



SITUATION UPDATE No. 4
M 6.4 Lombok Earthquake (29 Jul 2018) &
M 7.0 Lombok Earthquake (5 Aug 2018), INDONESIA
adinet.ahacentre.org/reports/view/1249 | https://reliefweb.int/disaster/eq-2018-000122-idn
Friday, 10 August 2018, 20:00 hrs (UTC+7)

No. **4**

This situation update is provided by AHA Centre for the use of ASEAN Member States and relevant parties among ASEAN Member States. The information presented is collected from various sources including but not limited to ASEAN Member States, UN, IFRC, INGOs, & News Agencies.

1. HIGHLIGHTS

- a. Series of moderate and strong earthquakes have rocked cities and regencies in Lombok Island, West Nusa Tenggara Province in the past two weeks. It resulted in significant number of casualties and damages in Lombok, and some minor ones in Bali and Sumba Island. The three strongest tremors were M 7.0 earthquake on 5 August 2018 18:46 hrs (UTC +7), M 6.4 on 29 July 2018, and M 6.2 on 9 August 2018. Altogether close to 500 earthquakes rocked the island.
- b. **As of 10 August 2018**, National Disaster Management Authority (BNPB) has verified an overall fatalities number of 321, 1,033 people injured, and 270,168 people displaced. In addition, a total of 67,875 houses damaged, along with 6 bridges, 458 schools, 3 hospitals, and 20 office buildings. Altogether the initial economic damage and loss figure is around IDR 2.3 billion (\pm USD 138 million).
- c. **The Government of Indonesia through the BNPB has strongly stated that international assistance is not required at this point of time.** BNPB has also encouraged all agencies (line ministries and national/local NGOs) based in Indonesia not to invite their international partners. Those who already arrived will be put on hold and cannot implement any of their activities until further notice.
- d. Initial sectoral damage and impact assessment activities are being undertaken by various national government agencies and organizations. Several crowd-source efforts to support assessment of damages and humanitarian needs are also available, which should be verified by BNPB and humanitarian partners on-site. A recommendation on this subject is provided in Section 5.
- e. The AHA Centre is in close coordination with the BNPB of Indonesia and providing support on information management and dissemination of information to regional and international stakeholders both at headquarter and field levels. This includes inclusion of official BNPB statement into the AHA Centre Situation Update. The AHA Centre also shared with BNPB relevant remote observation and assessment results made available by regional and international organizations.
- f. The AHA Centre In-Country Liaison Team (ICLT) arrived on 6 August 2018 to establish communication on-site with BNPB and provide coordination support. All ASEAN Emergency Response and Assessment Team (ERAT) members arrived on 8 and 9 August 2018. While BNPB has welcomed ASEAN-ERAT, their primary



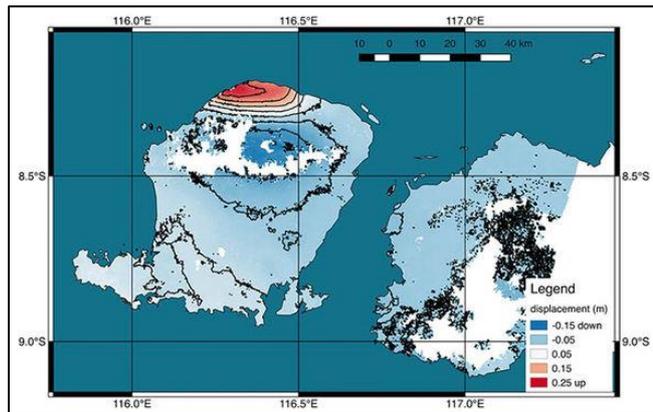
deployment purpose is to learn from Indonesia on its experience in managing the disaster and get exposure on the ongoing emergency response operation.

- g. The AHA Centre flash updates on this disaster can be found here: <https://ahacentre.org/flash-updates/> while series of situation updates can be found here: <https://ahacentre.org/situation-updates/>

2. SUMMARY OF EVENTS, FORECAST, AND ANTICIPATED RISK

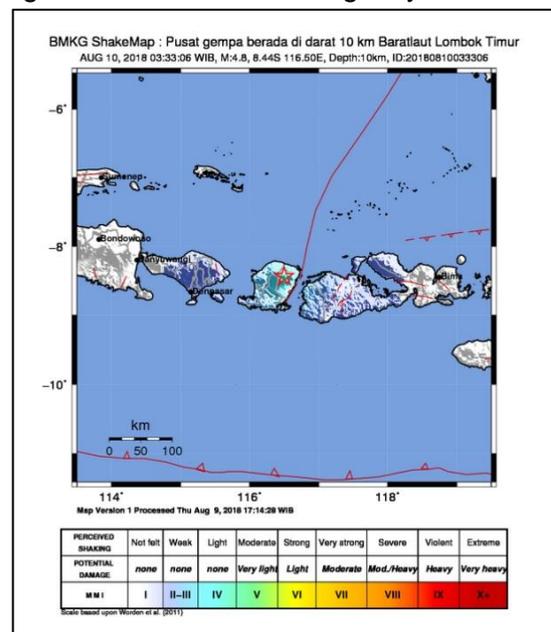
- a. Indonesian Meteorology, Climatology and Geophysics Agency (BMKG) on 9 August 2018 explains that the phenomena observed in Lombok is a set of series of foreshocks, main shock, and aftershocks occurred along one back arc system, with similar mechanism and relatively near epicentre location. BMKG estimated that according to aftershocks recorded until 8 August 2019 processed with Mogi 1 equation, the trend of tremors in Lombok will decrease in 3-4 weeks' time.

