



SITUATION UPDATE NO. 6 M 7.4 EARTHQUAKE & TSUNAMI Sulawesi, Indonesia

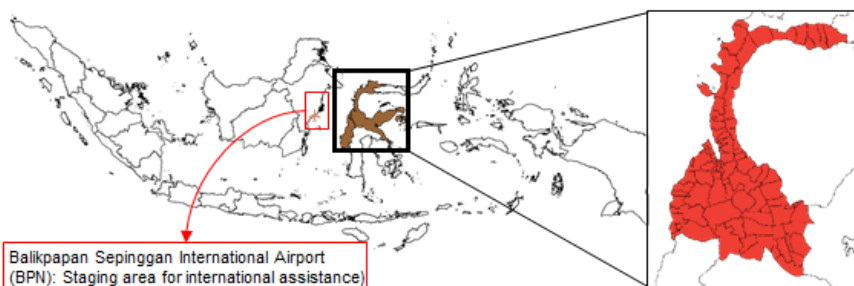
No. **6**

Thursday, 4 October 2018, 18:00 hrs (UTC+7)

This Situation Update is provided by the AHA Centre for use by the ASEAN Member States and relevant stakeholders. The information presented is collected from various sources, including but not limited to, ASEAN Member States' government agencies, UN, IFRC, NGOs and news agencies.

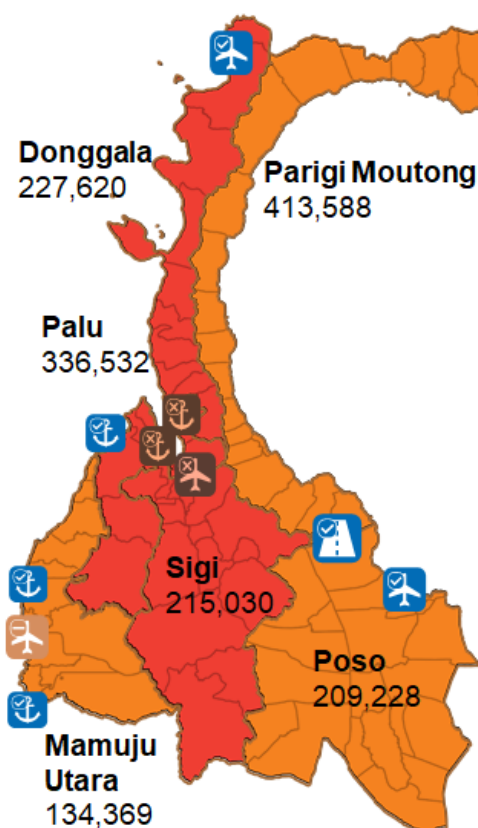
M 7.4 EARTHQUAKE & TSUNAMI, CENTRAL SULAWESI, INDONESIA

Correct as at 04 October 2018



Most-Affected areas:

- Donggala
- Palu city
- Sigi



1,424 fatalities
 2,549 major injuries

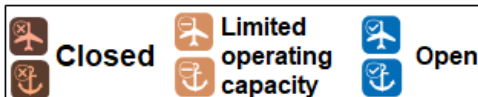
70,821 displaced
 141 sites

66,238 Houses damaged

Priority Needs

(To be fulfilled with international assistance, other needs are to be fulfilled from in-country resources)

- Air transport capable to land in short runway (2 km airstrip)
- Family Tents
- Water Purification sets
- Generator sets
- Medical assistance
- Environmental management for vector-borne diseases (malaria)



Disclaimer: AHA Centre's Situation Update for this event will be released daily at around 1700 hrs (UTC+7). All partners who would like to share their information must do so by 1500 hrs (UTC+7). All key statistics quoted by AHA Centre are those received from the National Disaster Management Authority (BNPB) of Indonesia.



SITUATION UPDATE

1. HIGHLIGHTS

- a. The cascading events on 28 September 2018 are characteristic of a catastrophic disaster scenario where major earthquakes triggered near-field tsunami, major liquefaction, and landslides, which resulted in direct damages, impacts, and constrained humanitarian access (AHA Centre).
- b. A revised estimation from the National Disaster Management Authority (BNPB) suggest that in total around 2.4 million people were exposed to earthquake intensity V MMI and above in nine cities/regencies in Central Sulawesi.
- c. As at 4 October, 1300 hrs local time, BNPB confirmed 1,424 fatalities with over 2,549 injuries, 113 missing persons, 152 are requiring immediately rescue efforts. There are currently over 70,821 evacuees being housed in 141 evacuation sites. In addition, 66,238 houses damaged, with 99.2% (65,733) of them located in Central Sulawesi Province. There is no disaggregated data yet on the severity of the house damage. Note that these figures may increase in due course as assessment continues.
- d. Based on the Letter D/01853/10/10/2018/16 from the Ministry of Foreign Affairs sent to the AHA Centre on 3 October 2018, it can be informed that Government of Indonesia has decided to receive, for the time being, assistance as follows:
 1. Air transportations (preferably C-130 or alike). It is strongly advised that prior to the departure of the aircrafts from the sending states, the Embassy concerned in Jakarta sends the Verbal Note providing flight manifest to the Ministry of the flight clearance approval. In addition to this, the entry point for the aircraft is Sepinggan Airport in Balikpapan. All operational and overhead costs shall be borne by the sending states.
 2. Tents (shelter kits)
 3. Water treatment
 4. Electric generators
 5. Any financial donation from the foreign government should be channelled through National Board for the Disaster Relief (BNPB, *sic*). It is suggested that the financial donation from the Red Cross and NGOs be addressed to the Palang Merah Indonesia (Indonesian Red Cross).
- e. As at 4 October 2018, Government of Indonesia had received offers of assistance from 29 countries, of which 17 countries offered a concrete type of assistance and match the prioritised support. The review process on offer of assistance from international non-government organisations is ongoing. In total there are 88 offers of assistance had been collated and forwarded to relevant authorities. **The figure below indicate types of assistance offered and progress status of the offers.** To date, the offer of assistance being kindly requested to stand down (around 33%) are mostly on the search and rescue capabilities.



