

The Sulawesi Earthquake and Tsunamiⁱ

On September 28, 2018, a series of earthquakes struck Central Sulawesi Province, Indonesia, measuring up to 7.4 magnitude. The epicenter was located close to its capital city, Palu (see Figure 1). The earthquake triggered a tsunami with waves as high as 11 meters hitting the coast. Despite the impending danger, no sirens or security alerts were activated to warn the population.¹ As a result, 2,100 lives were lost and 70,000 homes severely damaged. Overall, the disaster affected the lives of 1.5 million Indonesians, including 200,000 people who were in dire need of primary humanitarian relief in the aftermath of the tsunami.

The earthquake caused major disruption to the logistics infrastructure in and around Palu. The terminal building of the main airport was severely damaged and its runway was reduced to 2,000 meters. The airport did not have a high deck loader which considerably lengthened unloading efforts and the main crane at the seaport collapsed which meant that only vessels equipped with cranes could unload supplies. Finally, transport by road was unreliable as the road conditions surrounding Palu were poor due to liquefactionⁱⁱ, debris and landslides.

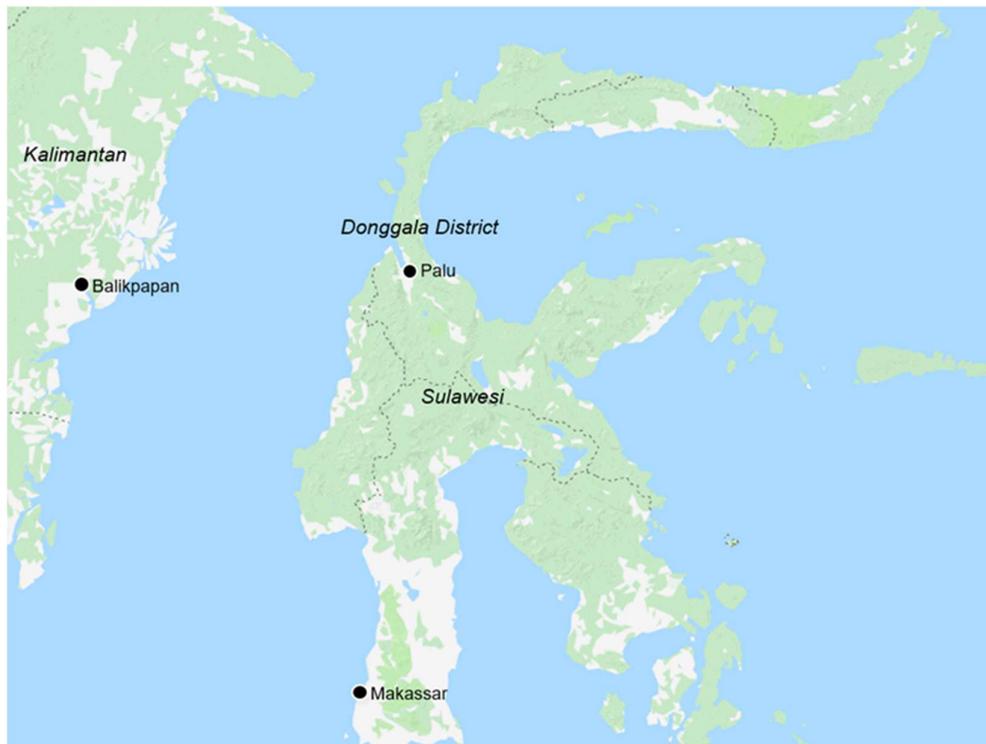


FIGURE 1. MAP OF SULAWESI.

ⁱ This case is part of a series of humanitarian operations vignettes by the INSEAD Humanitarian Research Group called *Behind the Scenes of Humanitarian Operations*. It was written in August 2019 by Boas Meijer, Esther Val and Luk Van Wassenhove. For more information go to <https://www.insead.edu/centres/humanitarian-research-group>.

ⁱⁱ Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking.