- b. Recent result of [Advanced Rapid Imaging and Analysis \(ARIA\) conducted by NASA and California Institute of Technology \(Caltech\)](#) shows the displaced ground following the M 7.0 earthquake, which was mostly in northern side of Lombok. From the pattern of deformation map (right figure), the earthquake fault slip was on a fault between the



north-western part of Lombok Island, and it caused as much as 25cm uplift of the ground surface (red zones). This observation provides explanation and support ground report on the number physical damaged in North Lombok Regency.

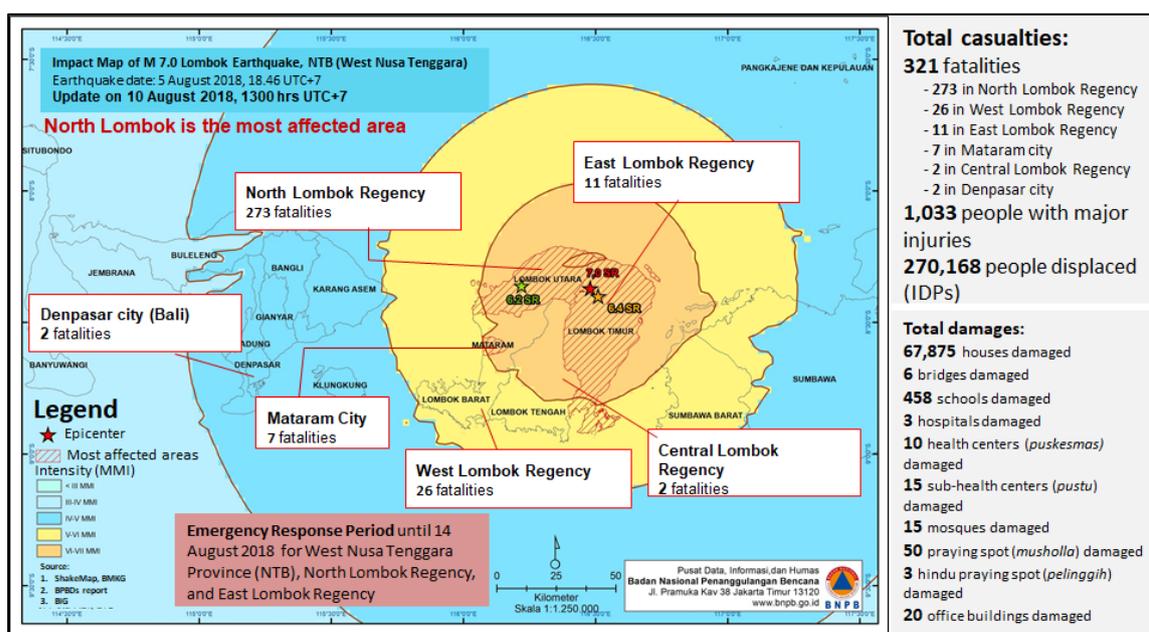
- c. As can be seen on the right figure, until 9 Aug 2018 (2100 hrs UTC+8), [BMKG](#) recorded 392 aftershocks following the M 7.0 earthquake on 5 August 2018, 1846 hrs (UTC+7), with 19 of them were felt due to moderate shaking ($\geq M 4.5$). These aftershocks may become additional risk to crippled buildings, responders, affected population houses and infrastructures. The latest strong aftershock was M 4.8 earthquake on 10 August 2018, 0443 hrs (UTC+8), with epicenter located 8.44 S and 116.5 E, 10 km below ground surface. The intensity felt across Lombok was around IV-V MMI ([BMKG](#)), as can be seen in the figure on the right.



- d. It is currently hot and dry in Lombok, Bali and Sumba islands. A drought occurrence has been identified in Lombok and Sumbawa islands of West Nusa Tenggara (NTB) Province since rainfall record is only around 0-20 mm. The total needs of clean water for affected population should be projected by considering the rainfall pattern. Figure on the right showcases the rainfall accumulation across the affected areas ([AHA Centre DMRS](#)).
- e. Based on the field call with responders and with the number of houses damaged, there is a potential risk of exposure to **asbestos**. Damage to material containing asbestos can result in the release of small asbestos fibers that become airborne and are readily inhaled. Although asbestos is not acutely hazardous to health, the asbestos fibers can remain in the lungs for a long period of time causing diseases such as asbestosis and lung cancer. Preventive measures can be found in Section 5.

3. ASSESSMENT OF DAMAGE, IMPACT, AND HUMANITARIAN NEEDS

- a. As of 10 August 2018, BNPB has verified: 321 fatalities, 1,033 people injured (serious injuries), and 270,168 people displaced; i.e. with the distribution can be found below. A total of 67,875 houses damaged, along with 6 bridges, 458 schools, 3 hospitals, 10 health centres, 15 mosques, and 20 office buildings, etc. Altogether the initial economic damage and loss figure is around IDR 2.3 billion (\pm USD 138 million).



In total, the confirmed number of affected people is 3,512,689 in Lombok Island with 7.69 % (270,168) displaced. The distribution of affected population is as follows:

East Lombok Reg.	North Lombok Reg.	West Lombok Reg.	Central Lombok Reg.	Mataram city
1,192,110	218,533	685,161	939,409	477.476

- b. According to the latest update from the Health Crisis Centre of the Ministry of Health (MOH) released on 10 August 2018, a distribution map and roster of medical teams in the affected areas have been developed. Based on this and the health service assessment, additional medical teams have been deployed in East Lombok and

further in West Lombok. Two Indonesian Navy ship hospitals have been operationalised to provide health service.