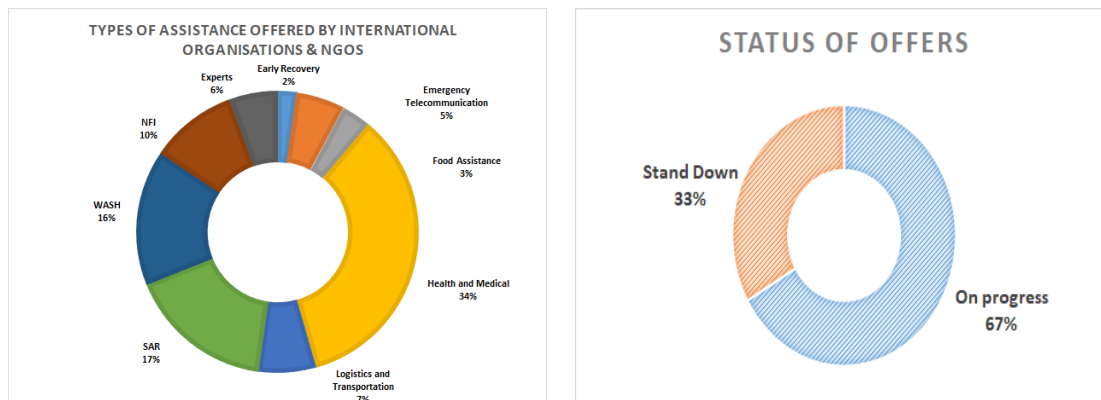
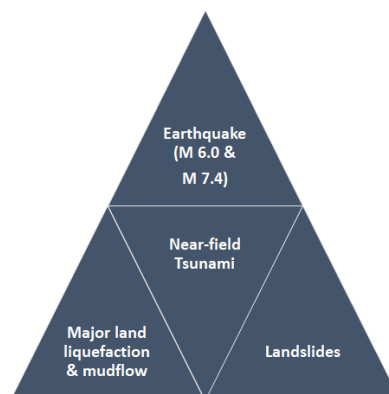


Figure 1 Types of Assistance Offered by International Organisations and NGOs (left) and Status of Offers (right) (Consolidated by AHA Centre)

- f. ASEAN Emergency Response and Assessment Team (ERAT) is in the most affected area of Palu City. ASEAN-ERAT has supported BNPB to setup a Joint Operations and Coordination Centre for International Assistance (JOCCIA) co-locate with BNPB's National Assisting Post (Pospenas) at Rumah Jabatan Gubernur (-0.903385, 119.888468).
- g. AHA Centre has field presence in Sultan Aji Muhammad Sulaiman Sepinggán (BPN, Balikpapan Sepinggán Airport for short) to support BNPB on facilitating the incoming international assistance. **CIQP facilities and process for international assistance only can be done at BPN Airport.**

2. SUMMARY OF EVENTS, FORECAST AND ANTICIPATED RISK

- a. The cascading events on 28 September 2018 are catastrophic disaster scenario when major earthquakes triggered near-field tsunami, major liquefaction, and landslides, which resulted in direct damages, impacts, and constrained humanitarian access (AHA Centre).
- b. Due to constant threat of strong aftershocks, there are possibilities of landslides in mountainous/hilly areas and liquefaction in urban areas. The figure below shows number of moderate earthquakes in Palu area from USGS (left) and forecast of ground movement for September from PVMBG (central and right) (Figure 2). Humanitarian partners may wish to exercise caution in purple zone areas. Access to potentially affected areas of Sigi and Parigi Moutong may be limited due to the high risk of landslide resulting from possible extensive ground movement arising from the 308 aftershocks reported thus far.
- c. According to ASEAN Specialised Meteorological Centre's sub-seasonal forecast between 1 Oct and 15 Oct 2018, above-average rainfall is predicted to develop around the equator and is expected to persist until the end of the 1st fortnight in October. Slightly warmer temperatures are also forecasted which will favor the breeding conditions of mosquito vectors, greatly increasing the risk of vector-borne transmission (Figure 3). These wetter conditions may lead to increased risk of mudslides in large ground movements especially in areas indicated in Figure 2 (map on landslide risk).



