. "Authorities were caught off guard by the violence of the earthquake and took too long to react," he says. Taris and Deshommes remember hundreds of relief organisations reached their country in the hours following the earthquake. "None of them really bothered coordinating with the local authorities," recalls Taris. Just like in Nepal, Haitians came together



immediately to rescue people under the rubble. Deshommes noted there was a strong solidarity impulse at that time. "That was the only way to avoid the worst," he adds. In these hectic moments, journalist Billy Raymond felt like he was in a movie. "But I didn't know whether I was a spectator or an actor," he says. "There was a smell of anxiety in the air and we had to react quickly." Wendy Cue of the UN Office for the Coordination of Humanitarian Affairs (OCHA) worked in Haiti from 1993 to 1999. She was in Nepal on 12 January 2010. Following Haiti's earthquake, and in a column in this newspaper Cue tried to warn Nepalis about what Haitians had been through and to invest more on preparedness. Cue, now based in Switzerland, reckons that a country facing sudden disaster can never be prepared enough. But comparing the scenario she predicted, she says the consequences of Nepal's 25 April were much less catastrophic than expected. "Over the past five years, the Nepali government-led Nepal Risk Reduction Consortium has done a lot to improve legislation including building codes and prepare for emergency response," she said. Moreover, Cue says Nepal can learn from relief coordination (or lack thereof) in Haiti. "In Haiti errors were made in creating temporary settlements that were not connected to communities," she says. "It's

now important that Nepal provides livelihood and settlement options that are chosen with those affected." Haitians also regret that the international community did not bother to plan the appropriate disbursement required for a long term commitment. On his blog TV presenter Widlore Mérancourt writes: "Generosity, caused by the earthquake of 12 January 2010 disintegrated like a sand castle." Five years later, some colleges are still teaching in temporary shelters. Housings set up by the American Refugee Committee (ARC) in Camp Corail have been surrounded by anarchic settlements. "This is why Nepalis should come together and define themselves the future of their country," Taris adds. President Martelly said the donation to Nepal is a 'sign of solidarity'. This shows the 12 January 2010 earthquake is still present in Haiti's memories. But the population isn't taking any lessons from it, according to psychology student Osman Jérôme. When Jérôme came back to his country after the quake, he was surprised to see dangerous buildings resuming construction in Port-au-Prince and hawkers sheltering in insecure buildings. "Unlike Haitians, Nepalis should not forget so quickly the damage caused by the earthquake," advises Jérôme. "A population that forgets its past is condemned to relive it." 



AFTERMATH: The penstock pipe of the Bhoite Kosi hydropower plant (*right*) has been badly damaged, its powerhouse submerged (*left*) and access roads blocked by landslides.

Back to the dark age

Nepal's plan to end electricity rationing by 2017 will not be met because of earthquake damage

OM ASTHA RAI

The first earthquake on 25 April damaged three hydropower plants, under construction, on the Trisuli River in Rasuwa district. Then, as if it was pre-planned, the 12 May aftershock had its epicenter in Dolakha district where the mammoth 456MW Upper Tama Kosi is being built.

Existing hydropower plants like the Bhoite Kosi (*pic, above*) were also severely damaged, knocking out 100MW from the grid. Last week, the fear of a flash flood on the Kali Gandaki due to landslide blockage upstream closed down Nepal's biggest hydropower plant for two days.

Luckily, power rationing has been kept in check because of the increased flow on rivers as well as the temporary reduction in demand from Kathmandu Valley as 1.2 million people left the capital in the aftermath of the quakes.

"This is a huge setback to Nepal, we will need a lot of time and money to recover fully," says Ram Gopal Siwakoti of Chilime Hydropower Company, which the Nepal Electricity Authority (NEA) is building in Rasuwa.

Construction, even, in hydropower plants that were not damaged have been halted because the access roads have been blocked by landslides, and workers have gone home to help their families rebuild.

A preliminary report by Independent Power Producers Association Nepal (IPPAN) shows the earthquake has

thrown at least 42 mega and small hydropower plants out of operation. Three more hydropower plants developed by government entities have also been shut down.

If the damaged hydropower plants cannot be repaired quickly, NEA will be forced to ration power for the rest of the year, especially in the winter. Its goal of ending load-shedding by 2017 is not likely to be met.

The Bhoite Kosi (45 MW) and Trisuli (24 MW) are two of the bigger existing projects hit by the quake. Although damage suffered by Trisuli is not as serious and can be repaired in less than a month, the penstock pipe of the Bhoite Kosi has been badly damaged, its powerhouse submerged and access road also blocked by landslides. Repairs could take up to a year.

The much-delayed Upper Tama Kosi (456 MW) was scheduled for completion next year, but its main wire has subsided by 17 cm, and the access road to Charikot has been blocked by gigantic rockfall that will take months to clear.

"We are looking at a minimum of six-month delay," says Ganesh Neupane of the Upper Tama Kosi project. "And every month of delay means costs go up."

Upper Trisuli 3A (60 MW) was also expected to start generating power next year. But the Chinese contractors have left and work has been halted indefinitely.

The delay in the completion of mega projects like Upper Tamakoshi and Upper Trisuli is a huge blow to Nepal's plan to reduce power outage to less than two hours from winter 2017. Says Neupane, "No matter how much effort we make, meeting our target is now not possible

and we will have to grapple with power outage for more years."

Constructions of several other mega projects like the 216 MW Upper Trisuli 1 project were all set to begin right when the earthquakes struck. The fate of all these projects now hangs in balance.

IPPAN President Khadga Bahadur Bista says operating plants can be repaired but the under-construction and ready-to-go projects now face a huge uncertainty. "None of these will be able to meet their commercial operation dates," he says. "The earthquake turned out to be the most devastating blow to Nepal's energy sector after the Maoist war."

Bista says the earthquake has exhausted investors and entrepreneurs physically and mentally, but adds: "I hope this will make us stronger. Our confidence is not shaken." 🇳🇵

prabhu BANK BIZ BRIEFS

TURKISH AIRLINES



Turks help

Turkish Airlines has started distributing relief materials, including tarpaulin sheets and food items, to earthquake survivors in Nepal. Turkish Airlines employees in Istanbul collected the relief amount via SMS and online donation campaigns.

Aiding hospital

CIWEC Hospital that specialises in travel medicine handed over Rs 1.2 million to the Prime Minister's Disaster Relief Fund last week. The hospital staff contributed Rs 200,000 of the total amount.



Spreading warmth



Everest Bank handed over 500 blankets to BP Samajik Kendra, an organisation working for the rehabilitation of people displaced by the earthquake. The bank also handed over Rs five million to the Prime Minister's Disaster Relief Fund.

Continuous support

Bank of Kathmandu handed over Rs 2.5 million to the Prime Minister's Disaster Relief Fund collected through contributions from its directors and other organisations. The bank has been providing regular meals to locals of Sankhu. It also distributed food and relief materials to Sindhapalchok and basic construction materials to villagers of Marpak in Dhading and Chandragiri Municipality in Thankot.



बैंक अफ काठमाण्डू लिमिटेड
BANK OF KATHMANDU LTD.



Trio win

Etihad Airways has won three awards from the Chartered Institute of Procurement and Supply. The airline was awarded the 'Best People Development Initiative', 'Best International Procurement' and the judges' award for 'The Overall Winner'.

prabhu BANK

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Where are we?

Ncell partners with Flowminder to track movement of Nepalis post-earthquake

AYESHA SHAKYA

More than 400,000 people left Kathmandu following the earthquake in its first week, while thousands of quake displaced people have temporarily settled in the capital. How do we know this? By tracking cellphone data.

