

INDONESIA

Lombok Earthquake

On 5 August, a 7.0 magnitude earthquake struck the island of Lombok in Indonesia, with its epicentre located inland in North Lombok. The area had already been impacted by a 6.4 magnitude earthquake on 29 July, with its epicentre in East Lombok. On 9 August, the island was again hit by a 6.2 magnitude earthquake, creating panic among the population and further hindering the rescue efforts. The three earthquakes were followed by a number of strong aftershocks causing widespread structural damage to shelter and public infrastructure, injuring some 2,000 people and killing at least 279 people. Data regarding displacement is ongoing but preliminary reports indicate that over 270,168 displaced people are in need of food, water, shelter, and health assistance. At least 64,534 houses have been damaged.

Affected areas	People affected	People displaced	Injured	Killed
North Lombok		156,003		78
East Lombok	680,000	29,195	1,033	19
West Lombok		39,599		24
Mataram city		31,819		6

Disaggregated data as of 08/08/2018. Source: BNPB 09/08/2018, AHA Centre 08/08/2018

NEED FOR INTERNATIONAL ASSISTANCE



IMPACT



Anticipated scope and scale

North Lombok is the worst affected area as the epicentre was located inland. East Lombok and Mataram city were also strongly impacted. The **death toll is expected to increase** as 1,033 people are reported to have suffered major injuries. More than 270,000 people are in **urgent need of shelter assistance** after losing their homes.

Hundreds of **aftershocks** have followed the initial earthquakes, some of which were felt on the ground. A stronger than usual aftershock or another earthquake would significantly increase the damage and needs, while further hampering humanitarian operations.

Key priorities



+64,534
homes damaged



+270,168
people displaced



+458
schools damaged



Severe damage
to health infrastructure

Humanitarian constraints



The earthquakes have caused extensive damage to the road system and three bridges have collapsed, hampering humanitarian access. Heavy machinery is needed to restore access. Telecommunications and electricity connection are unstable. New tremors have hampered rescue efforts.

Limitations

The context is fast changing and the reports on the number of people affected and displaced are sometimes conflicting. There is no disaggregated data based on age, gender or special needs. Most information available comes from government sources.

Crisis impact

Lombok is a 4.5 square kilometres island, home to around 3.3 million people (around 210,000 in North Lombok, 645,000 in West Lombok, 900,000 in Central Lombok, 440,000 in Mataram City and more than 1.1 million in East Lombok), located in West Nusa Tenggara Province, Indonesia.

On 5 August, a powerful earthquake of 7.0 magnitude hit the island, and was followed by more than 318 aftershocks (UN 07/08/2018, BMKG 08/08/2018). The earthquake hit inland, its epicentre in North Lombok, only 15 kilometres underground, causing extensive damage. North Lombok and East Lombok were the most affected areas due to the proximity of the epicentre. Mataram city, the capital of the province located in West Lombok and home to more than 440,000 people, was severely impacted. On 9 August, another earthquake of 6.2 magnitude impacted the island, its epicentre located in North Lombok. The consequences of this new tremor are still unclear.

As of 9 August, more than 270,000 people have been displaced. More than 1,033 people were severely injured and at least 259 people died according to official figures, though local sources report more than 347 casualties. (AHA Centre 09/08/2018, BBC 09/08/2018) As of 8 August North Lombok reports the highest death toll (at least 78 casualties), followed by West Lombok (at least 24 casualties) and East Lombok (at least 19 casualties). (BNPB 09/08/2018) Disaggregated data is not available for the 9 August earthquake.

Lombok island was previously impacted by a 6.4 magnitude earthquake (6.4 km depth) on 29 July 2018, followed by 66 aftershocks with the highest magnitude of 5.7. This earthquake mostly affected the three same districts of North Lombok, East Lombok and West Lombok, injuring some 424 people, killing at least 20 people and leading to the displacement of more than 10,000 people. (ECHO 29/07/2018)

Shelter: Damage to houses and buildings is widespread. Some houses, already damaged by the 29 July quake, collapsed following the quake on 5 August. Officials in North Lombok regency reported that in some sub-regencies such as Bayan, Kayangan, Gangga, Tanjung, and Pemenang, more than 50% of houses have been damaged, while the IFRC reported that a rapid assessment by volunteers on the ground estimates that around 75% of the houses are damaged. (PMPB 08/08/2018, IFRC 08/08/2018) According to the latest official data, over 64,534 houses have been damaged. (AHA Centre 09/08/2018) Some people are now in evacuation centres but at least 80,000 people are staying in informal camps or in the open air. (Save the Children 07/08/2018)