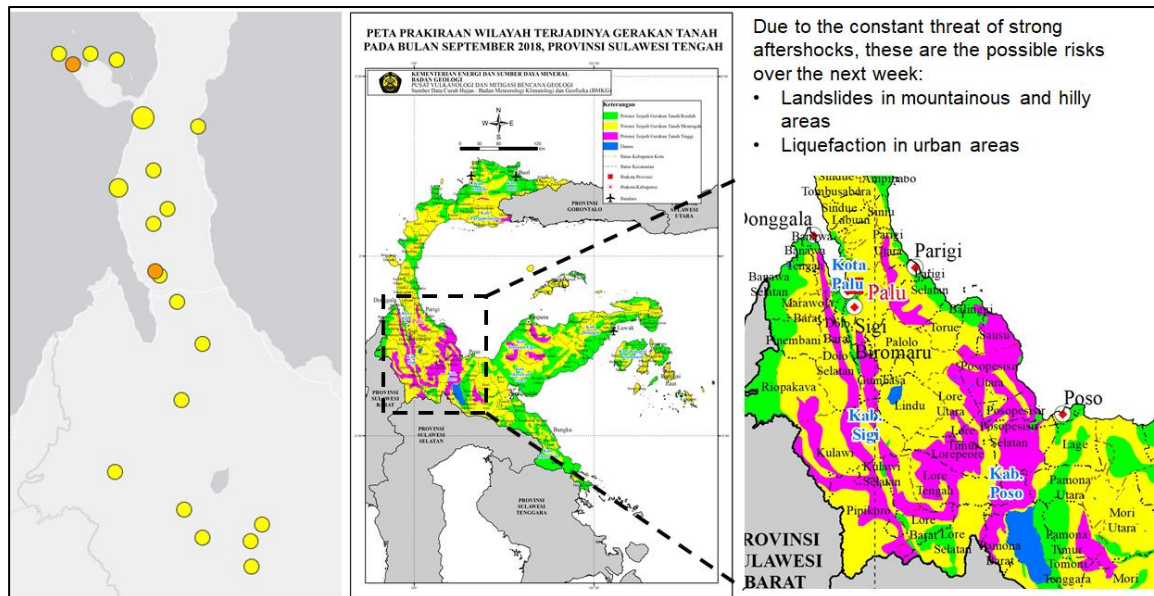


Figure 2 Anticipated risks due to aftershocks and potential landslide

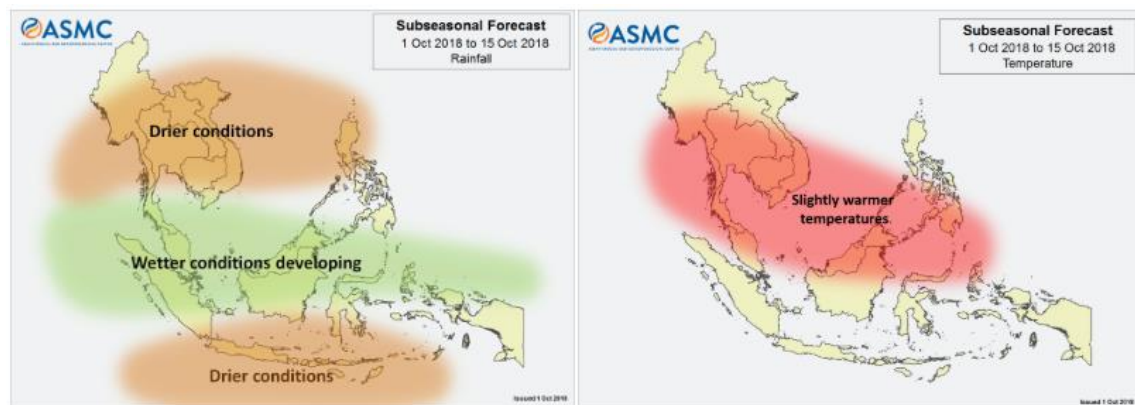


Figure 1: Rainfall Outlook

Figure 2: Temperature Outlook

Figure 3 Sub-seasonal Forecast for ASEAN (ASMC)

- d. According to the Agency for Meteorology, Climatology and Geophysics (BMKG) the Palu Koro Fault is the biggest one in Sulawesi. It spans across Sulawesi and divide the island into the east and west blocks. The event on 28 September was four times stronger than the fault movements in Sumatera. Since 1900s, Sulawesi have been hit by tsunami 19 times, the latest one brings the number up to 20 times. BMKG stated that to date, 422 aftershocks were recorded. The biggest magnitude is M 5.9. The seismic activity is slowly decreasing.
- e. The AHA Centre is also monitoring the increased activities in Mount Gamalama, Halmahera Island, in the east of Sulawesi Island. As can be seen below, there is no immediate threats and additional risk to humanitarian operations due to increased activities of Mount Soputan and Mount Gamalama for the time being. AHA Centre will continue monitor the situation and anticipated risk in the area.



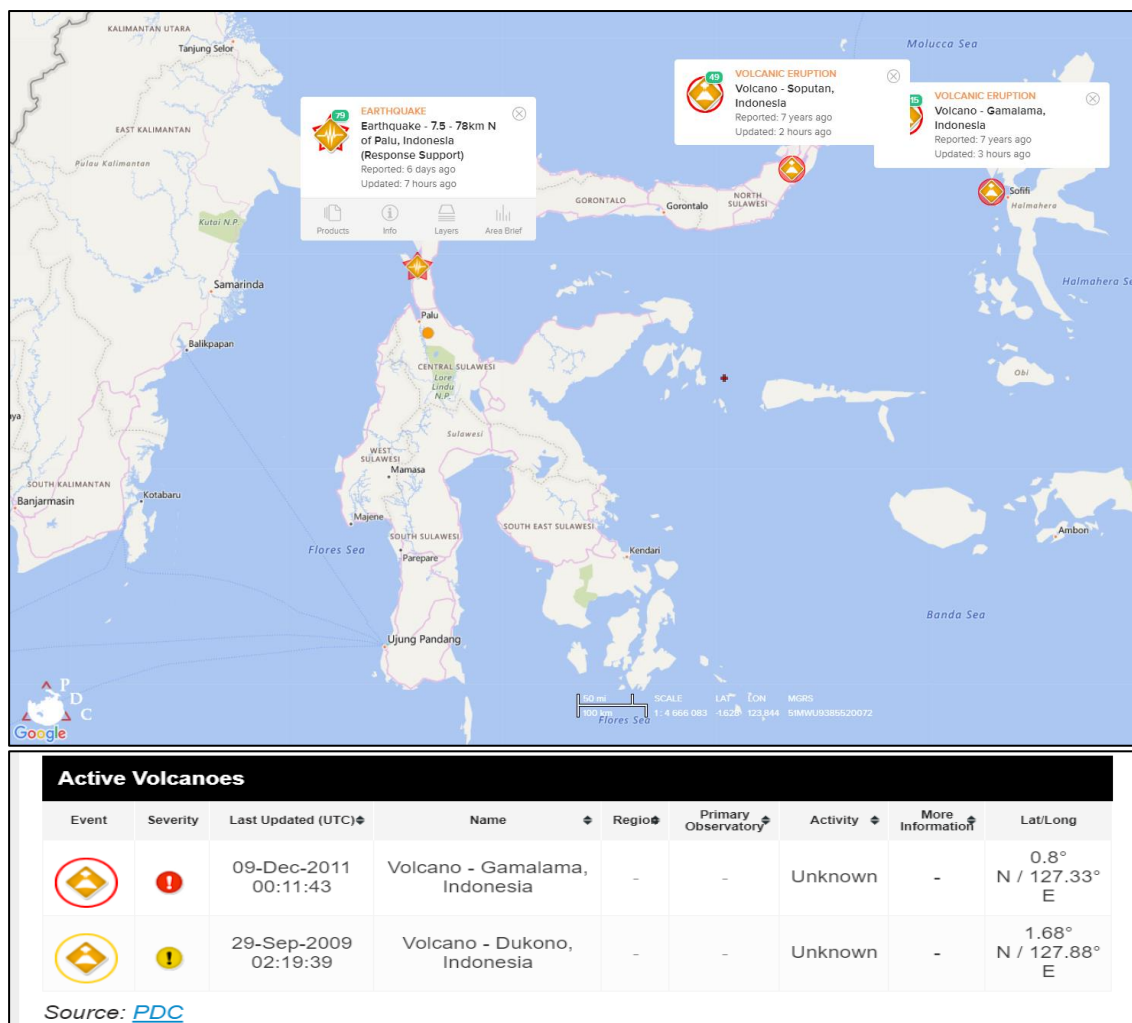


Figure 4 Disasters and Hazards under monitoring (ASEAN-DMRS)

3. ASSESSMENT OF DAMAGE, IMPACT, AND HUMANITARIAN NEEDS

- a. A revised estimation from the National Disaster Management Authority (BNPB) suggest that in total around 2.4 million people were exposed to earthquake intensity V MMI and above in nine cities/regencies in Central Sulawesi, i.e. in Banggai, Banggai Kepulauan, Donggala, Morowali, Palu, Parigi Moutong, Posos, Tojo Una-una, and Toli-toli. The estimation has taken into consideration the 2018 population projection by National Statistical Agency (BPS), see figure below. From this updated figure, the total population that exposed to earthquake intensity VI and above is around 616,684 in Palu city, Donggala, and Sigi regencies.