To understand the movement pattern of people for effective aid distribution, Ncell collaborated with Swedish organisation Flowminder to make use of the cellular network data for earthquake response.

“Understanding people’s movement after a disaster is key for government and relief agencies in order to provide relief supplies, shelter, food, and medicine to the right place,” Erik Wetter of Flowminder told *Nepali Times*.

Ncell had been in talks with Flowminder, which used anonymous cellular network data for crisis response in 2010 in Haiti when the country was hit by an earthquake and a cholera outbreak, for setting up a similar process in Nepal since last year.

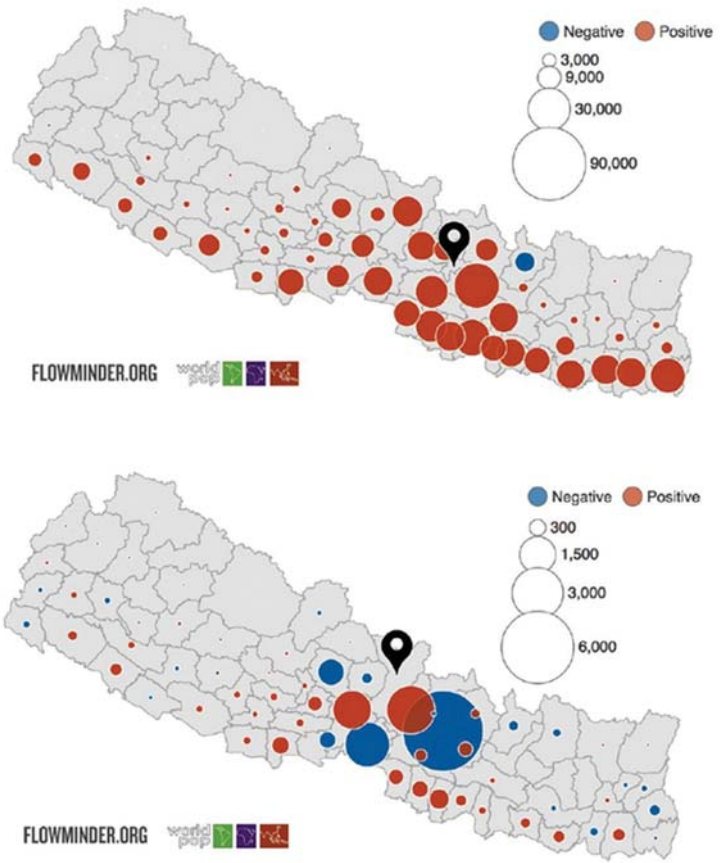
“With Nepal being a high risk zone for earthquakes, TeliaSonera group was keen on developing this technology for crisis response,” said Milan Sharma of Ncell.

It was a coincidence that the earthquake hit just as the Ncell-Flowminder partnership materialised. Cellular data was collected from 12 million cellphones comprising of Ncell’s active users. Records of names and numbers are anonymised to protect the privacy of individuals and these records are kept encrypted within the operator’s premises and access to the data is controlled.

The analysis was done based on the movement of de-identified Ncell SIM cards which made or received at least one call during the week prior to the earthquake and also made or received at least one call after the earthquake.

“We analyse the signals received by the telecommunication towers to understand the change in mobility pattern. We compare the SIM card movements to pre-earthquake movements to calculate the number of people who have moved in and out of a certain periphery,” said Sharma.

Based on the population estimates of 1 May, 2015, nearly 390,000 people had left Kathmandu and 247,000 people had come into the area within the same time period. The red circles on the map (below) suggest that most people moved to areas in the south, central and western regions.



The number of people coming into Kathmandu was also drastically reduced as shown by the movement of people from Gorkha district (above). The large blue circles over Chitwan and Kathmandu suggest less people than normal were in these districts following the earthquake.

The information gives us a better idea about where people move after a disaster and when they come back, which will be especially important in the coming monsoon when there is a high chance of entire settlements being displaced.

According to Wetter, the analysis of cellular data network provides more precise data on how people move compared to other methods.

“Manual counts, surveys and satellite imagery have severe shortcomings meaning that government and relief agencies have a hard time providing the right support to the right place at the right time,” he adds.

The data compiled has been sent out to all agencies in Nepal such as UN Office for Coordination of Humanitarian Affairs, International Office for Migration and UN World Food Programme to help in their aid distribution. However, it is still too early to say how it has been used.

Flowminder and Ncell will continue this as a long term project and will provide analyses throughout the year, as weekly or bi-weekly updates. The second update of data will be released by the last week of May.



OM ASTHA RAI

The Uprooted

An increasing number of people from earthquake affected districts are seeking shelter on the outskirts of Kathmandu Valley

OM ASTHA RAI

Pasang Sherpa, 42, (pic) did not want to leave his village – a tiny settlement in Tatopani VDC of Sindhupalchok district near the Chinese border.

Even after a powerful earthquake flattened his house on 25 April, Sherpa wanted to continue living there. He was determined to build a temporary shelter from materials he had salvaged from the ruins of his old house.

The 7.8 magnitude tremor tore down the hills surrounding Sherpa’s village, triggering massive landslides that buried many houses. Despite the devastation caused by the earthquake and the ensuing landslides, Sherpa spent the first night in a tent next to the ruins of his home. The next day, a powerful aftershock struck central Nepal and destroyed what was left of Tatopani.

Sherpa and his neighbours then moved to Bhumachaur, and spent two nights under a large makeshift tent.

When Sherpa returned to rebuild his house, his village was once again hit by landslides. He gave up, and came to Kathmandu.

“I was born there and wanted to die there, be buried next to my ancestors. But it looks like I was destined to die somewhere else like a refugee,” says Sherpa.

Sherpa first stayed at a relative’s house but moved to a relief camp in Boudha a week ago. His wife and three children

are also staying at the camp.

A month after the earthquake normalcy might be returning for those whose houses remain intact but for the hundreds of thousands displaced, life has changed forever.

Dawa Sherpa, a 32-year-old from Tatopani, is helping displaced people from his village to find shelters in Kathmandu. He says around 450 families have been displaced by the earthquake-induced landslides in Tatopani.

“The earthquake destroyed our houses and the landslides uprooted us,” he says. “The villages where we grew up will be buried under landslide debris in the coming monsoon.”

While some families displaced from Tatopani have found shelters in Boudha, others are in relief camps in Thali and Mulpani. Thousands of people displaced from other villages of Sindhupalchok, the worst-hit district where more than 3,429 people died and 63,885 houses were destroyed, have also moved to Kathmandu Valley.

Mohan Bahadur Basnet, a CA member from Sindhupalchok, says more than 5,000 people displaced from 25 VDCs of the district are now living in different camps on the outskirts of the valley including in Sankhu, Bode,

Sallaghari and Balkot.

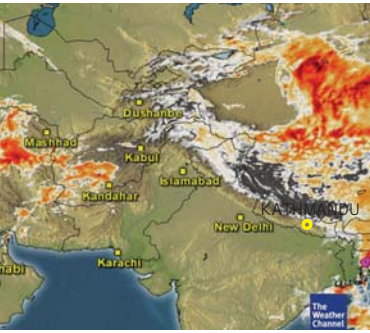
After the earthquake, 1.2 million people left Kathmandu Valley amidst rumours that the valley would be hit by a bigger earthquake and epidemics. Some, also, returned to their villages to help rebuild homes. But at the same time, thousands of people from quake-affected districts came to the valley.