Health: At least 1,477 people were severely injured during the 5 August earthquake, adding to the 424 people injured during the 29 July earthquake. Health facilities at

district and provincial levels have been severely impacted and have sustained damages, which are hampering capacity to respond to the crisis. (AHA Centre 08/08/2018)

The affected communities will also require psychosocial support as people are likely to experience symptoms of trauma. Children especially should be considered. Reports from NGOs on the field states that numerous IDPs are frightened of getting hit by collapsing buildings and refuse to stay indoors, showing sign of trauma. (AHA Centre 08/08/2018, Save the Children 07/08/2018) New earthquakes or aftershocks are likely to increase stress and anxiety among the affected population.

Food and livelihoods: Foods needs have been reported in all affected locations as families have lost access to their livelihoods and food stocks have been lost or damaged. (BNPB 08/08/2018, AHA Centre 08/08/2018)

WASH: Damaged pipes have left the affected population cut off from drinking water in various locations. The situation is expected to persist over the next week at least until repairs can be done. The consequences of these shortages are magnified by the drought and high temperatures currently impacting the island. (AHA Centre 08/08/2018, BMKG 08/08/2018)

Education: Some 458 education facilities were severely damaged by the earthquake, including nurseries & kindergartens (34), elementary schools (265), junior high schools (83), senior high schools (34), vocational high schools (36) and special education schools (6). North and Central Lombok are the most affected areas, though damages have also been registered in Western and Eastern Lombok as well as in Mataram city. (BNPB 09/08/2018, Plan International 08/08/2018)

Livelihoods: The earthquake took place at the peak of the tourist season. Though Lombok is not as visited as neighbouring Bali, tourism is an increasingly important part of the local economy. It is not yet clear how the consecutive earthquakes will affect the industry. (Reuters 08/08/2018, NY Times 08/08/2018)

Impact on critical infrastructure

According to Health Crisis Centre, Ministry of Health, medical services in North Lombok Regency collapsed. Five health facilities had already been damaged by the first earthquake in East Lombok regency. (AHA Centre 06/08/2018)

At least three bridges have been damaged in Tampes, Lokok and Luk. (PMPB 08/08/2018)

Vulnerable groups affected

There are protection concerns for vulnerable groups such as children, women, older people, and people with disabilities. Women and girls are particularly vulnerable to security risks around temporary shelters when displaced by natural disasters. There is an increased risk of exposure to incidents of rape, sexual assault and gender-based violence, and such incidents go largely underreported. People with disabilities and older people may find leaving their shelters more challenging, especially for those living in isolated and hard-to-reach areas. Children are at risk of exploitation and abuse, especially when separated from their families during evacuation processes. (CFE-DM 06/2018)

Humanitarian and operational constraints

The earthquakes have caused extensive damage to the road infrastructure and bridges in a region that is, under normal circumstances, remote and hard to reach, isolated from the main roads and ports of the island. Various villages are still cut off and unable to access aid as landslides are blocking the roads and at least three bridges have collapsed. According to the Indonesian Red Cross, at least 20,000 people still haven't been reached. (ABC 09/08/2018) The heavy machinery necessary to restore access is not available on the island. Humanitarians operations are also complicated by the wide dispersion of the impacted communities and displaced people. (PMPB 08/08/2018, Save the Children 08/08/2018) The response is further hampered by disruption to the communication lines and unstable electricity connection, especially in North and East Lombok. The island itself is isolated, with only two airports in Mataram and Praya.