As at 4 October, 1300 hrs local time, BNPB confirmed 1,424 fatalities with over 2,549 injuries, 113 missing persons, 152 are requiring immediately rescue efforts. There are currently over 70,821 evacuees being housed in 141 evacuation sites.

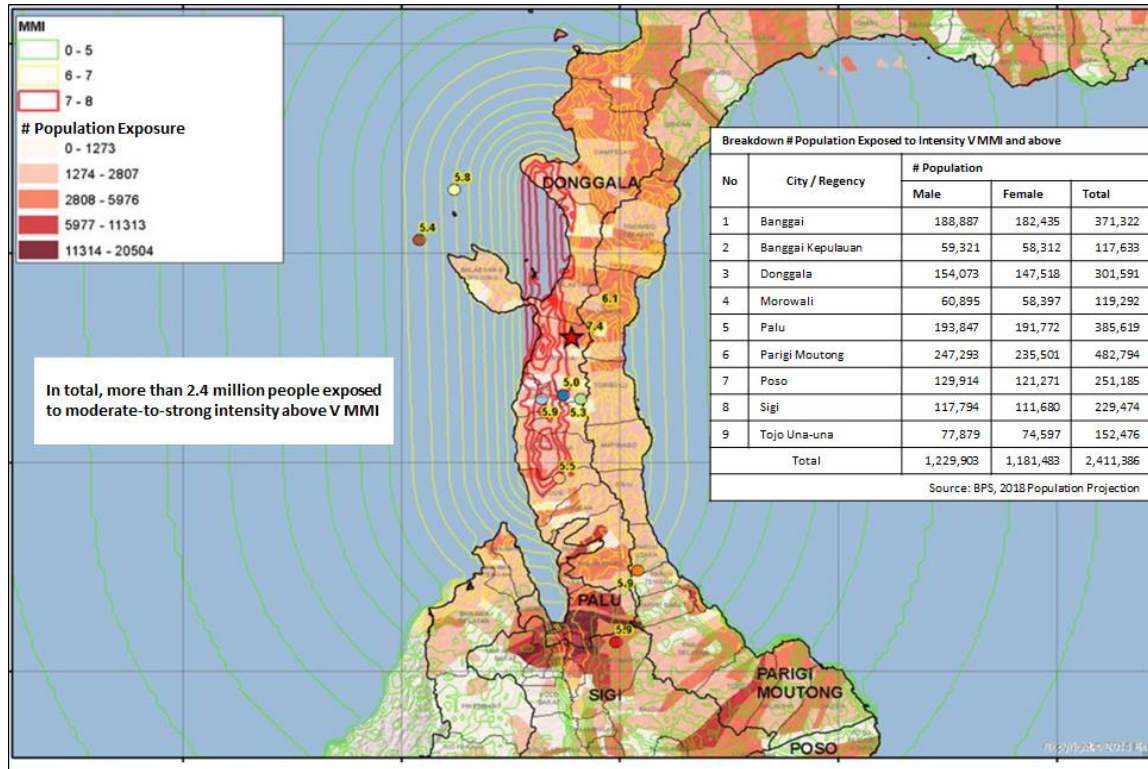


Figure 5 Updated Number of Population Exposed to Earthquake Intensity V MMI and above (Modified from BNPB)

- b. At this point, BNPB indicated that around 66,238 houses may have been damaged, with 99.2% (65,733) of them located in Central Sulawesi Province. There is no disaggregated data yet on the severity of the house damage. Note that these figures may increase once the ground verification is available.

The figure is based on initial assessment on damages building and houses, whereas BNPB utilises the result of satellite images analysis received following the activation of International Disaster Charter, from CNES and Copernicus Emergency Mapping Service, and processed by Indonesian Space and Aeronautical Agency and Centre for Remote Sensing at Bandung Institute of Technology. There are altogether 24 maps received from the satellite observations that currently being processed.

Figure 6 below exhibits buildings/housing damages in Palu city observed by Copernicus EMS, whereas red points indicating those destroyed, while yellow points are potentially damaged. On the south-eastern of the image, the concentration of red points is pointing towards Balaroa Residential areas, which was totally destroyed. The ground observation can be seen from the AHA Centre Situation Update #4. In Palu city, BNPB stated that 2,403 buildings are destroyed, and 2,010 houses partially damaged.

Figure 7 below exhibits additional observed buildings damaged caused by uplift ground movement following the earthquake in Jono Oge-Sigi Regency (left) and Petobo-Palu city (right). In Jono Oge, 366 buildings destroyed and 168 buildings potentially damaged within an area of 202 hectare. In Petobo, 2,050 buildings destroyed, 168 buildings potentially damaged, with 7 heavy equipment have been

deployed. In Balaroa area 1,045 buildings are destroyed in an area of 47.8 hectare, with 5 heavy equipment have been deployed. The image for Balaroa area has been provided in AHA Centre Situation Update #4.