While people who left the valley are now gradually coming back, for those displaced there is nowhere else to go. And thousands of more people are still living in the villages susceptible to landslides.

A parliamentary committee has instructed the government to relocate people living in landslide-prone areas. Department of Mines and Geology, with technical support from International Centre for Integrated Mountain Development (ICIMOD) and TU’s Geology Department, has mobilised 18 teams to map the landslide-prone areas and recommended relocations of settlements.

Relocation might take off, albeit slowly. But displaced people like Sherpa are worried about their future ‘homes’.

“I was born on a mountain, I feel comfortable in cold weather,” he says. “I cannot go to the Tarai even if the government sends me there. I am looking for a place that has the same geography and weather as Tatopani.”



By now even those who can't speak Spanish have heard that this is an El Nino year. Indian monsoon simulations have shown that the rains this year will be 60 per cent of normal in large parts of the country, including central Nepal. This may be good news if it reduces the danger of landslides on slopes made unstable by the recent quakes. However, it means agriculture and electricity generation will be badly hit. A pre-monsoonal trough is headed our way for the weekend, so expect cloud buildup and some celestial fireworks. Temperature will pass 31 degrees when the sun is out, still better than New Delhi.

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TSERING DOLKER GURUNG
in POKHARA

Any other year this would be peak tourist season in Pokhara, and the lakeside town would be teeming with trekkers, or those just back from paragliding, ultra-light flights, rafting or ziplining. There would have been Indian pilgrims on their way to Muktinath, or Chinese honeymooners boating on Phewa lake. Today, Pokhara is eerily empty. Every shop, restaurant, and hotel is deserted. A fancy coffee shop that opened last year that also sells locally made t-shirts hasn't had a customer in a week. A popular bar frequented largely by international tourists now only sees local visitors. Taxi-drivers and boatmen while their time gambling on the sidewalk.

"It was as if the earthquake swept away all the tourists," said one restaurant owner among many who have sent their staff on unpaid leave. Pokhara serves as the gateway to treks in the Annapurnas, and it is also a favourite weekend getaway for Kathmandu residents.

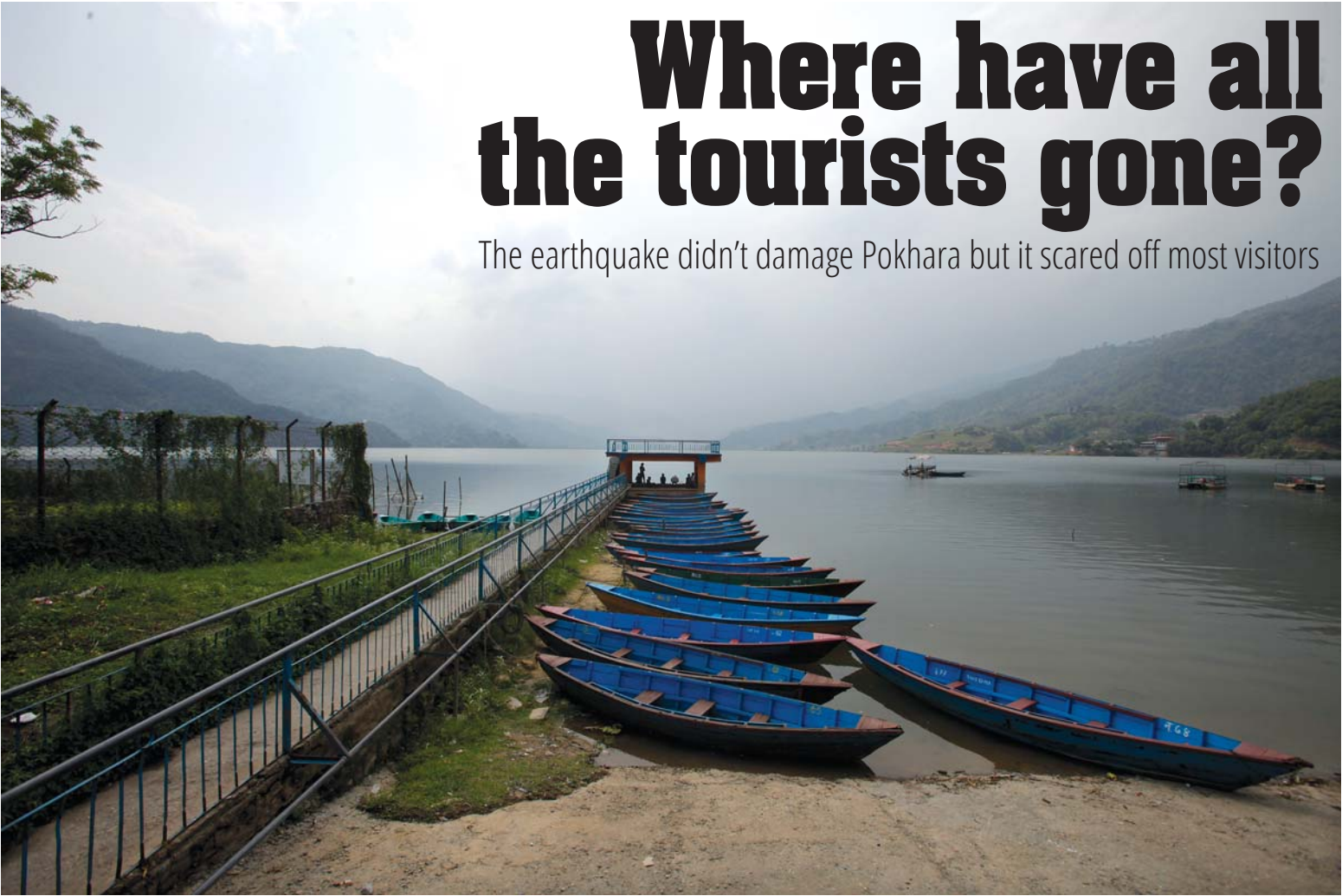
International media coverage of the quake made it sound like the whole of Nepal was destroyed, and images of collapsed buildings and old heritage sites in Kathmandu made it to the front pages. Media failed to report that 80 per cent of Kathmandu's houses were still intact, the airport was open, and that only 14 of Nepal's 75 districts were affected.

German tourist Mark Kessler (*pic, far right*) who was on the Annapurna Circuit trek when the earthquake struck says he was surprised to be asked by family and friends in Germany if there were any buildings left in Nepal.

"All they had seen on the news were pictures of damaged houses and ruins," said Kessler, who decided to stay back and is headed to Lumbini next. "I told them the part of Nepal I was in hasn't been affected much. My stay has been great and the people have been extremely nice. I would love to come back with my mother next year."

Kessler plans to write about his Nepal experience to encourage people to visit the country. "It would be a pity if the money that they would have spent in this country went elsewhere," he said. But Kessler is an exception, he was one of a handful of tourists we met in Pokhara this week.

Arrivals in Pokhara has dropped by almost 95 per cent and most hotels have only 2 per cent occupancy rate. "We had 100 per cent pre-booking for May and June,



PICS: BIKRAM RAI



GONE DOWN

| | | |
|--|--------------------|-----|
| | Hotel rooms | 50% |
| | Restaurant bill | 20% |
| | Trekking packages | 20% |
| | Adventure sports | 50% |
| | Bus fare | 20% |
| | Trekking guide fee | 20% |
| | Air fares | 50% |

all of which got cancelled within a week of the quake," said Krishna Prasad Pandey of Hotel Landmark.