Response operations generally entail a large influx of supplies, equipment, and general donations to the disaster site. This so-called “material convergence” frequently creates congestion and is called “the second disaster” because of its negative impact on local communities.² In the aftermath of the 2004 Banda Aceh tsunami, material convergence was particularly problematic as hundreds of charities, UN agencies, media and military flocked to the disaster site causing a goods logjam, duplication of efforts and major delays.³ This experience made the Indonesian government more circumspect about accepting international help to deliver relief aid.

With presidential elections looming, Indonesia was in a state of political turbulence while President Joko Widodo pursued a foreign policy agenda focused on reasserting Indonesian sovereignty. With the polls predicting a close race, Widodo was determined to deploy an “Indonesian response” to the humanitarian crisis in order to secure his re-election. The National Disaster Management Agency (BNPB) led the response and announced that no international assistance would be required.

Shaping the Response

However, on October 1 - three days after the earthquake - the BNPB made a public appeal to the international community for assistance. Contrary to its initial announcement, it soon became apparent that it could not cope alone. The government issued a statement to explain the rationale for the international assistance it was prepared to accept. The main principles, as stated by the BNPB were: 1) selective acceptance based on humanitarian needs; 2) meeting the six urgent needs (mentioned below) with a focus on air transport assets; 3) coordination with related national ministries and agencies; and 4) self-sufficient assistance to avoid undue burden on the affected region. The initial generic list of required humanitarian needs included:

- Air transport capable of landing on a short runway;
- Family tents;
- Water purification sets;
- Generator sets;
- Medical assistance;
- Environmental management for mosquito-borne diseases (malaria).⁴

Two days later, the government reviewed the priority list to make it more stringent, warning that they would only be accepting assistance on air transport (C-130s or similar), tents (and shelter kits), water treatment, electric generators and financial donations.⁵

On October 7, over a week after the disaster, the BNPB published a list of regulations (see Figure 2) stating that international NGOs (INGOs) had to work through local organizations for last-mile distribution and retrieve their deployed foreign personnel.⁶

In order to manage international assistance flows and avoid congestion at Palu airport, the government chose Balikpapan airport, 350 km away, as the only entry point. Other entry

points like Jakarta or Makassar airport were only to be used for domestic or in-country relief items.⁷ Balikpapan airport was deemed the best option because of its size, proximity and cargo capacity. Upon acceptance of assistance by the government, relief supplies were shipped to Balikpapan airport where they were “prioritized” by the BNPB and transferred to Palu via an air-bridge which opened on October 3.⁸ For the first three weeks, supplies were shipped via ten Hercules C-130 aircraft, donated by a variety of nations. After that period, the cargo had to be transported via commercial chartered flights with costs borne by the sender.



Regulations for International NGOs aim to provide Assistance in Central Sulawesi

<p>1. Foreign NGOs are not allowed to go directly to the field. All activities must be conducted in partnership with local partners.</p> <p>2. Foreign citizens who are working with foreign NGOs are not allowed to conduct any activity on the sites affected by disasters.</p> <p>3. Foreign NGOs who already procured/ prepared relief items in Indonesia need to register their assistance with the relevant ministries/agencies & mandated to work with local partners in distributing the aid.</p> <p>4. If the respective NGOs have not registered their assistance with the relevant ministries/agencies, they are asked to register with BNPB for the distribution to the affected population on the field.</p>	<p>5. Foreign NGOs wishing to provide aid can do so through the Indonesian Red Cross (PM) or PMI's - with the guidance of the related ministries/agencies or local partners.</p> <p>6. Foreign NGOs who have deployed its foreign personnel are advised to retrieve their personnel immediately.</p> <p>7. A monitoring of foreign volunteers is required.</p> <p>8. The delivery of relief items are being coordinated temporarily by BNPB through Makassar & Balikpapan.</p>
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National Disaster Management Authority **BNPB**