Aggravating factors

Aftershocks

The threat of further aftershocks remains. More than 355 aftershocks, 19 of which were felt, were registered. (BMKG 09/08/2018) A strong enough aftershock or another earthquake would further damage infrastructure and roads, hampering the already limited access to affected communities. The numbers of casualties and traumatised people would likely increase as well as the needs of the affected communities whose coping capacities are already under stress. On 9 August, the island was hit by another 6.2 magnitude earthquake, creating panic among the population and hampering the evacuation and rescue efforts. There is no official information about the

consequences of this new earthquake at the time of writing document, but testimonies revealed that various buildings still standing, but weakened by the previous tremors, have collapsed. (ABC 09/08/2018)

A tsunami early warning alert was lifted at 8h25 pm on 5 August 2018, two hours after the initial earthquake. (BMKG 05/08/2018) Rumours that a strong earthquake would soon be followed by a tsunami have spread through the island, causing panic, and leading many affected communities to flee to the surrounding hills, further hampering the assessment process and the delivery of aid. (BNPB 09/08/2018)

Buildings and infrastructures

Limited regulations address earthquake risks, and there are limited resources and qualified construction workers to ensure sufficient quality standards of infrastructure and building construction. Poor quality structures are susceptible to earthquake damage. (World Conference on Earthquake Engineering 10/2008)

Volcanic activity

Several active volcanos are located near the epicenter of the earthquake, including Mount Rinjani in North Lombok and Mount Agung in Bali, which ejected volcanic ashes on 3 July after a 4.9 magnitude earthquake was registered 110km south of the island. So far, there are no signs of further volcanic activity. (MAGMA 09/08/2018)

Rainy season

The rainy season is due at the end of September. Should the recovery process from the earthquake still be ongoing at the start of the rainy season, needs would likely be exacerbated, especially shelter and health needs.

Response capacity

Local and national response capacity

The government has declared an emergency status for East and North Lombok regencies, and the emergency response period is set until 11 August. (ECHO 06/08/2018, AHA 08/08/2018)

The National Disaster Management Agency (BNPB) deployed two helicopters for the emergency response and the Indonesian National Armed Forces (TNI) dispatched three C-130 Hercules aircraft and 200 soldiers to help move the health taskforces,

including medicinal supplies, logistics, tents, and communication devices to the affected areas. The Dr. Suharso battleship arrived at Lombok to provide medical assistance and another hospital ship should arrive during the day. In total, three field hospitals are already operational in East Lombok (1) and North Lombok (2). (BNBP 09/08/2018) The Indonesian National Police (POLRI) and the National Search and Rescue Agency (BASARNAS) also sent personnel, medical teams and supplies, boats and helicopters. The Ministry of Public Workshops and Housing are sending heavy equipment and is providing support for clean water and sanitation. (PMPB 08/08/2018, AHA Centre 06/08/2018).

15 Indonesian-based national/local humanitarian partners are present on the ground (AHA Centre 08/08/2018) but some have already criticised the government's decision not to accept foreign aid, claiming that the response is insufficient. (The Sydney Herald 08/08/2018)

International response capacity

The Humanitarian Country Team (HCT) has been activated with significant support from UN agencies such as UNICEF, WHO and WFP as well as from the International Federation of Red Cross and Red Crescent Societies. (ECHO 07/08/2018)

However, the National Disaster Management Authority (BNPB) has declared that international assistance is not required and that the Government of Indonesia will be leading the response. Local NGOs were asked not to invite their international partners. International NGOs who are already present have not yet received authorisation to implement any activities, with the exception of NGOs that already have a local office or an established partnership with local NGOs. (AHA Centre 08/08/2018, The Sydney Herald 08/08/2018)

Information gaps and needs

- There is no disaggregated data based on age, gender or disabilities.
- The full extent of damage is not yet to be reported as assessments are ongoing, and some areas remain cut off.