Temple Tree, a boutique hotel located at Lakeside would normally have been fully booked this time of year. Only 30 per cent of its rooms were occupied this week, mainly by Nepali guests.

For Hom Budathoki at Mike's Breakfast, all this brings back memories of the conflict years. "But even during the war, Pokhara was never this empty," he said. "the government and the NTB should be out there promoting Nepal, and telling the world that we are back in

business."

This week the Western Hotel Association of Nepal announced huge discounts on hotels, restaurants, and trekking packages in Pokhara. Room tariff is down by 50 per cent, 20 per cent discount on restaurants, 30 per cent on trekking packages, 20 per cent on bus fare, 20 per cent on trekking gears and adventure sports. The offer is valid until 30 September.

Said Pandey: "Our message is, Pokhara is beautiful, it wasn't affected by the earthquake and now is the time to visit." 🇳🇵

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EPICENTRE OF RECONSTRUCTION

Barpak is rising from the rubble and is committed to building a better future

**TSERING DOLKER
GURUNG**
in GORKHA

The first thought that comes to mind as one approaches the village of Barpak a month after the earthquake is that things don't look as bad as portrayed in the media. The houses seem intact, collapsed roofs have been replaced with tarpaulin sheets, and there is no rubble.

But that is only from a distance.

Nearly all of Barpak's 1,400 homes were destroyed in the quake: six of the seven schools collapsed. The VDC office, a health post, and the tourism centre were all leveled. A 130 kilowatt micro-hydro plant and a telecommunication tower were also damaged.

Nothing much remains of this picturesque and prosperous hilltop town situated at 1,900m and commanding a sweeping view of mountains on the northern horizon. Gorkha's 'model village' is now just an example of what being on top of the epicentre of a 7.8 quake can do to a settlement.

The architect of Barpak's past, and of its future, is Bir Bahadur Ghale, the visionary who has channeled the energy and international exposure of a town, made up mostly of families of Gurkha soldiers in the British and Indian Armies into development over the past 30 years.

"We have all learnt important lessons from this disaster," he said, surveying the ruins of what used to be his hometown. "The goal is to make an even better Barpak and not repeat the blunders of our ancestors."

Ghale is now working with the Help Barpak team, a group of ex-Gurkha servicemen and entrepreneurs to steer reconstruction with earthquake resistant houses and schools that also reflect the village's heritage. The quake also underlined the importance of open spaces, since ten people were killed in fires, during the earthquake, in the densely-packed town with narrow cobblestone alleys.

"Keeping future disasters in mind, we want to have wider roads so rescue vehicles can reach any part of the town," says Ghale, who also wants to revive tourism that used to be one of Barpak's main sources of income after remittances.

Nearly half of the village population works overseas, as soldiers in the British or Indian Army, or in Malaysia and the Gulf countries. Many have returned following the quake.

Mukunda Ghale ('Robin') is a restaurant manager from Hong Kong who collected funds from friends and came to Barpak with relief material and rescue gear last week. The father of two led



STRUCTION

uilding an even better town



ALL PICS: BIKRAM RAI



a volunteer initiative to clear ruins, clean the rivers and build temporary toilets.

“You couldn’t walk on these streets until few days ago,” says Mukunda who gathered 160 volunteers on the first day and today has 600 people turning up to help. “The spirit of the people has been amazing.”

Barpak’s VDC secretary, Chep Prasad Amgain, believes having a large number of people return home from abroad has helped boost the morale of the local people, who used to be mostly made of women and the elderly. On Saturday 200 villagers gathered to clear debris of the village high school while the Nepal Army worked on building temporary classrooms next to it. The government has asked schools to restart classes from next week.

Barpak’s resident population is predominantly female. But Bir Bahadur Ghale doesn’t see that as a problem. “There’s no reason why a woman can’t carry bricks or lift wooden beams. The belief that only men should do physical labour is outdated.”

Another priority will be to restart the Barpak Homestay program for trekkers led by a feisty Manus Ghale, which had just started to take off when the earthquake hit the village. Last year Barpak received 1,200 home stay guests.

As the epicenter of the quake, Barpak has received immense attention from media, relief agencies and donors. There’s no electricity but locals enjoy free wi-fi service provided by Worldlink. Two mobile charging stations have also been set up. Just this week, Barpak’s supporters in the United Sates helped acquire a temporary diesel generator that will provide three hours of electricity every evening.

“It’s important for the villagers to feel normal, to get connected to the outside world and see that they are not the only ones affected by the quake,” says Bir Bahadur.

Barpak’s reputation for self-reliance has made many question whether the town really needs all the support it has been receiving.

Retired British Gurkha officer Lok Bahadur Ghale, 60, who is heading Help Barpak, says: “It may look like the people of Barpak will be able to rebuild everything on their own but that is a misconception. We need all the help we can get.” Lok Bahadur’s own house was destroyed and he has been camping in a tent in his yard with his grandnieces, who have come from Doncaster to help.

While some families have built temporary shelters, most are still sleeping in tents. Others are repairing damaged houses for lack of better alternatives and also because time is running out with fast approaching monsoon. 🇳🇵

www.helpbarpak.org



TSERING DOLKER GURUNG

The man who gave Barpak power

When Bir Bahadur Ghale was studying in Grade Nine, he was recruited by a businessman to go to Hong Kong and bring back electronic goods – a lucrative trade in those days.

As Ghale stood atop Victoria Hill, taking in the view of what was still a British colony, and looked down at the illuminated harbor and city, he was struck by the level of use of electricity.

“Everything ran on electricity and I asked myself why our village couldn’t have power too,” says Ghale.

After returning, Ghale graduated from high school and worked for a contractor, building a section of the Malekhu-Naubise highway. One evening, he noticed the lights kept flickering at a roadside eatery and asked the owner why that was happening. He was told it was because the electricity was supplied from a mill and the power went out when the mill was in operation.

In 1987 Ghale returned to his village

and wanted to install a micro-hydro plant, but villagers were skeptical. They didn’t believe a teenager could light up the village, which still used kerosene lanterns. But Ghale persevered and with a loan from the Agricultural Development Bank lit up the town in three years. The first houses to get electricity were in the Dalit neighbourhood. Soon, everybody in Barpak wanted lights.

But Ghale didn’t want electricity to be used only for lighting, he encouraged locals to start new ventures that would make use of excess electricity in the daytime and Barpak got its own bakery, furniture shop, and even a cargo ropeway.

In 2003 Ghale was made an Ashoka Fellow for his pioneering work with rural electrification. Today, Ghale’s company Hydro Energy has set up micro-hydro plants in Lamjung, Gorkha, Dhading, Kavre and Lalitpur.



Not all are Gurkhas

Barpak maybe known as “Laure Gaun” but unlike popular belief, not every family has a son enlisted in the British Army. Dhanmaya Gurung, 59, and Amber Gurung, 62, (pic, above) lived on the produce of their small farm, which was destroyed along with their house in the quake. Three of their four children are students. Amber can’t work due to physical illness and Dhanmaya, who barely earned Rs 3000 a month labouring for other families, has been stripped of her income. The two don’t have zinc sheets to salvage from their old house to build a temporary shelter because they couldn’t afford them in the first place.

“We have no idea how to live our lives anymore. Every little thing that we owned was taken away,” says Dhanmaya while Amber looks at the rubble of their house. The Gurung couple and their children have been camping in a tent with 30 others.

VDC secretary Chep Prasad Amgain says: “Many fail to understand that Barpak is a large village with a population of over 9,000. Not every family has a relative working abroad.”