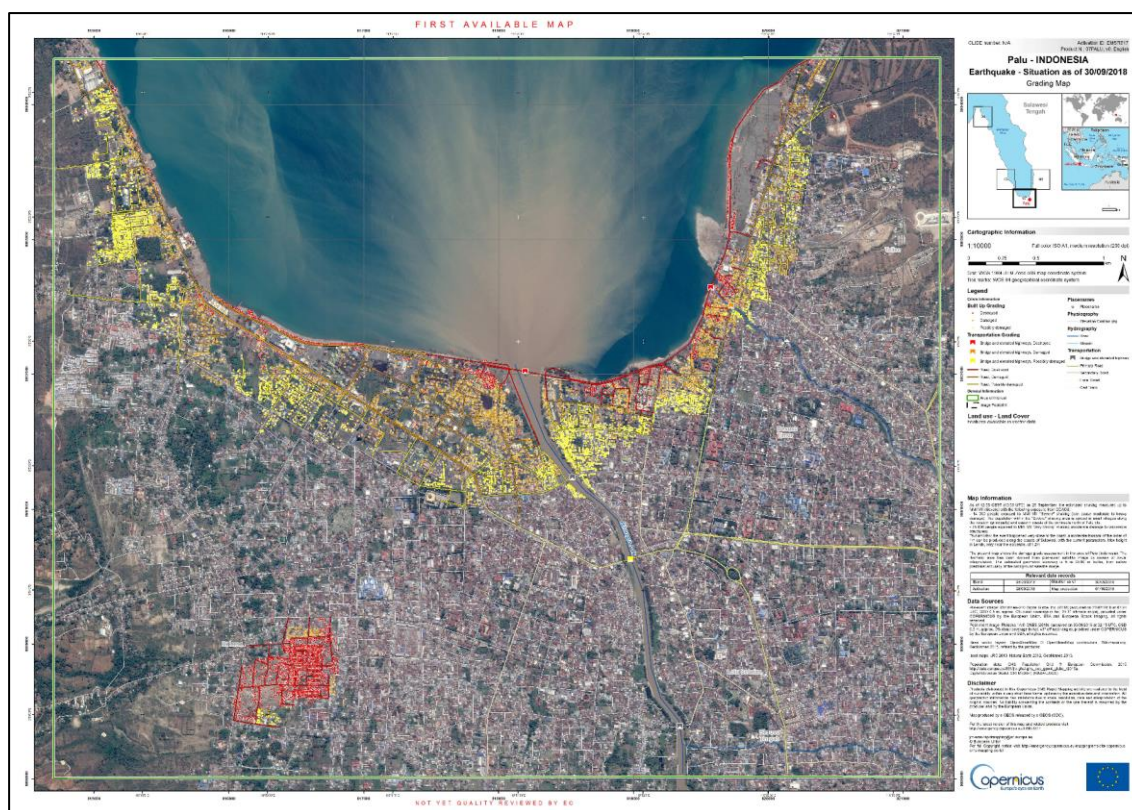


Figure 6 Earthquake and Tsunami Damage Observation of Palu City as of 30 September (Copernicus EMS)

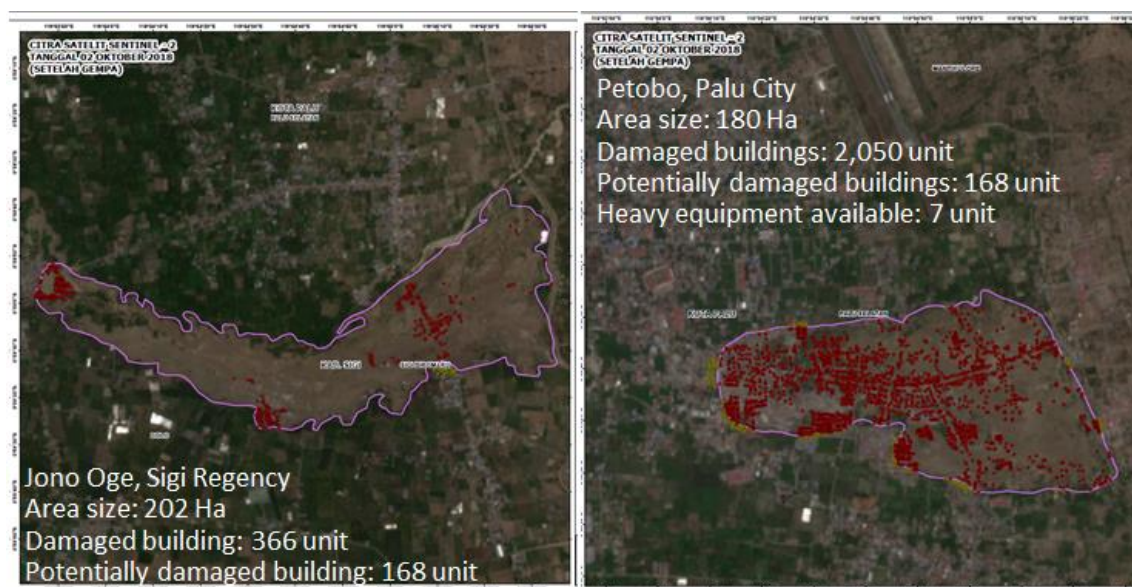


Figure 7 Observed damaged buildings in Jono Oge, Sigi Regency (left) and Petopo, Palu City (right) (BNPB)

- c. The AHA Centre has updated the number of people exposure and pre-disaster vulnerable people that potentially requiring assistance in Palu city, Donggala Regency, and Sigi Regency. Maps on the updated exposure is available in the appendix.

- d. On 4 October 2018, ASEAN-ERAT conducted rapid assessment to villages in Palu Barat (Balaroa area), Palu Tengah, and Selatan. In general, the immediate needs includes access to clean water, food, WASH, adequate health services, shelter and protection. At one of the damaged sites observed, search and rescue operation has just started.



Figure 8 Assessed Situations in Palu Barat, Palu Tengah, and Palu Selatan.

4. ACTIONS TAKEN AND RESOURCES MOBILISED

Response by Government of Indonesia

- a. President Joko Widodo had visited the affected areas on 30 September 2018 and subsequently provided clearance to Ministry of Foreign Affairs to made statement regarding international assistance. Government of Indonesia, through BNPB and Ministry of Foreign Affairs, have welcomed offer of international assistance as of 1 October 2018.

- b. A task-force has been established for reviewing offers of international assistance, which include Coordinating Ministry for Political, Law, and Security Affairs (Kemenkopolkam), Ministry of Foreign Affairs, and BNPB. As at 3 October 2018, Government of Indonesia has received offers of assistance from 29 countries, of which 17 countries offered a concrete type of assistance and match the prioritised support. BNPB has also received the consolidated offers of assistance from 55 international NGOs from the AHA Centre.
- c. A letter from Ministry of Foreign Affairs to the AHA Centre indicating the acceptance of selected assistance can be seen in point 1-d.
- d. Governor of Central Sulawesi has announced an initial 14 days of emergency response period dated 28 September to 11 October 2018. In addition, the governor elected Commander of Military Resort 132/Tadulako as Incident Commander with the Incident Command Post located at Makorem 132/Tadulako (-0.897464°, 119.877599°), Palu city.
- e. National Search and Rescue Agency (Basarnas) until to date has mobilised SAR team from Palu, Banjarmasin, Gorontalo, national office, and Makassar with SAR Palu team as the lead agency for the on-site operations. Including coordinating the movement of personnel from police, volunteers, etc. The SAR operations managed to rescue 86 people and retrieve 422 people as of 3 Oct 2018. According to Basarnas, the challenges are the wide coverage of the affected areas, roadblocks due to landslides and infrastructure damages, electricity is still limited. Basarnas assured that the survival chance for earthquake victims is up to 7 days. Thus, evacuation and search ops will remain a priority.
- f. BNPB has setup National Assisting Post (*Pospenas*) at the vicinity of Central Sulawesi Governor Office (-0.890633, 119.871074).
- g. A [web portal on BNPB's page](#) has been prepared for sharing maps, providing updates and information to public and media.
- h. Indonesian Space and Aeronautical Agency (LAPAN) provided high resolution pre earthquake and tsunami images, accessible here: http://pusfatja.lapan.go.id/simba/gr/earthquake/Layout_Gempa_Palu_Donggala/
- i. Geospatial Information Agency (BIG) provided relevant layers for mapping and operations planning purposes at the following address: <https://cloud.big.go.id/index.php/s/sxb9TEStoDYT276>