Lessons learned

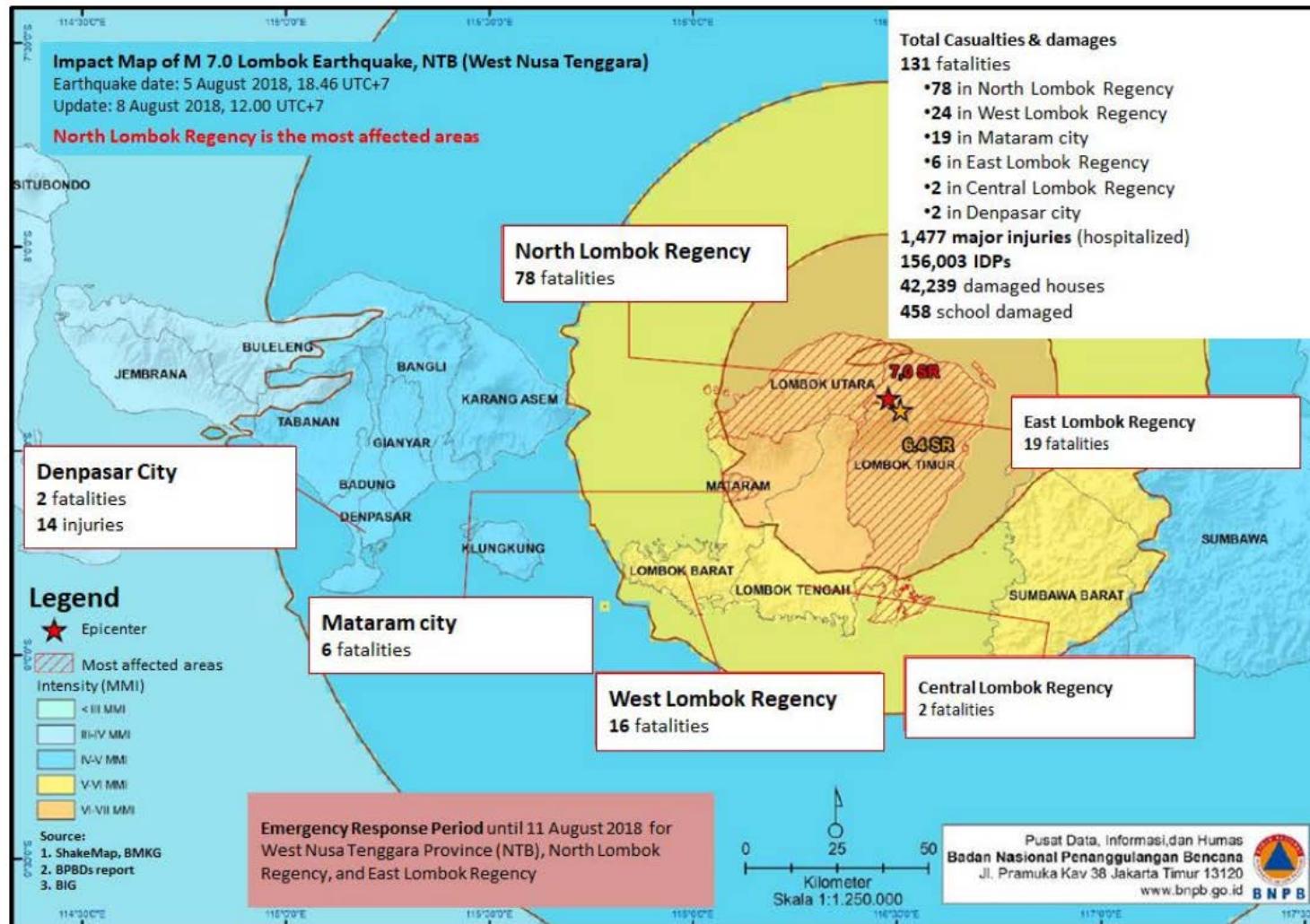
Earthquakes above magnitude 6 are recorded almost yearly in Indonesia (World Earthquakes 08/08/2018). Frequent natural disasters, especially the tsunami in the Indian Ocean in 2004, have changed Indonesia's approach to disaster preparedness and response. A law on disaster management was enacted in 2007 and the National Disaster Management Agency (BNBP) was created in 2008, with a budget increasing by 500% between 2010 and 2014. Risks reduction and resilience measures were included in the 2015-2019 Disaster Management policy and widespread preparedness initiatives have taken place initiatives (GFDRR 2018)

Landslides frequently accompany earthquakes in Indonesia. The National Disaster Mitigation Agency (BNPB) warned in 2017 that around 40 million people lived in landslide-prone areas nationwide. (The Jakarta Post 05/04/2017)

The earthquakes have caused significant damage to buildings and collapsed structures are responsible for most of the deaths reported. Past experience of earthquakes in Indonesia show that minimum compliance to the regulations and building codes was the root of most of the damages found on buildings. Despite reconstruction efforts, the problems were magnified by limited regulations focusing on earthquake risks, the insufficient number of qualified inspectors and the limited resources of quality materials and qualified construction workers. (World Conference on Earthquake Engineering 10/2008)

Map: Impact of Lombok earthquake: damages and casualties

*Map is as of 8 August. It does not show impact of 9 August earthquake



Source: AHA Centre 08/08/2018