The village also has a sizeable Dalit community that remains isolated, ignored by other residents. A relief worker, who has been stationed at Barpak for two weeks, admits locals put pressure on them to give first priority to the Gurung and Ghale families during relief distribution.

Building blocks of reconstruction

Replacing bricks with alternatives that are safer, cheaper, cleaner and faster to build

SHREESHA NANKHWA

One of the looming challenges in post-earthquake Nepal has been, and will continue to be, is reconstruction of the estimated 600,000 homes that were destroyed. There are many rebuilding methods that have been proposed using mud, bamboo, and even empty beer bottles.

Across the 14 hardest hit districts many who lost their homes are already salvaging bricks and roofing material to rebuild their houses before the rain. In the longer-term, there is expected to be a trend towards

reinforced concrete structures since most such buildings survived the quake, while the mud mortar and brick buildings collapsed.

Finding a cheap and environment-friendly alternative to bricks in post-quake reconstruction could solve many problems at once: of safety, environmental protection and cost. Three technologies are already available and only need to be scaled up: rammed earth, compressed bricks and interlocking soil-cement bricks.

Ramming it home

Rammed earth is a building technique that compresses locally-available clay, sand, gravel and some cement into vertical moulds to construct walls. Tamping the wet mixture is done with long ramming poles. Entire walls are built inside the frames, then joined with other panels and beams to build the house. Rammed earth has been used in portions of the Great Wall of China, and in some houses in northern Nepal and

Bhutan.

“The main plus point is that it costs one-third less than a normal house, it is environment-friendly and has insulating properties,” explains Nripal Adhikary of the Kathmandu-based Adobe and Bamboo Research Institute (ABARI).

Rammed earth has taken on added significance after the earthquake since houses ABARI built with this technology withstood the shaking.

Says Adhikary: “Rammed earth is just as earthquake resistant as any other modern house and it is very good at resisting damage.” For added strength, rammed earth buildings can be reinforced with steel, wood, bamboo or wire mesh.



nepalitimes.com

- Homeless in Nepal, #758
- A concrete future, #758
- Better climate for education, #425
- Iswar Joshi explains interlocking brick technique



The wall of a home made with rammed earth technology can be attractive and safe.

Interlocking bricks

Another solution that combines the strengths of rammed earth and compressed earth blocks is a system of interlocking bricks developed by Nepali inventor, Gyanendra R Sthapit at the Habitech Center of the Asian Institute of Technology in Thailand. The award-winning idea has been used for post-tsunami reconstruction in Thailand in 2008, and after Cyclone Nargis ravaged Burma in 2010 to build more than 1,000 homes, schools, and health clinics.

Says Sthapit: “Due to the huge demand for rebuilding and

reconstruction work in Nepal after the earthquake, we are working on how to manufacture equipments in Nepal so that more and more people can benefit from this technology.”

Interlocking bricks can be made at the building site itself by mixing locally available clay with 15 per cent cement and does not need to be fired. The walls are reinforced horizontally and vertically, especially at the joints. A typical three-room house can be built in two weeks because the bricks self-align, and can cost up to 40 per cent less than a conventional brick-cement house.

Habitech’s office in Khumaltar is made using interlocking bricks and suffered no damage in the earthquake. Iswar Joshi of Habitech is busy responding to post-earthquake reconstruction inquiries from schools and individuals, but says the main challenge is to scale-up the technology when there is a shortage of manpower, so it can be used where it is needed the most.

“We are offering to put up the structures on a turnkey basis, or provide the brick press machine and train builders for temporary shelters for now,” says Joshi. “This would create local jobs as the builders can then train others.”



SONIA AWALE

Iswar Joshi explains how the interlocking brick technology works at the Habitech showroom in Khumaltar.

Compressed clay bricks

A manual compactor being used to make Compressed Stabilised Earth Blocks for a school in Bardiya.



An even simpler and cheaper solution for post-earthquake reconstruction are Compressed Stabilised Earth Blocks (CSEB) in which clay is mixed with cement in a 96:4 ratio at the building site itself, and compressed with a manual compactor. The resulting bricks are even stronger than kiln-baked bricks, and because they don’t need furnaces, and it eliminates air pollution. CSEB have been successfully building dozens of schools in the Tarai. Replacing bricks in Kathmandu Valley with CSEB would not only save money, but also try to rid Kathmandu Valley of its air pollution, especially the harmful soot particles below 10 microns which are emitted by brick kilns.

Pre-built homes



It is nearing the end of the day, but at the showroom of SB Furniture in Lagankhel, there are still people who have come to enquire about prefab houses. After inspecting a cosy-looking three-room model house, most of them come straight to the point: “How much does this cost?”

A 550 sq ft three-room house made of cement fibre

panels costs about Rs 10 million, but owner Sudarshan Joshi (*left*) says he is not trying to sell the houses for now, but is just showcasing them since emergency relief supplies is the priority for Nepal right now. SB Furniture is donating 20 containers of imported roof tiles for earthquake-affected areas, and is looking for local partners for distribution. The furniture company is also helping rebuild schools and monasteries in Central Nepal.

There does seem to be a high demand for these light and easy-to-build structures for those whose houses were either destroyed or damaged by the earthquake. Joshi was already selling prefab wall panels to high rises in Kathmandu before the disaster, and says the technology

is ideal for family homes, government offices and schools in the earthquake-hit areas. They are slightly cheaper than normal brick and cement houses, and there is a range of designs for buildings of various sizes that can be put up in 20 days as a permanent home.

Sonia Awale



Demolishing Kathmandu to rebuild it

Nepal lacks proper technology, equipment and technicians for large scale demolition of earthquake-damaged infrastructure

SAHINA SHRESTHA

Prakash Khadka and his family have been camping under a tarpaulin for more than a month now even though their single-storey home was hardly damaged. However, a neighbour's tall house has cracks and looks like it may come down onto his property in the next aftershock.

The damaged house is supported by wooden beams, but that is more for peace-of-mind than structural support. Now, a joint team of the Nepal Army and Armed Police Force along with a technical team from the municipality are here to plan the demolition.

"I am scared the house will fall over mine when they demolish it, but it doesn't, it is sure to fall on top of us next time there is a major aftershock," Khadka told us.

As an excavator poked and

pulled the walls and roof of the first floor, the houses on both sides rattled and the electricity pole near the house threatened to collapse. A group of locals halted the demolition saying that the constant shaking would damage the houses nearby.

An estimated 50,000 houses in Kathmandu have been affected by the earthquake and its aftershocks, out of which 20,000 have collapsed or are on the verge of it. Many of them are in densely populated areas of Gongabu Buspark, Swayambhu, Balkhu and Kalanki.

"We are demolishing houses that threaten neighbours and also old structures that are damaged," said Uttar Kumar Regmi of the Kathmandu Metropolitan City. He says old houses without pillars, new high buildings with shutters, buildings without proper design and those built with sub-standard

materials were the ones to come down during the earthquake.

Surprisingly, the houses in Kathmandu that were rebuilt after being demolished during the road widening project were not affected by the earthquake.

But the government is ill-prepared to carry out large scale demolitions despite dozens of people coming in everyday with applications or complaints about unsafe houses in the neighbourhood. Officials freely admit they just don't have the technical expertise to carry out controlled demolition on such a scale, especially of high-rise apartments. The municipality is concentrating on highly risky buildings of up to three stories.

"Right now we are using all the available materials but these aren't enough to demolish higher structures," said Shiva Hari Sharma, joint secretary of

Ministry of Urban Development (MoUD). Earlier this month, the Ministry of Home Affairs formed a committee under Sharma to recommend a plan for demolition. "We have provided a list of equipment we need to demolish high-rise apartments and buildings that are more than three stories high to Ministry of Physical Infrastructure and Transport," he added.