- c. As of 10 August 2018, MoH also provide additional health impact data from reported by local health agencies. In addition to 321 fatalities and 1,033 serious injured reported by BNPB, there are 3,191 cases of outpatient with minor injuries. Furthermore, the data on vulnerable groups across 5 regencies and city in Lombok Island are as follows:

Pregnant women	Baby	Infant	Elderly
59,603	72,582	213,724	304,526

- d. Following the activation of Sentinel Asia platform and Disaster Charter, until 10 August 2018, **five remote damage assessment activities through aerial survey and satellite observation have been completed:** 1) by Indonesian agencies (BNPB, BIG, BPPT, and PVMBG); 2) by UNITAR-UNOSAT following the M 7.0 earthquake; 3) Regional Service of Image Processing and Remote Sensing (SERTIT), Government of France; 4) various observations made by data provider nodes and data analysis nodes of Sentinel Asia; and 5) DigitalGlobe. AHA Centre received imageries from DigitalGlobe on 10 August 2018. For the previous observations, it can be found in [Situation Update #2](#) and [Situation Update #3](#).
- e. DigitalGlobe collected imageries from the last 72-hours in six area of interests (AOI), as can be seen in the right side of the image below (dated 7-9 August 2018). DigitalGlobe satellite imagery shows the damage sustained in towns near the earthquake epicenter; i.e. particularly in Bayan District, North Lombok Regency. One of the examples can be seen below, and the remaining imageries can be found in the attachment part.

Pre and post imageries in Bayan District, North Lombok Regency (1Aug/left, 9Aug/right): satellite image ©2018 DigitalGlobe, a Maxar company.



Accordingly, **10 out of total 52 villages affected have been assessed remotely with around 2,846 buildings potentially damaged.** Those villages (except for Gili Indah) were also identified by BNPB as isolated areas and requiring immediate assistance. Note that damages identified through aerial surveillance and satellite



observation are most-likely indicating a **total collapse** where destruction to roof and structure of buildings clearly can be seen (as illustrated above). Based on field call with ASEAN-ERAT and BNPB team on the ground, some of the damages identified and verified on the ground also include those light damages; i.e. where the roof of building remains, but with structural damages in wall section. Therefore, potentially the number of collapsed houses/buildings, at this point, is more than 2,800 whereas the total damaged buildings (all level of severity) is more than 67,000 (BNPB).

Table 1. Aggregate of Remote Assessment Activities following Lombok Earthquake (consolidated by AHA Centre)

Remote Assessment activities	Observed areas	Results
Aerial survey by agencies of Government of Indonesia (BNPB , BIG , BPPT , and PVMBG)	Regency: East Lombok District: Sambalia Village: Mentareng, Obel-obel	129 damaged buildings, out of total 287 (44.9%)
	Regency: East Lombok District: Sambalia Village: Pemadekan, Obel-obel	34 damaged buildings, out of total 165 (20.06%)
	Regency: East Lombok District: Sambalia Village: Obel-obel, Obel-obel	18 damaged buildings, out of total 116 buildings (15.5%)
Damaged assessment based on Satellite-observation UNITAR-UNOSAT	Regency: North Lombok District: Kagayan Villages: Gumantar and Dangiang	UNITAR-UNOSAT analysis identified 1,274 potentially damaged structures in the area.
	Regency: North Lombok District: Pemenang Village: Gili Indah (three Gili islands)	UNITAR-UNOSAT analysis identified 15 potentially damaged buildings and 6 potentially gathering sites in Gili Indah village
Government of France, Regional Service of Image Processing and Remote Sensing (SERTIT)	Regency: North Lombok District: Salangan Villages: Bagek Gembar, Lokok Sutrang	1,033 damaged buildings detected, with additional 268 buildings potentially damaged
	Regency: North Lombok District: Kayangan Villages: Salangan	Approximately 70 'very affected' buildings and 230 'affected' buildings. The imagery also managed to identify 'spontaneous gathering area' that may indicate an evacuation site
DigitalGlobe	Regency: North Lombok District: Bayan Villages: <i>unknown</i>	3 collapsed buildings and 55 houses identified from the imageries.

4. ACTIONS TAKEN AND RESOURCES MOBILISED

Response by Government of Indonesia

- a. Incident Command Post(s) have been established by the local disaster management organisations (BPBDs) on scene. BNPB has established National Assisting Post (Pospenas) in Tanjung District, North Lombok Regency, (8°22'12.0" South & 116°28'48.00" East). Indonesian Armed Forces is opening a post in Halim Perdanakusuma Airport for receiving relief items and resources, and sending them to Lombok.
- b. Following the national inter-ministerial meeting on 9 August 2018, BNPB has informed the following arrangement of national clusters, its coordinator and deputy coordinator, and emergency response activities:



No	Cluster	Coordinator / Deputy Coordinator	Activities
1	Health	Head of Health Crisis Centre, Ministry of Health / Doctor Centre, Indonesian Police	Provides medical assistance, diseases control, environmental health, provides clean water and good sanitation, nutritional health services, medicines for emergency, reproductive health services in emergency, dead body management, information management for health related issues
2	Search and Rescue	Director of Operations and Training, Indonesian Search and Rescue Agency / Deputy Operations Assistance, Indonesian Armed Forces	Activate, coordinate, and control of search, rescue and evacuation of disaster victims in efficient and effective way. Also information management for search and rescue operations related issues
3	Logistics	Director of Logistics, BNPB / Director of Social Protection for Natural Disasters, Ministry of Social	Provides goods, clothing, food and equipment; customs for imported goods, storage, logistics distribution and safety, information management for logistics related issues
4	Evacuation and Protection	Director of Social Protection for Natural Disasters, Ministry of Social / Operations Assistant, Indonesian Police	Provides public kitchen, prevention and response for gender violent, evacuation centre, security, camp management and provides temporary shelter, protection for vulnerability groups, information management related to evacuation and protection related issue
5	Education	Head of Planning and International Cooperation, Ministry of Education / Secretariat of DG – Moslem Education, Ministry of Religion	Formal and informal teaching and learning services, preparedness for temporary school, guidance and counselling for adult children, spirituality, information management for education related issues
6	Facilities and Infrastructures	Secretariat DG-Cipta Karya, Public Works Ministry / Directorate General of Resources, Post Equipment and Informatics, Ministry of Communication and Informatics	Debris clearance, provides transportation equipment, telecommunication and resource, provides fix shelter/house, provides water and sanitation, information management related to facilities and infrastructure
7	Economy	Secretary DG of Horticulture, Agriculture Ministry / Assistant Deputy of Business Reconstructing , Ministry of Cooperative and Small/Medium Business Enterprise	Management of mining and quarrying sector, electricity, gas, drinking water, industrial, construction, trade, hotel and restaurant, services and agriculture, information management related to economy issues
8	Early Recovery	Director of Disaster Prevention and Mitigation, Ministry of Home Affairs / Assistant of Coordinating Deputy for policy, development and evaluation of institutional programmes and governance, Ministry of Administer Reform	Enhancement of central/local government for coordination, revitalization of function of the village/district/regency/city/provincial, recovery of public facilities, supporting facilities for government, enhancement on development capacity and budgeting, information management for early recovery related issues

c. In addition to Government of Indonesia's responses reported in Situation Update #2 and #3, the following activities have been undertaken:

- **Ministry of Public Works and Housing:** Plan to drill wells at camp sites to address the need for clean water, and to send 16 units of water hydrant each with capacity up to 2,000 litres, 30 hydrants with capacity of 1,000 litres each, and 26 portable toilets. The Ministry will be adding heavy equipment and WASH facilities.
- **Ministry of Communication and Information:** Facilitate the establishment of an alternative communication network by providing additional internet access through the VSAT network Portable telecommunication device with 1MB capacity for disaster assistance (4 units installed in the evacuation post at Madayin Sembalun, Bayan, and Sambik Elen, with further installations at the Office of the Regents of Lombok Utara, Desa Pamenang, Dusun Mentareng, Governor office and the Mataram Provincial hospital).



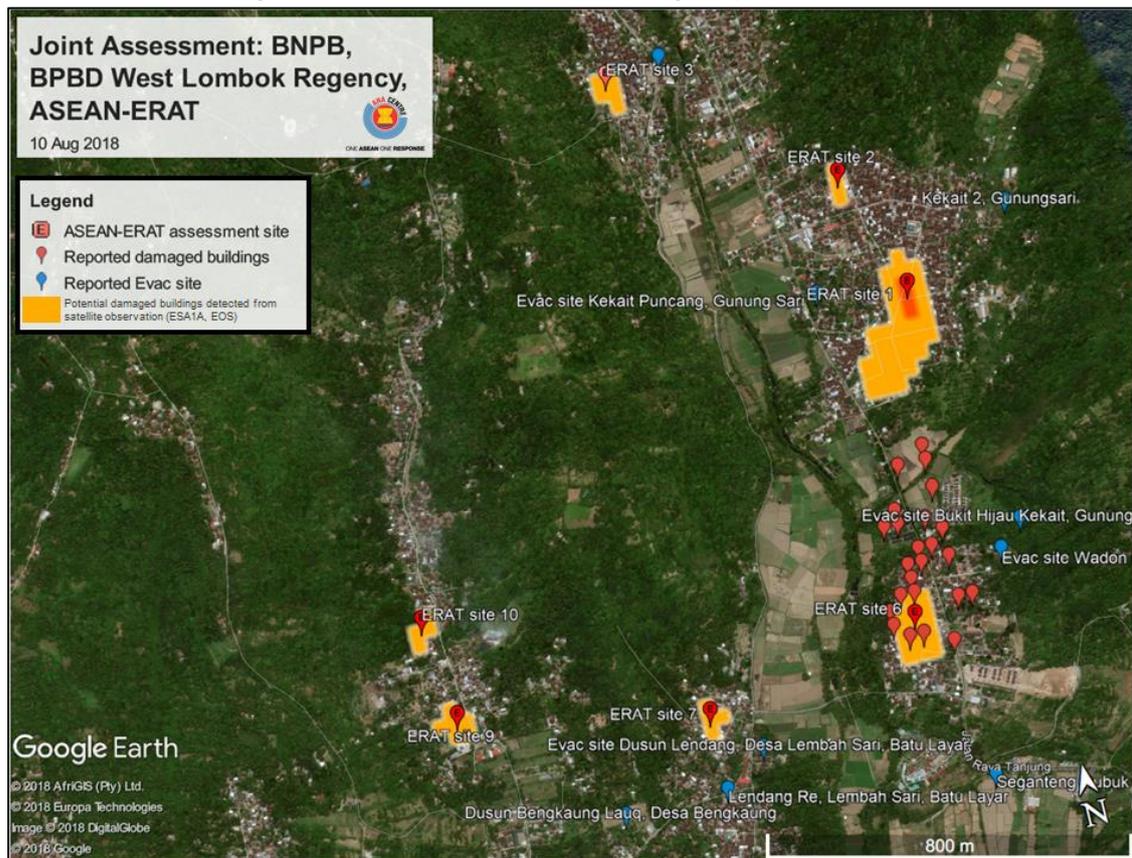
- **Ministry of Health:** Deployed all health teams from the Capital and the region. About 87 personnel, composed of 20 personnel from the Pusat Krisis Kesehatan (Health Crisis Centre), 20 personnel from the RSUP Sanglah, 20 personnel from UNAIR, 12 personnel from UNHAS, and 15 personnel from UGM. The Directorate of Nutrition send 2MT of Additional Nutrition (*Pemberian Makanan Tambahan* or PMT) composed of 1.5MT of PMT for toddlers and 0.5MT for pregnant mother, in addition to 3.5MT of medicines. Ministry of Health is deploying 60 orthopedic specialists
- **Ministry of Social Affairs:** channeling assistance in the value of IDR 8.72 billion for the emergency response in Lombok. The assistance was given in several stages. Allowance for the family of victims at IDR 15 million, and for injured victims at IDR 2.5 million, as well as basic food assistance package. The PKSBA is esestablishing public kitchens in several temporary shelters. There will be additional personnel from Dompu, Lombok Utara, Bali, Jatim, Kalses, Sulses and Jateng. There will be 5 public kitchens from the Ministry.
- **Ministry of Tourism:** activate the Crisis Centre Team to monitor the latest development in Lombok and Bali of 3 As: Access, Amenity, and Attraction, which is directly related to the international and domestic tourists in Lombok and Bali. The TCC is working together with the NTB tourism agency to scan the Gili islands (Gili Trawangan, Gili Air, and Gili Meno) to coordinate with the relevant stakeholders in order to monitor and ensure all the remaining foreigners in the Gili are safe.
- **Ministry of Agriculture:** is channeling IDR 10billion worth of assistance and dispatching 100 members special team to assist affected population to take care livestock and so on.
- **Ministry of Education and Culture:** dispatching a team from the Directorate of PKLK (Special Education and Service), Directorate of Capacity Building of Teachers (PG), Directorate of Middle Education and Special Education (Dikmen&PK), Early and Mass Education (Paud Dikmas), and coordinating with Education Agency of the NTB province, Lombok Timur Regency, and Education and Sports Agency for Lombok Utara and Institute for the Maintenance of Educational Quality (LPMP) NTB for data collection and mobilization of emergency classroom tents from the LPMP of other provinces.
- **Ministry of Foreign Affairs:** Deploying a team to assist foreigners in cooperation with Basarnas to help the evacuation of foreigners from the Gili island
- **Ministry of Women and Child Protection (KemenPPPA):** Deployed a team to help the victims of Lombok earthquake. The team will be separated into two groups: one to assist women and one to assist children.