Response by the AHA Centre and ASEAN-ERAT

- a. AHA Centre has expressed condolence to Indonesia through BNPB Indonesia and offered support from regional resources, including mobilising ASEAN Emergency Response and Assessment Team (ASEAN-ERAT), providing relief items from the Disaster Emergency Logistic System for ASEAN (DELSA) regional stockpile, and facilitating the deployment of capacities available in the region, such as from the ASEAN Standby Arrangements.
- b. As part of operationalisation of One ASEAN One Response and to fulfill the requested services by BNPB, AHA Centre has setup an online form for 'offer of assistance' accessible at <http://bit.ly/SASOP4Sulawesi>. In Jakarta, AHA Centre also conducted various strategic coordination activities, ensuring official BNPB's data are reflected in and communicated to international stakeholder as well as continue the deliberation for determining the acceptance to offer of assistance.
- c. The AHA Centre has also updated delegation of 6th ASEAN Ministerial Meeting on Disaster Management (AMMDM) and the 7th Meeting of the Conference of Parties to the ASEAN Agreement on Disaster Management and Emergency Response (COP to AADMER) on the situation and emergency response operations in Central Sulawesi Earthquake and Tsunami.





Figure 9 AHA Centre and BNPB coordination meeting to review the registered offer of assistance (left) and AHA Centre update to the 6th AAMDM and the 7th COP to AADMER (right)

- d. To further strengthen coordination among organisations, the AHA Centre Emergency Operations Centre is currently housing the joint-efforts for assessment and information management. Humanitarian partners including OCHA, MapAction, International Federation of Red Cross (IFRC), and others are co-locate at the AHA Centre EOC.
- e. The AHA Centre has mobilised staffs and ASEAN-ERAT to Balikpapan Airport on 4 November, to support BNPB and related authorities in facilitating incoming international assistance.



Figure 10 AHA Centre and ASEAN-ERAT support BNPB in Balikpapan Airport staging area (left) and provided coordination with incoming foreign teams (right)

- f. ASEAN Emergency Response and Assessment Team (ERAT) is in the most affected area of Palu City. ASEAN-ERAT has supported BNPB and Ministry of Foreign Affairs to setup the Joint Operations and Coordination Center for International Assistance (JOCCIA) co-locate with BNPB's National Assisting Post (Pospenas) at Rumah Jabatan Gubernur. The location of JOCCIA is at -0.903385, 119.888468. Telecom Sans Frontier supporting ERAT at the JOCCIA.
- g. On-site coordination assessment meeting was held on 2 Oct 2018, 2100hrs led by BNPB and supported by ASEAN ERAT, with the participation of Save the Children, WFP, Plan International, CRS, MDMC and WVI. Initial assessment has been agreed with the Joint-Needs Assessment (JNA) methodology, with data collection scheduled for 3-7 October and will be followed with joint analysis meeting on 8 October 2018.
- h. The agreed initial data from JNA will be linked with the assessment methodology agreed by BNPB and Ministry of Social Affairs, a similar one with Displacement Tracking Matrix (DTM), which will be consolidated by the Information Management

Working Group comprises of representatives AHA Centre, OCHA, IOM, MapAction, and Humanitarian Forum Indonesia.



Figure 11 ASEAN-ERAT Activities in Supporting Coordination and Assessment

Response by ASEAN Member States

Cambodia

During the 6th AMMDM, Government of Cambodia offered USD 200,000 to Indonesia for the emergency response.

Singapore

The Singapore Armed Forces (SAF) C-130 aircrafts have reached Palu City on 4 October and delivered relief items. The relief items include food supplies, family tents, dynamo lights, and blankets.

Malaysia

Government of Malaysia has deployed their one A400, currently on standby in Balikpapan Airport. In addition, [Government of Malaysia](#) has handed over humanitarian aid worth USD 241,000 to the Sulawesi Aid Fund during the 6th AMMDM and the 7th COP to AADMER meeting.

Response by ASEAN Dialogue Partner(s) (in alphabetical order)

Australia

Government of Australia is mobilising C-130 containing relief items to Balikpapan on 4 November 2018. The mobilisation is done by Australian Defence Force. The relief items worth around AUD 58,000 and consist of kitchen kit, bed nets, hygiene kit, blankets, sleeping mats, shelter tool kit, and tarpaulins. The aircraft thus will be stationed at Balikpapan and support the transportation of relief items to Palu.

Furthermore, [Government of Australia](#) would provide an additional USD 5 million package of humanitarian assistance to support the Government of Indonesia and humanitarian



partners to respond to the devastating disaster. USD 500,000 would be donated to the Indonesian Red Cross for food and essential relief items such as blankets and tarpaulins. The additional funding would be provided to UN and local humanitarian partners to supply temporary shelter, access to safe drinking water and health care for injured and displaced people. The Government for Australia also planned to deploy a medical team and offered Australian Defence Force assets to assist the Indonesian Government with their response.

New Zealand and Japan

ASEAN-ERAT in Balikpapan has reported that aircrafts from New Zealand and Japan are scheduled to arrive there on 4 October 2018 late night.

Response by the United Nations and Humanitarian Country Team

OCHA Regional Office for Asia Pacific (ROAP) has dispatched reinforcement to Indonesian Country Office with staffs deployed to Balikpapan and Makassar, enroute to Palu. In addition, OCHA staffs are also stationed at the AHA Centre EOC for ensuring the optimum coordination possible.