FIGURE 2. REGULATIONS FOR INGOs IMPOSED BY THE BNPB.⁹

Outcomes

BNPB’s operational decisions seemed rational taking into account past experiences on material convergence and the limited accessibility of Palu. However, this response brought about some mixed outcomes. During the first week of the response, restrictions on international humanitarian assistance became gradually more stringent. What started with some general guidance quickly changed to strict regulations on both shipments and operations which were communicated in a piecemeal and inconsistent manner. Furthermore, though Balikpapan was assigned as entry point for international assistance, it was unclear to the international community that this implied that other entry points could not be used. In addition, very limited information was shared - prior to the acceptance of assistance - on the existence, duration and costs of the air-bridge. Consequently, INGOs faced significant uncertainties as well as delays getting supplies approved for import. No shipments from INGOs made it to Balikpapan until October 17, i.e. roughly 3 weeks after the disaster.¹⁰ In this

context, INGOs were forced to keep adjusting their planned shipments and response operations. Guaranteeing efficient delivery of relief supplies to the affected areas is critical for INGOs as donor funding is highly dependent on operational success. In the midst of this uncertain environment, risk-averse organizations preferred to withhold resources for fear of delivering a substandard response.¹¹

However, the decision to assign Balikpapan airport as the only entry point for relief supplies was justified. This airport has a long runway, a large warehouse and plenty of handling equipment. As a result, larger aircraft could be accommodated and access controls on incoming shipments facilitated. It was critical to coordinate the arrival of relief supplies in order to avoid congestion at Palu airport and the air-bridge was effective in achieving this. Having an (inter)national staging area for incoming supplies is vital in post-disaster responses with limited entry points.¹² Selecting Balikpapan airport as international staging area served this purpose efficiently.

Whilst the humanitarian hub and associated air-bridge limited INGOs to just one supply chain, logistics personnel reported that shipment transfers went smoothly and more supplies could have been handled.¹³ The air-bridge could have been expanded as more air assets were offered internationally.¹⁴ There was therefore enough transport capacity available which could have been used to deliver more humanitarian relief.

The extensive role played by the Indonesian government in the 2018 Sulawesi earthquake response was unprecedented. In a bid to pre-empt difficulties related to material convergence, the government imposed strict and effective access control measures. Unfortunately, the severity and rather poor communication of these measures had a negative effect on the amount and speed of much needed relief supplies that were delivered.¹⁵

¹ *No siren, no warning: Indonesians caught unaware by devastating tsunami*, Reuters, <https://www.reuters.com/article/us-indonesia-quake-warnings/no-siren-no-warning-indonesians-caught-unawares-by-devastating-tsunami-idUSKCN1MH048>.

² *Catastrophe characteristics and their impact on critical supply chains: problematizing material convergence and management following Hurricane Katrina*. Wachtendorf, T., Brown, B., & Holguin-Veras, J. (2013). *Journal of Homeland Security and Emergency Management*, 10(2), 497-520.

³ *Tsunami relief effort 'chaotic'*, BBC, 2005, <http://news.bbc.co.uk/2/hi/asia-pacific/4310558.stm>.

⁴ Sulawesi Earthquake Situation Update no.4 October 2, 2018 AHA Centre.

⁵ Sulawesi Earthquake Situation Update no.7 October 5, 2018 AHA Centre.

⁶ Sulawesi Earthquake Situation Update no.9 October 8, 2018, AHA Centre.

⁷ Ibid.

⁸ *Air Coalition helps Indonesia*, Weeks, 2018, *Crisis Response Journal*, Vol. 14:1, pp. 62-63.

⁹ Sulawesi Earthquake Situation Update no.7 October 5, 2018, AHA Centre.

¹⁰ Jakarta Meeting Minutes October 17, 2018, Logistics Cluster.

¹¹ Logistics Coordinator, middle-sized INGO (2019, February 6). Telephone interview.

¹² Deputy Coordinator of a logistics coordination mechanism (2019, January 11). Telephone interview.

¹³ Director of Humanitarian Affairs, large logistics company (2019, February 13). Telephone interview.

¹⁴ Central Sulawesi Earthquake: International Deployed Assets (as of October 7, 2018), AHA Centre and UN OCHA.

¹⁵ This mini case is based on the Trembling Iron Island case study, written by the HRG, <https://cases.insead.edu/publishing/case?code=38503>.