Response by the AHA Centre

- a. The AHA Centre is in close coordination with the BNPB of Indonesia and providing support on information management and dissemination of information to regional and international stakeholders both at headquarter and field levels. This includes inclusion of official BNPB products and information into the AHA Centre Situation Update. The AHA Centre ICLT was dispatched by the AHA Centre to Lombok Island on 6 August 2018 for supporting on-site coordination.
- b. All ASEAN-ERAT members arrived on 8 and 9 August 2018. While BNPB has welcomed ASEAN-ERAT, their primary deployment purpose is to learn from Indonesia on its experience in managing the disaster and get exposure on the ongoing emergency response operation. Together with personnel with BNPB and BPBD West Lombok Regency, ASEAN-ERAT has identified 17 sites with potential damages as



analysed through satellite imagery analysis and requiring ground verification; i.e. located in Gunung Sari District, West Lombok Regency.



ASEAN-Emergency Response and Assessment Team (ERAT) is on the ground and observing the operations coordinated by BNPB and BPBD

Response by National and Local Humanitarian Partners

- From the data gathered by the National Cluster of Evacuation and Protection, as of 10 August 2018, the numbers of NGOs providing their assistance in terms of logistics and service are doubled the size (i.e. from 17 to 30). **The overall activities of national humanitarian partners can be seen in the attachment part. Overall there are 273 assistance provided by national humanitarian organizations on the ground. Accordingly, the AHA Centre will provide the updated 3W Map of national NGOs in the next situation update. Nevertheless, in order for gap analysis to be conducted, a more detailed information on quantity of relief items provided and number of evacuees in each site is required.**

- b. Yakkum Emergency Unit (YEU) has collaborated with Plan International Indonesia Foundation and church volunteers in conducting assessment focused on health, water and sanitation (WASH), shelter, and livelihood as well as validating the beneficiaries of shelter kits in Loloan Village and Karangbajo Village, Bayan Sub-district which were prioritized for the family with vulnerable groups (children/people with disability/elderly/breastfeeding mothers/ pregnant women/ women as head of family). The team conducted data collection in Senaru and Sambik Elen Village, Bayan Sub-District, North Lombok and assessment to the local partners for resource mapping (including volunteers), logistic delivery, and preparation of logistic warehouses.
- c. Hope Worldwide provided life-saving health services and psychosocial well-being of children and families.
- d. Islamic Relief is trying to reach areas that have not yet received any aid and are now focusing on four villages in North Lombok, including Jenggala, Sokong, Tegal Maja and Tanjung districts.
- e. PKPU Human Initiative has presence in Sembalun and Tanjung districts, North Lombok Regency; i.e. conducting assessment, food, hygiene kits, and water provision.