Response by Other Humanitarian Partners and others

- a. [Direct Relief](#) is in close contact with the AHA Centre with regards to their pre-positioned relief items in Southeast Asia made available for people in need following the earthquake and tsunami in Sulawesi. Supplies from Direct Relief are currently staged at and ready for deployment from the UN Humanitarian Response Depot in Subang, Malaysia. In addition to the stockpile, Direct Relief has also offered the Indonesian National Board for Disaster Relief (BNPB) an additional USD 30 million of medicine and health supplies from its available inventory.
- b. Open Street Map data for Palu City and Donggala Regency are available at Humanitarian Data Exchange and updated on daily basis at 2300 hrs UTC+7. The datasets include buildings, road, point of interest, waterways. OSM tasking managers are available here,
 - OSM Tasking Managers for Donggala Regency available here: <http://tasks.openstreetmap.id/project/45>
 - OSM Tasking Managers for Palu city available here: <http://tasks.openstreetmap.id/project/78>
- c. ICRC released a link <https://familylinks.icrc.org/indonesia> dedicated for people to track their lost family members.
- d. DHL already has two personnel in Balikpapan and a local team currently on the way from Mamuju to Palu. As Balikpapan has been appointed as the entry point for international assistance, DHL team in Sulawesi would be mobilised to Balikpapan to assist the ground handling of the incoming relief items.
- e. MapAction has deployed their volunteers to support ASEAN-ERAT and AHA Centre operations.
- f. [Save the Children](#) through its local partner in Indonesia, Yayasan Sayangi Tunas Cilik (YSTC) planned to distribute hygiene items like soap, buckets and jerry cans, as well as plastic sheets and rope for temporary shelter in the coming days so families can keep clean and store water. YSTC also has a team ready in Palu.
- g. [Qatar Red Crescent Society \(QRCS\)](#) has activated its Disaster Management Information Center (DMIC) to monitor the repercussions of the disaster in Sulawesi and allocated USD 200,000 of the Emergency Response Fund for the initial response. QRCS in cooperation with the Indonesian Red Cross Society (PMI) also deployed a team to provide services such as field assessment, field coordination, water and sanitation, shelter, logistics, relief supplies and psychological support.



6. UPDATE ON HUMANITARIAN ACCESS

- a. **CIQP facilities and process for international assistance can only be done at Balikpapan Airport.** Other point of entry at Halim Perdanakusuma Airport (Jakarta) and Makassar Airport are only designated for domestic / in-country relief items.
- b. Palu Airport is being operated by the military. Commercial flights are not yet operating. The airport buildings are damaged, and most of the roof has collapsed. The usable runway length has been reduced to 2,000 metres allowing only C130 aircrafts and below to land. There is also a maximum payload of 10,000 kg. It is reported that security has improved at Palu Airport. There appears to be 1 x 3 mt forklift at the airport. Operational status has not been confirmed
- c. Pantoloan Port in Palu is operated by PELINDO (Indonesian Port Service). Road access to the port is passable but restricted by debris. The dock is able to provide limited operations. Ships that can be accommodated are roll-on/roll-off, ferry or general cargo ships with an onboard crane. Travel time by sea from Balikpapan is estimated at around 24-30 hours. There appear to be 3 forklifts at the port that are not currently operational due to lack of fuel.
- d. The road from Poso to Palu is relatively accessible but does have a high risk of landslides in some areas, especially around Kebon Kopi, due to its topography. It currently takes approximately 3 hours from central Palu to Parigi.
- e. Fuel supply remain limited hampering emergency response activities.
- f. On power and electricity, it is slowly being restored but many areas continue to be without supply.

7. PLAN OF ACTIONS

AHA Centre's plans

- a. AHA Centre will organise a Coordination Meeting with Partners at AHA Centre's office on **5 October 2018, 1000 hrs (Jakarta time)**.
- b. AHA Centre will organise a Coordination Meeting with Defence Attaches of states offering assistance, at AHA Centre's on **5 October 2018, 1400 hrs (Jakarta time)**.
- c. ASEAN ERAT will support to establish a civil-military coordination mechanism and support the RFA process.
- d. AHA Centre continue to support dissemination of BNPB's information for regional and international stakeholder through inclusion to its Situation Update.
- e. AHA Centre will issue further situation update once information becomes available. The release time is around 1700-1900 hrs, following the dynamic from the ground.

Prepared by:

AHA Centre - Emergency Operations Centre (EOC) in cooperation with National Disaster Management Authority (BNPB; Data & Information Centre, National Assisting Post)

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.

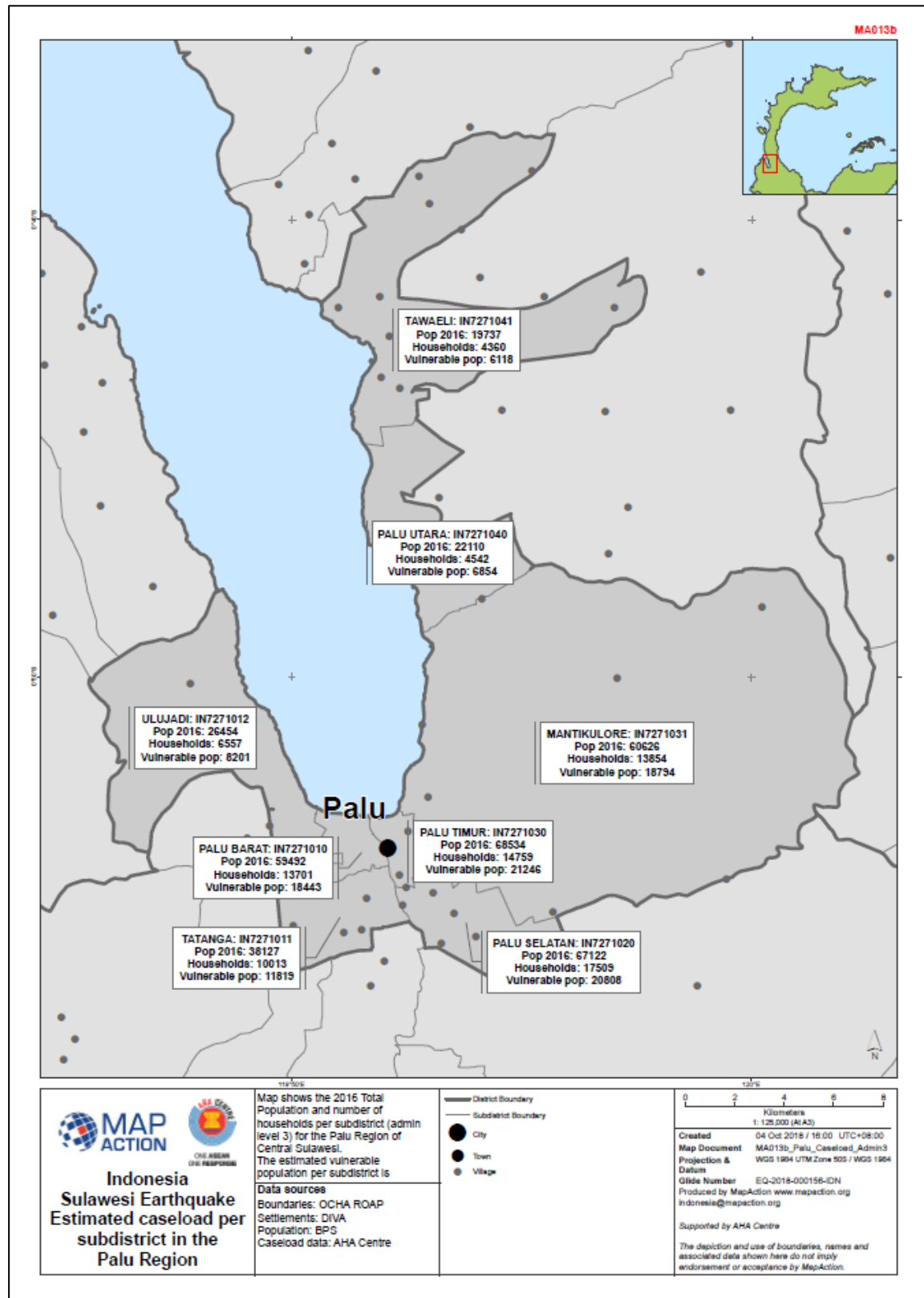
The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre), Graha BNPB 13th Floor, JL Raya Pramuka Kav 38, East Jakarta, 13210, Indonesia
Phone: +62-21-210-12278 | www.ahacentre.org | email: info@ahacentre.org
Facebook: [fb.com/ahacentre](https://www.facebook.com/ahacentre) | Twitter and Instagram: @ahacentre