The Nepal Army, Nepal Police, Armed Police Force and the KMC's own security staff are using excavators, loader machines, cranes as well as small tools like hammers, drilling machines and concrete cutters for demolition. Narrow roads, low-hanging wires, inexperience in demolition and lack of technical expertise hinder their work.

The Nepal Army has so far

demolished 103 concrete houses and many more mud and brick houses in the Valley. For other buildings that are not posing any risk to neighbours, the government is asking the home owners to take the lead and take down the buildings on their own.

Sharma said the government needs help from foreign demolition experts with both the expertise and the equipment to demolish tall structures. "If they can come and work for a few weeks, and also train our men, it would be a lot easier and faster," he added.

Debris management is another headache, and the KMC has designated the old cement quarry in Chobhar as a dumping site. Said Regmi: "While it is sad that so many buildings have gone down, this may also offer an opportunity for us to plan our city better." 🇳🇵



PICS: GOPEN RAI



Jupiter Ascending

It seems frivolous to write a film review when so many people are still in need of aid: most of us still feel the sickening lurch beneath our



MUST SEE
Sophia Pande

feet when the earth moves in the numerous aftershocks that continue to succeed that major earthquake. Even when there aren't aftershocks, many people report a feeling of dizziness that pervades their movements, clear signs of persisting posttraumatic stress. And yet, as is the way of the world, things must go on.

In the valley, businesses are slowly reopening, and young, fierce activists who have been organising highly effective

grassroots relief efforts are having to go back to their full time jobs. Soon, the wave of international media coverage will ebb, and, in the meanwhile, film columns must be submitted.

It is with this caveat in place, that I would like, this week, to review the Wachowski's immensely flawed, visually over the top, but viscerally brilliant, space opera *Jupiter Ascending* – a film, which even in its moments of great silliness, gave me a bit of respite from the horrors of our post earthquake world.

This is perhaps because Andy and Lana (previously Larry) Wachowski, have always excelled at imagining, and in this case re-imagining the truly sublime.

Since their immensely successful *Matrix* trilogy (1999-2003) ended, the siblings have had a patchy time of it with *Speed Racer* (2008), an enjoyable, sumptuous but video gamey racing movie; the flawed but

commendably ambitious *Cloud Atlas* (2012) based off of the marvelous book by David Mitchell; and now *Jupiter Ascending* – a hodgepodge of a film that combines elements of Star Wars with bizarre intergalactic family drama.

All of these films have suffered from too much focus on the cinematic and too little on the structure, with chronically patchy writing leading to an unfortunate abundance of one note characters (think Keanu Reeves as “Neo”, the hero of *The Matrix*). While that first series of films did not suffer too much from this lack, *Jupiter Ascending* is all over the place because of its weak script, something that can never quite be compensated for by stupendous visuals.

Still, if you need to get away from it all, this film might just be your thing. With the lovely, feisty Mila Kunis playing the titular Jupiter, and Channing Tatum her half canine (yes, you read that right) paramour, Caine Wise, not much can really go wrong. In this particular case, despite the clumsy but hilarious lapses on the part of Wachowskis, pure star persona saves the day as Jupiter and Caine hurtle through space, trying to save the Earth from crazed meta-humans who would harvest mankind to stay immortal. Ludicrous, I know, but then again, we need to re-introduce some sense of the absurd back into our lives, even if just to stay sane. 🇳🇵

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HAPPENINGS



GOPEN RAI

HOLLYWOOD HELP: Academy Award winning actress Susan Sarandon at the inauguration of Live to Love's program to build earthquake resistant homes for displaced people at Ramkot on Sunday.



DEVAKI BISTA

LAST RESPECTS: Constituent Assembly (CA) Chair Subhas Nembang pays his last respects to former Supreme Court (SC) judge Bharat Raj Upreti who committed suicide on Sunday.



RSS

CADRE TALK: UML Chair K.P. Oli and senior leaders Madhav Kumar Nepal and Ishwor Pokharel at a program announcing the party's plans to mobilise 10,000 volunteers to help in rebuilding in quake-affected districts.



MIN RATNA BAJRACHARYA

MY TAKE: Former Army Chief Rookmangud Katawal at the studio of Image Channel to talk about his autobiographical book.

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Post mortem of collapsed buildings

Rameshwor Bohara in *Himal Khabarpatrika* (24-30 May)

Chandra Shrestha had sold his house to Bishnu Khatiwada for Rs 22.5 million three weeks previously, and had organised a going-away celebration for relatives on 25 April at noon. When a 7.8 magnitude earthquake struck, the house started swaying violently and collapsed. Seven people, including Shrestha and his wife Bijaya, were crushed to death. A house built just eight years ago went down, when all others in the neighbourhood were standing. It turns out an Indian named Abbas Hussain had built the five-storey house even though his wife Mina Maya Budathoki only had approval for a two-storey house from KMC. Hussain added floors illegally and sold the house to Shrestha by forging documents.

A building in KMC-6 was called ‘Saat Talle’ because it was the only seven-storey house in the neighbourhood when built in 1997. It housed a church on its top floor, and killed 30 people when it collapsed on 25 April. Owner Radheshyam Shrestha had obtained KMC approval to build just a five-storey house but he added two floors and sold it to Nabin Rajbhandari. Engineer Rajan Suwal says: “No professional engineer would have designed such a tall house on a weak foundation on a floodplain.”

The nine-storey building in Gongabu housed a supermarket, a store and a mobile shop on its ground floor and four hotels on its upper floors. It fell like a house of cards in the earthquake, killing 17 people. Two people were rescued alive. Ram Krishna Phuyal, a contractor from Goldhunga of Kathmandu had built this house and later transferred its ownership to his son Pawan. When the house was built 10 years ago, Gongabu was a VDC and allowed Phuyal to build a six-storey house. But he built a nine-storey structure with 9x9 inch pillars using 16 mm rods. Engineer Suwal says: “There is no way such a weak pillar could hold up a nine-storey building. It was a death trap.”

There is a pattern to all these houses that went down in the quake: they are all high-rises built in narrow spaces, low-quality construction materials with weak designs that flouted regulations. Most tall apartments that violated building codes suffered structural damage, and now have red stickers. Most were built on the city’s outskirts which were VDCs till recently.

Janak Raj Joshi, former secretary of Ministry of Physical Infrastructures and Transport, says: “Even municipalities lack the capacity to check the implementation of the building code, how can we expect VDCs to do it?”

Benefitting from weak regulation, unscrupulous people have built weak houses and then sold or rented them out.

Bhuwan Man Shakya of KMC-15 built three four-storey houses that collapsed and killed 38 people. But the house that he built for his own family is intact. Shakya is at large.

Most of the buildings that collapsed in Gongabu were built to be rented out, and the landlords never lived in them. So they took shortcuts in construction to save cost. Madhu Mishra, former secretary of Gongabu VDC, says, “Most owners live abroad, others rent it out to hotels which add floors when they want, no one cares if it is safe.”

It has been two decades since the building code was passed, but it was never properly enforced. Ram Prakash Poudel at the KMC, says 80 per cent of houses have violated the building code in the



capital. He says, “We already have a strong law, what we need is its effective implementation.”

Engineer Suwal says the death and destruction caused by the earthquake is also an opportunity to right these wrongs. “If we cannot take action against the guilty even after so many deaths, how can we curb impunity in future?”