Response by Private Sector

As of 10 August 2018, it was recorded that the Government of Indonesia has also received assistance from the private sectors. The provision of assistance that has been dispatched to the affected areas only in North Lombok Regency, are as follows:

- a. PT PAMA and PT J Resources have provided basic food package to some of the affected districts in Northern Lombok Regency and also conducted evacuation to the victims who are buried under the rubble from the collapsed buildings.
- b. PT BSI has conducted an assessment and first aid assistance to the wounded victims in Tanjung District.
- c. PT KIDECO has provided medical services to the affected population and conducted evacuation in Pemenang District.
- d. PT AMNT has provided medical services to 119 patients in Pemenang District.
- e. PT J Resources has given medical services in Gangga District.
- f. PT Berau Coal, Freeport and NGM has helped the evacuation process of victims who were trapped under the collapsed Jamiul Jamaah Mosque at Karang Pansor. The victims have been successfully evacuated using CSSR equipments (rotary rescue saw, combi tool and pry bar unit excavator).
- g. PT MHU has provided medical services in Rujuk Village, which helped 162 adults patients, 131 children and 5 toddlers and in Gili Indah Village, Pemenang District, which helped 14 adults, 4 children and 3 toddlers.
- h. PT Antam has conducted assessment, assisted in victims evacuation process and provided assistance to wounded victims in Gangga District.

5. RECOMMENDATIONS AND PLAN OF ACTIONS

Recommendations to be considered by humanitarian partners

- a. Based on a release from BNPB on 10 August 2018, the most urgent humanitarian needs are **basic relief items for 270,168 IDPs**, i.e. the following items:

<ul style="list-style-type: none"> - ready-to-eat meals - drinking water - tarpaulin - clothes - WASH support - nutrient foods - sanitary napkins 	<ul style="list-style-type: none"> - other food items - blanket - tents - supplementary feeding for baby & infant (*) - medical services - sarong - other daily items
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(*) note: breastfeeding is highly recommended where possible

In line with the guidance from the BNPB, AHA Centre recommends those relief items above to be fulfilled from domestic sources.



- b. Due to seismic hazard characteristics in the affected areas, as described in Section 2, humanitarian partners and responders should exercise cautions during their operations, prepare and implement a security plan, and be alerted to potential collateral disasters. Safety of humanitarian workers has to be ensured due to identified security risk of looting on the ground. Disaster responders and humanitarian workers have to ensure safe evacuation sites, preferably outdoor in a solid ground, in anticipation of aftershocks or landslides.
- c. The AHA Centre has also took note on various in country [crowd-funding efforts](#) across national platforms. Potentially this effort will be further increase with the incoming **Eid Al Adha** on 24 August 2108. In-country donation of food generated by Eid Al Adha can generate significant amount of support for affected people in Lombok. General public and humanitarian partners alike are advised to use Eid Al Adha momentum to channel more support to Lombok.
- d. With the current and near-future availability of satellite imageries and aerial survey, it can be used for on the ground validation and assessment of building damages and need of rehabilitation and reconstruction. **A practical suggestion to national/local humanitarian partners** conducting assessment is to use geotagging and/or open camera, in order for command post (*posko*) and national assisting post (*pospenas*) to retrieve location data and enable quick compilation of observation data. **Please also refer to plan of actions by AHA Centre and ASEAN-ERAT, for reference by other humanitarian partners.**
- e. Local/national humanitarian organisations may wish to maintain information sharing and assistance tracking available in [this page](#).
- f. Recommendation on **health emergency response**, based on the latest and projected development in reference to past disaster experience.
- For people that are displaced, poor health and damage to sanitation, water supply and housing as well as interruption to usual access to safe and sufficient food in the community may lead to rapid increase in malnutrition and communicable disease. Vulnerable groups to include infants, children and the elderly are more predisposed to these conditions. And given the increasing number of people displaced, there is also the potential for overcrowding to happen in evacuation / relocation sites. Further, lack of safe water for drinking can increase the population's risk to dehydration and unsafe removal of waste (toilets and waste disposal), can greatly expose population to diseases such as diarrhoea, hepatitis A, cholera, typhoid and shigella dysentery, intestinal helminths, malaria and trachoma.
 - Apart from the provision of clean drinking water, food/ nutrition to promote the health of surviving populations especially those in evacuation/ relocations sites, provision of water and sanitation facilities should be sustained. Guidance on the development of techniques for excreta disposal in emergencies is found [here](#).
 - There may also be a need to conduct a communicable disease risk assessment and enhance the health surveillance system to prevent disease outbreaks (e.g. water-borne diseases, measles, acute respiratory infection, vector-borne due to presence of breeding sites).
 - Stockpile medical/ hospital supplies/ essential medicines/ relevant vaccines especially anti- tetanus, typhoid and measles and maintain vaccine cold chain.
 - Sustain psychological and mental health support and referral to adequately address the needs of people with stressful and traumatic experiences.
 - In response to the additional risk of exposure to asbestos in a long period, the following preventive measures are recommended ([WHO](#)):
 - As a minimum measure, provide workers with gloves, goggles, disposable clothing or replacement clothing and disposable dust masks. Contaminated clothing and protective equipment should be disposed of in the same way as other asbestos-containing materials. Provide washing facilities for workers and ensure that they are aware of the need to wash before eating, drinking or smoking and before returning home to minimise the risk of spreading asbestos fibres.



- o In the communities, do restrict access to sites where there are piles of building debris including demolition sites and waste sites. Clean surfaces contaminated with asbestos-containing materials using wet methods. Do not dust or sweep because this will propel fibres and dust into the air. Keep piles of asbestos-containing materials covered such as tarpaulins or sheets of plastic until they can be safely stored or disposed of. Wet thoroughly before moving the materials. Reference can be found [here](#).