Contact:

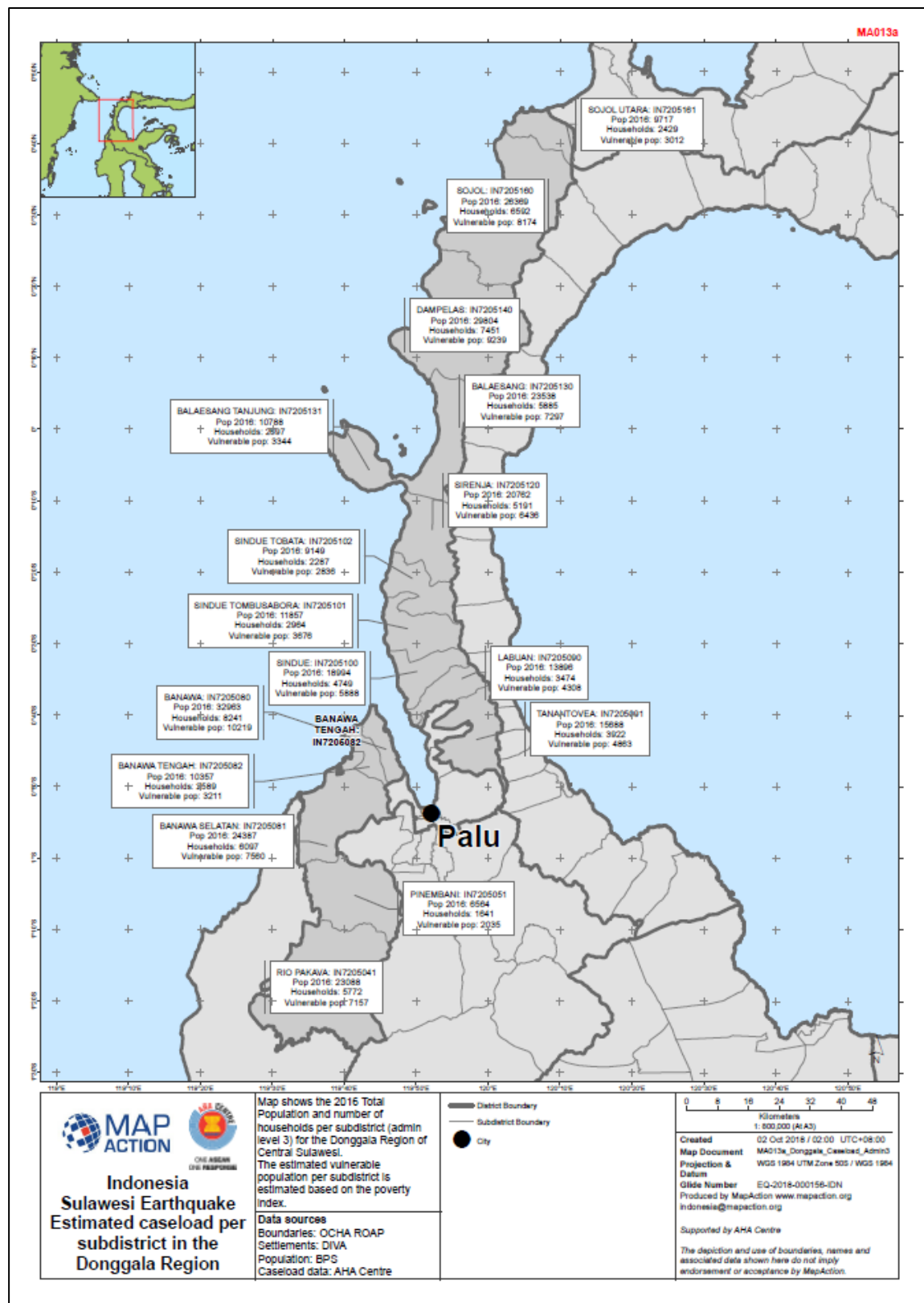
- 1) Qingyuan Pang, Asst. Director, Disaster Monitoring & Analysis, qing.pang@ahacentre.org
- 2) Mizan B. F. Bisri, Disaster Monitoring & Analysis Officer, mizan.bisri@ahacentre.org
- 3) Shintya Kurniawan, Communications Officer, shintya.kurniawan@ahacentre.org
- 4) Grace Endina, Mutual Aid Unit of AHA Centre for M 7.4 Central Earthquake and Tsunami, grace.endina@ahacentre.org



APPENDIX 1 – UPDATED CASELOAD OF POPULATION EXPOSURE AND POPULATION IN NEEDS DUE TO PRE-DISASTER VULNERABILITY IN PALU CITY



APPENDIX 2 – UPDATED CASELOAD OF POPULATION EXPOSURE AND POPULATION IN NEEDS DUE TO PRE-DISASTER VULNERABILITY IN DONGGALA REGENCY



APPENDIX 3 – UPDATED CASELOAD OF POPULATION EXPOSURE AND POPULATION IN NEEDS DUE TO PRE-DISASTER VULNERABILITY IN SIGI REGENCY