Centre for Investigative Journalism

Homes into graves

38
KILLED

KMC-15, Thado Bhanjyang
Floors: 4
Owner: Bhuwan Man Shakya

30
KILLED

KMC-6, Saat Talle
Floors: 7
Owner: Nabin Rajbhandary

28
KILLED

KMC-15, Bijeshwori
Floors: 7
Owner: Shubha Ratna Shakya

17
KILLED

KMC-15, Bijeshwori
Floor: 3.5
Owner: Bharat Man Pradhan

17
KILLED

Tokha-13, Gongabu
Floors: 9
Owner: Pawan Phuyal

12
KILLED

KMC-6, Faika
Floors: 5
Owne: Rajdevi Shahi



Teachers killed

Shikshak, May-June

District-wise names of 44 teachers killed by the 25 April earthquake, 24 of them were women.

| | |
|--|---|
| SINDHUPALCHOK Gyani Maya Pradhan Rita Sapkota Pramila Khatri Bhola Mahato Akhileshwor Yadav Mira Shrestha Jit Bahadur Khatri Swasthani Chaudhary Lila Ghimire Damodar Ghimire Suresh Kumar Shrestha Srijana Lama Rajan Nepal Dayala Bhandari Jyoti Pokhrel Kamala Rai Manisha Aryal Kalpana Tamang Indra Kumari Shrestha Sabitri Thapa Jyoti Waiba | DHADING Bal Kumari Shrestha Anita Pariyar Anita Simkhada Sunita Mahat Bishnu Hari Lamsal Sunita Upreti Basanta Adhikari NUWAKOT Gita Pandit Dasiram Bhusal Sunil Mudbhari Shiva Khanal Anita Baniya Raju Biswokarma Bina Tamang Sangita Tamang BHAKTAPUR Ram Laxmi Hyaunmikha Narayan Shrestha RASUWA Nurchung Tamang |
|--|---|

GORKHA
Indra Lal Adhikari
Sarala Gurung
Hari Adhikari
Bed Narayan Devkota
Kumari Gurung

Pradip Basyal in *Nepal*, 24 May

नेपाल

- Kalpana Gajurel was preparing for her +2 examination in the front yard of her house in Laharepauwa of Rasuwa district. As soon as the earthquake struck, she ran inside and hid under the bed as she was instructed in school. The house collapsed, the bed crushed her.
- Five children who were playing on an open field in Kahule of Nuwakot district went running into their house and hid under a bed when the shaking started. All of them were killed.
- Bil Prashad Shrestha of Aarughat of Gorkha lost his daughter after he wished her a long life on her birthday. His wife and daughter were upstairs when the house started shaking. His daughter didn’t come down saying she had been told to take cover under the bed. The house collapsed, and there was no one to rescue her. When found, she was dead.

Earthquake awareness

Duck or run?

programs in schools have repeated it over and over again: stand under the door, hide under the desk or bed if there is an earthquake, but do not run. Most of those who ran in last month’s earthquakes lived, but many of those who followed the instructions died.

This has prompted experts to question their emphasis on the Drop, Cover and Hold (DCH) method of earthquake safety. The death toll could also have been much higher if the earthquake had struck during a school day.

In fact, DCH takes into consideration several factors like the strength of the structure, the floor in which people are in and

how many of them are there. But when only two factors (not to run, and to duck) were emphasised in earthquake awareness programs it did not help save lives. DCH is effective when the roof of the house isn’t too heavy, in houses with concrete pillars, and most importantly, when one can’t reach a safe open space immediately.

Israel has had a policy where the desks in schools must be able to withstand at least 1 ton of weight. Houses in Japan are made of lighter materials and there is good earthquake education there. The DCH method is useful in both contexts.

Experts say that DCH shouldn’t be promoted in

buildings made of clay-mortar, houses with heavy roofs and those without required engineering. That is exactly what went wrong in most of the rural areas of Nepal. NSET has informed that the 117 schools based on seismic-resistant designs in Kavre, Tanahu, Sindhupalchok, Makwanpur, Nawalparasi, Sunsari, Udaypur, Rasuwa, Lamjung along with those in the valley didn’t suffer any damage and are currently serving as shelters for survivors. Even if the earthquake was on a holiday, 44 teachers and 26 students lost their lives (*see table, left*).

It was also a problem that those trapped underneath the rubble took a long time to be rescued. The Nepal Army, which was mobilised immediately for the rescue didn’t have necessary equipment to rescue survivors under concrete structures. “If Nepal Police was trained and equipped for such rescues, more people could have been saved,” said SSP Sarbendra Khanal.





KUNDA DIXIT

This is not how your story should end

Studies show there is a rise in suicide in communities affected by natural disasters

On Monday morning, many people woke up to the sad news of the death of former Supreme Court Justice Bharat Raj Upreti. The loss of a loved one is not easy, especially if it is a suicide.

The reasons are not yet known, it will be speculated and assumed but never quite confirmed. We may never know the real reason, but the personal tragedy at a time of national tragedy adds a poignancy to the mourning. It also brings forward the importance of awareness and prevention of suicide.



ALL IN THE MIND
Anjana Rajbhandari

“He may have needed help but perhaps could not reach out,” a close friend of Upreti told me. The lawyer was widely admired for his strong will, self confidence and the quality of always being there for others. “A person lives in his mind and there may have been other issues. Probably the earthquake triggered what was already going on,” the friend said.

Internationally, mental health causes seem to be the reason behind about 90 per cent suicides, and depression has been the biggest risk factor. People who experience such disasters are vulnerable, sometimes the incident takes time to sink in. Such post effects of earthquakes can have a stronger effect on individuals who already had a mental health illness to start with. Many studies show victims and survivors of natural disasters like floods, earthquakes and hurricanes increases post-traumatic stress disorder (PTSD) and depression that may lead to suicidal thinking.

At first there is initial shock and once people start to resettle back to

their old lives, reality hits them showing how much things have changed and how much still needs to be done. It is not easy. Figures also show that the rate of suicides may increase till a year after a natural disaster because of the stress of loans and rebuilding lives.

Disruption of social circles and the loss of loved ones may lead to depression and feeling of hopelessness, which are high risks for suicide. Nepali culture looks down upon mental health illness, stereotypes, and stigmatises it. Many do not ask for help because of a judgmental society. The families of those affected get attacked and scrutinised, and society doesn't make it easier and this thinking needs to change.

In an increasingly consumer-driven urban setting of Kathmandu, we have to remind ourselves to look beyond ourselves and pay attention to people around us. Do we acknowledge or ignore those who need help? Strong social support is the strongest shielding factor against suicide, and this becomes especially important after natural disasters with great loss of life. There needs to be plans for immediate, medium and long-term suicide prevention.

It is important to be empathetic and non-judgmental towards individuals with mental health illness. With awareness, knowledge, treatment and support, most people diagnosed with mental health illness are able to live long healthy lives.

It is necessary to pay attention to oneself and if one feels the need for support, just ask. Also, if you feel someone in your life is struggling, talk to them- don't think this may just be a phase that will pass because it may not. Losing people, for any reason, is hard: we cannot replace people and we cannot replace memories. But, with awareness and knowledge we can pay attention to ourselves and others, and be there for each other while preventing suicides. If you have been feeling hopeless and sad, and have had those thoughts, take this as a sign to not give up. Get help. There are people around you who love you and need you. Don't end your story, because you matter. 🇳🇵

WHEN IT RAINS,

The monsoon will compound post-earthquake health problems as families cope with infections



SONIA AWALE
in SINDHUPALCHOK

Dislocated beams hang precariously over the emergency ward, a doctor's consulting room has a gaping hole, a three-storey ramp for wheel chairs is teetering dangerously. What was left of the Sindhupalchok District Hospital in Chautara after the 25 April earthquake was destroyed in the 12 May aftershock.