Plan of actions by AHA Centre and ASEAN-ERAT

- a. The AHA Centre is seconding staff to BNPB's Data and Information Centre (*Pusdatin*) for supporting dissemination of official information to international stakeholders.
- b. According to latest coordination with BNPB's post in West Lombok Regency, ASEAN-ERAT will observe assessment and verification of damages and evacuation sites in Batu Layar and Gunung Sari districts. The suggested process of verification can combine the available [crowd-source report](#), on-site verification to areas with potential damages as analysed through satellite observation, and combined with ground verification by responders. This can be done through the following steps and illustration below, which will be conducted by ASEAN-ERAT:
 1. Verify location and situation of evacuation sites in both districts (blue points);
 2. Verify reported damages (red points) that already triangulated with satellite observations (orange / red areas);
 3. Visit and onsite verification of areas identified with potential damages (according to satellite imagery analysis); and contribute ground photos / observation

<p>Aerial surveillance & analysis on satellite observation available:</p> <ol style="list-style-type: none"> 1) GoI: BNPB, BPPT, BIG, PVMBG 2) UNITAR-UNOSAT 3) SERTIT, Gov of France 4) Sentinel Asia DANs (e.g. EOS) 5) DigitalGlobe 	
<p>Crowd-source report of damaged buildings & evacuation site</p>	
<p>Ground observation & verification of disaster assessment teams e.g. by BNPB, BPPDs, ASEAN-ERAT, other national humanitarian partners</p>	

- c. The AHA Centre will provide further updates as situation progresses and more information is available.

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ABOUT THE AHA CENTRE
The AHA Centre - ASEAN Coordinating Centre for Humanitarian Assistance on disaster management - is an inter-governmental organisation established by 10 ASEAN Member States – Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam - to facilitate the cooperation and coordination among ASEAN Member States and with the United Nations and international organisations for disaster management and emergency response in the region.

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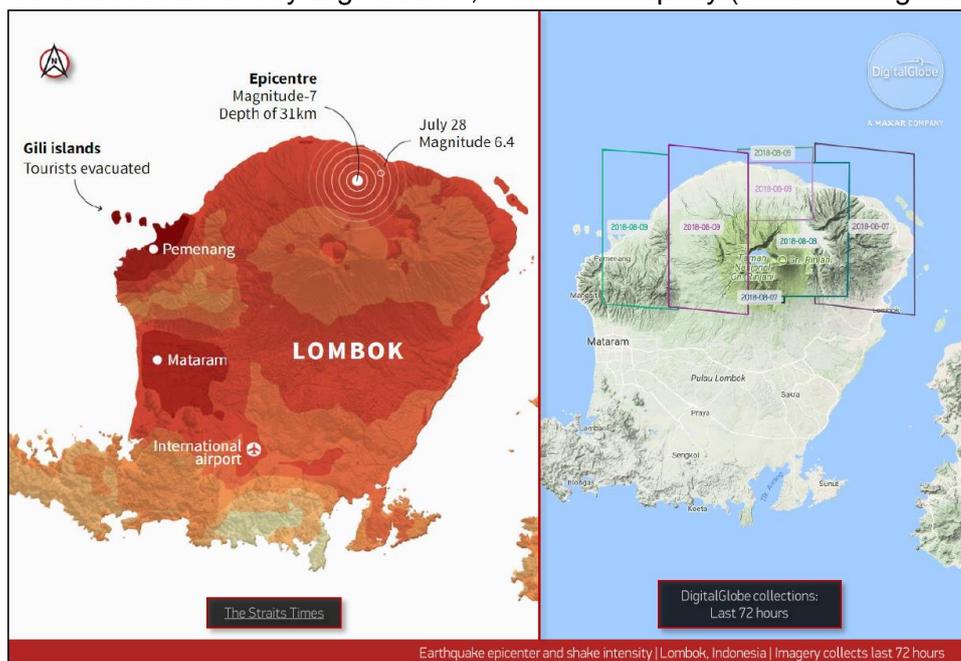


Attachment

a. Current humanitarian operations by national cluster on evacuation and protection

REGENCY	DISTRICT	VILLAGE	TYPES OF ASSISTANCE / RELIEF ITEMS PROVIDED											TOTAL			
			Assessment	Camp management	Training	NFI distribution	Grant/Cash	Shelter	Food	Makanan	Health	Water	WAYCS/CFS		WASH		
West Lombok	Batu Layar	-	1														1
West Lombok	Gunung Sari	Kekait	1			1				1			1				4
West Lombok	Gunung Sari	Penimbung	1														1
West Lombok	Gunungsari	Batukumbang	1						1		1	1	1				5
West Lombok	Lingsar	Kekait	1						1		1	1	1	1			5
West Lombok	Narmada	Selat	1			1					1		1				4
Central Lombok	Pringgabaya	Pohgading			1					1	1	1	1				6
East Lombok	Pringgabaya	Pohgading	1			1					1		1				4
East Lombok	Sambelia	Balanting	1														1
East Lombok	Sambelia	Bilik Pitung	1														1
East Lombok	Sambelia	Madayin			1	1				1	1	1	1				6
East Lombok	Sambelia	Obel-obel	1			1			1	1	2	2	2				11
East Lombok	Sembalun	Bilopetung			1	1				1	1	1	1				6
East Lombok	Sembalun	Madayin	1			1										1	4
East Lombok	Sembalun	Sajang	3	1		1	1			1	1	1		1	1	1	11
East Lombok	Sembalun	Sembalun	1								1		1				3
East Lombok	Sembalun	Sembalun Bumbung	4			2			1		1				1	2	11
East Lombok	Sembalun	Sembalun Lawang	2	1		1	2			3	2	2	1				15
East Lombok	Sembalun	Sembalun Timba Gading			1	1				1	1	1	1				6
East Lombok	Sembalun	Sajang	1							1	1	1	1				5
East Lombok	Sembelia	Obel-obel	1			1					1		1				4
East Lombok	Sembelia	-	1			1				1	1					1	4
East Lombok	Suela	Suela	1														1
East Lombok	-	-						1									1
North Lombok	Bayan	Ancak			1	1				1	1	1	1				6
North Lombok	Bayan	Bakong			1	1				1	1	1	1				6
North Lombok	Bayan	Batu Rakit	1			1				1	1						4
North Lombok	Bayan	Karang Bajo	1			1				1	1						4
North Lombok	Bayan	Lenggong		1		1				1	1	1	1	1			6
North Lombok	Bayan	Loloan	1			1				1	1						4
North Lombok	Bayan	Sambik Elen	3	1		1	5			1	3	4	2	3			23
North Lombok	Bayan	Senaru	2			2				1	1	1					7
North Lombok	Bayan	Sukadana	5			4				1	1	2		1			14
North Lombok	Bayan	-	2			1											3
North Lombok	Gangga	Bantek														1	1
North Lombok	Gangga	Ganggalang	1							1		1	1	1			5
North Lombok	Gangga	Rampek	1			1					1						3
North Lombok	Gangga	-	1			1						1					4
North Lombok	Kayangan	Bantek	1			1						1					4
North Lombok	Kayangan	Selengan	1			1					1						3
North Lombok	Kayangan	-	1														1
North Lombok	Pemanang	Pemanang	1							1		1	1	1			5
North Lombok	Pemanang	Pemanang Barat	2				1				1		1				5
North Lombok	Tanjung	Janggala				1					1	1	1				3
North Lombok	Tanjung	Lading-lading			1	1				1	1	1	1				6
North Lombok	Tanjung	Medana			1	1				1	1	1	1				6
North Lombok	Tanjung	Obel-obel			1	1				1	1	1	1	1			6
North Lombok	Tanjung	Sagar Panjalin			1	1				1	1	1	1	1			6
North Lombok	Tanjung	Sigar Panjalin	1			1					1	1				1	4
North Lombok	Tanjung	Sokong				1					1		1				3
North Lombok	Tanjung	Tanjung				1					1	1	1				3
North Lombok	Tanjung	Tegal Maja	1			2				1	1	1				1	7
North Lombok	-	-							1								1
GRAND TOTAL			51	4	13	49	4	12	27	40	27	33	2	11	11	273	

b. Overall observation by DigitalGlobe, a Maxar company (satellite image ©2018)



- c. Pre and post imageries in at -8.231, 116.422 (1 Aug / left, 9 Aug / right): satellite image ©2018 DigitalGlobe, a Maxar company.



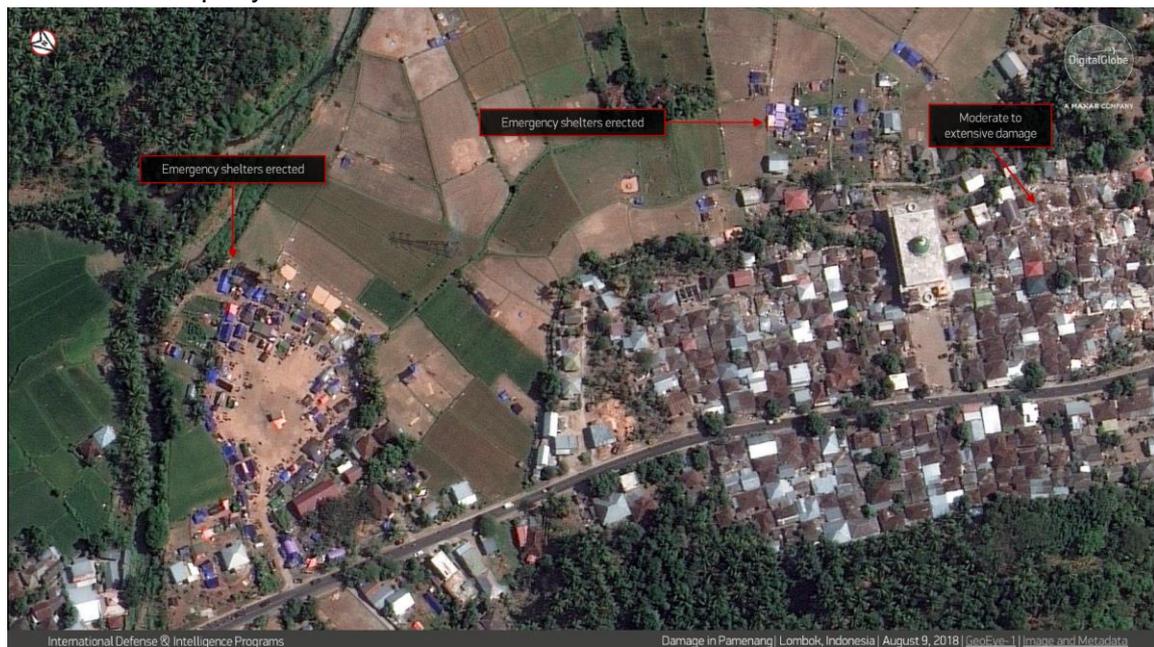
- d. Pre and post imageries in Bayan District, North Lombok Regency (1Aug/left, 9Aug/right): satellite image ©2018 DigitalGlobe, a Maxar company.



- e. Pre and post imageries in Bayan District, North Lombok Regency (1Aug/left, 9Aug/right): satellite image ©2018 DigitalGlobe, a Maxar company.



- f. Post-earthquake image in Pamenang, (9 Aug): satellite image ©2018 DigitalGlobe, a Maxar company.



g. Post-earthquake image in Pamenang District, (9 Aug): satellite image ©2018 DigitalGlobe, a Maxar company.



h. Post-earthquake image in Pamenang District, (9 Aug): satellite image ©2018 DigitalGlobe, a Maxar company.