More than half the dead and wounded in last month's earthquake are from this district northeast of Kathmandu. No one here talks about the 12 May tremor as an aftershock, they say Chautara was hit by two big earthquakes. One month later, the district lies in ruins, in village after village outside Chautara people are still too dazed to start rebuilding. People with crutches, or arms in slings sit under trees gazing listlessly at the devastation all around.

Only a maternal child clinic of the hospital is functioning, and the wounded are being treated in a field hospital in the open space of Tundikhel nearby. An excavator is clearing the debris of a nurse quarter so that the hospital can reopen in a large tent soon.

“We are racing against time, we need to get the hospital up and running before the rains come,” says Medical Superintendent Sagar Rajbhandari. “We are already getting cases of dysentery, we don't even need a monsoon for outbreaks.”

The damaged hospital is now used as a warehouse for medicines being stockpiled for the epidemics that everyone knows will come. Amidst piles of fallen masonry and dust-covered tables are stacks of oral rehydration salts, IV fluids, zinc tablets, micro-nutritional supplements and peanut paste.

The challenge for Rajbhandari is to get these supplies to health posts before

the rains destroy roads. Ninety per cent of Sindhupalchok's 75 health posts are in ruins, birthing tables and other equipment have been crushed. A female health worker was killed, and many of the over 700 Female Community Health Volunteers (FCHVs) in the district have lost families or homes, and are not in the frame of mind to go back to work (*see box, below*).

The hospital's priority is to reach the more vulnerable survivors: pregnant women, young mothers, babies and children. There are an estimated 160,000 pregnant women in the affected districts, and there are already cases of premature deliveries and miscarriages.

UNICEF estimates there are 70,000 children under-five who are at risk of malnutrition. Though food isn't the most immediate need in many villages compared to the early phase of disaster, families are still not getting adequate nutritious foods. The district's community radio stations have been crucial in spreading the message about prevention of infections, the importance of sanitation, locating latrines away from water sources and to wash hands.

“The rescue part is nearly over, now we are moving to the relief phase and the monsoon has made everything much more urgent,” says S P Kalaunee of the health group, Possible, that is working with the Ministry of Health and had brought a replacement x-ray machine to Chautara.

In the first three days after 25 April, the hospital treated 300 patients in tents outdoors. The 20 medical staff worked day and night with help from the Nepal Army. The badly wounded were air lifted to Kathmandu. “We were operating on the living inside tents, while there were 31 bodies outside,” Rajbhandari recalls. “Now we are moving from attending

IT POURS



PICS: KUNDA DIXIT

BROKEN BUILDINGS: Sindhupalchok District Health Officer and Medical Superintendent Sagar Rajbhandari (*above*) in his damaged hospital which was inaugurated only two months ago, and was supposed to be earthquake resistant. He is now worried about epidemic outbreaks during the rainy season among those displaced by the earthquake.

to the injured to preparing for outbreaks and treating infections.”

In Kathmandu, the Department of Health Services Logistic Division’s Bhim Singh Tinkari is too busy to talk to journalists, signing delivery forms for urgently required medical supplies to districts. Some have to be loaded on to the trucks, while vaccines are rushed to helicopters flying out to the mountains.

“We have shifted gears from emergency care to preventing and treating water-borne diseases and malnutrition,” he tells us, in between discussing with staff where to dispatch five ventilators donated by Doctors For You.

Besides medical supplies, Tinkari is inundated with requests for tents and shelter, oral rehydration salts, even anti-snake venom and mosquito repellants.

“This monsoon, the main challenge will be logistics, getting the supplies out when landslides will block roads and helicopters can’t fly,” he says. “We have medicines, but how do we get it out?”

In Chautara, Rajbhandari is acutely aware about replenishing supplies in inaccessible rural areas if there is an outbreak of diarrhoea, or even cholera, this monsoon. He says: “If the roads are blocked, we have to get the supplies there, even if it is by foot.”

No time to grieve

Kedar Nath Dulal of Kadambas Sub-Health Post has been attending to the injured and sick continuously since two big earthquakes struck Sindhupalchok within two weeks. Those who don’t know him are surprised to learn that Dulal lost his 5-year-old daughter Asika, his home and all his livestock on that fateful day of 25 April.

“I fight back my tears and keep myself busy, that is how I cope,” Dulal told us, “at least I have the satisfaction of knowing I have done my best to take care of my fellow-villagers.”

Thousands of health workers and Female Community Health Volunteers (FCHVs) have lost their homes, family members or their health posts. But they are working out of huts that they set up to take care of the wounded.

Dulal’s case is tragic and uplifting at the same time. But not everyone is Kedar Nath Dulal. Many FCHVs have been trying to help, but are too traumatised to work. These grassroots health workers are the backbone of Nepal’s rural health, and have been a critical element in Nepal’s achievements in meeting vaccination, maternal and child health targets. Their work will be even more important after the temporary field hospital in Chautara (left) closes.

“In the long-term, it will take time for FCHVs to get back to work, and this will definitely undermine Nepal’s achievements, especially activities like the Vitamin A program,” Krishna Mijar, the District Health Officer of Rasuwa told us on the phone from Dhunche.

Despite their personal loss, female health volunteers have been taking care of those affected by the earthquake without reward or pay. Says Sindhupalchok District Hospital Superintendent Sagar Rajbhandari: “The least the government could do would be to give the volunteers tents and tin roofs to boost their morale.”

Sonia Awale in Sindhupalchok



Solar powered lamps and water purifiers for Nepal Earthquake survivors.

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How to electrify earthquake survivors ?

The M7.8 devastating earthquake and its aftershocks have flattened buildings, destroyed communities and taken many lives. As dozens of aftershocks continue to hit the area, people are sleeping under tents with no electricity and food supply. Without electricity, there is no light, especially when it gets dark and they cannot charge their mobile phones for communication. There is no clean water as many sources are already contaminated. This monsoon is going to be a rough ride for these communities.

Many of these earthquake-hit villages in Nepal were already without power before earthquake struck on 25th April. Now aftermath earthquake, Nepal Electricity Authority has predicted damage worth \$100 million on national grid infrastructure. At least six hydropower projects under NEA have suffered damages. This means it will take even more time for these affected communities to get power. It is time we start initiatives which are off-grid, low-cost and sustainable to power these communities and bring them back to their normalcy. A solar lamp which can provide lighting and mobile charging for a family living in shelters, costs in an average 3000 rupees. Solar-powered water purifiers can easily filter 20 liters of water every day. We need to focus on these portable, low-cost solar solutions to restore them. And there are many of these available in Nepali market.

Ecoprise has started restoreNEPAL campaign with its partners 365 Innovations and Urban Studio to raise money to deliver these low-cost solutions to 1000 families in Sindhupalchowk, Kavrepalanchowk and Nuwakot. We have already distributed over 300 solar lamps to communities. We need your help to raise funds so that we reach more people with clean energy and water. We have started Indiegogo campaign where you can make small donations. Our partner in South Korea -The Bridge Together has started a crowd-funding campaign to help us.

Bhuwan K.C. is CEO of Ecoprise and can be reached at bhuwan@meroecoprise.org | www.meroecoprise.org Office Telephone: 4356592



The government effort to be strict about stopping trafficking seems to also be unwittingly dragging some innocent families into trouble.

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