

Kelsey Patterson
September 18, 2023

2023 Earthquake in Turkey and Syria: A Case Study

On February 6, 2023, a magnitude 7.8 earthquake struck northwest Syria and southern parts of Turkey, causing thousands of casualties, displacing millions of people, and cost billions of dollars in damage to both countries.

A combined total of 55,000 people died and more than 13,000 suffered injuries in both countries.¹ While the earthquake caused intense damage, the strong aftershocks made it exponentially worse. Only nine hours after the initial earthquake, another magnitude 7.5 earthquake hit only 59 miles away from the initial epicenter.¹ As of March 1, 2023, more than 11,000 aftershocks were recorded *in less than a month* after the initial earthquake.¹ More than 50,000 buildings were damaged or completely destroyed, agricultural infrastructure in Turkey was damaged in 11 provinces, and over $\frac{1}{3}$ of healthcare centers in northwest Syria are no longer running due to damages caused by the earthquake.¹ While both countries suffered greatly, it has been more difficult for international aid to reach Syria due to preexisting political conflict. Since the earthquake occurred, the outlook has only gotten worse as the country has had to deal with cholera outbreaks, preexisting lack of access to healthcare, and fires caused by extreme heat. Syrians in both countries are at an increased risk of poverty, child marriage, and child as school buildings were damaged and governmental/police authority is focused on rescue efforts. Financially, the earthquake has caused more than \$34.2 billion in damages in Turkey and \$5.2 billion in damages in Syria.^{6,7}

Multiple organizations have implemented projects to help aid people in need in both countries. NATO, the European Union, and dozens of other countries have extended offers to aid, and the WHO has activated their network of medical response teams.⁵ An organization called World Vision has partnered with 15 local organizations to provide WASH sanitation resources, healthcare, shelter, and protection for vulnerable children.¹ They were able to provide over 600,000 people with aid including food, heaters and fuel, hygiene kits, and cash assistance. In Turkey, they built over 175 temporary shelters in the Hatay province and implemented the LIFT program in three other provinces to help prioritize the health and well-being of children and their caretakers.¹ In Syria, there were ten projects through OCHA, Aid fund for North Syria, and the World Food Programme that also provided cash assistance for food aid and education and protection services for those living in informal settlements.¹

Volunteers and organizations used precision mapping and social media posts to gather this information and perform data analysis. This data analysis allowed researchers to track mobility patterns, understand where aid was needed, and map damage to buildings.⁹ Access to data is increasing in Turkey as the dust literally settles and the government is able to get better information on survivors and locations. This data was analyzed through programs such as NeedsMap, which shows where people need help and where aid can be dispersed from, and Data

for Good at Meta, showing where people were moving within and between the affected countries.⁹

While many organizations offered and supplied aid, factors such as slow emergency response times, lack of equipment and expertise, political values, and weak infrastructures lead to much greater losses than necessary. International rescue teams can take 24-48 hours to reach areas in need, and so the local community is more likely to do initial rescuing.⁸ The military in Turkey failed to mobilize their resources immediately, which could have prevented deaths and/or injuries.⁸ Even the president in Turkey expressed frustration over the slow emergency response times. Additionally, there were not enough search and rescue teams, especially with how widespread the damage was. Many buildings in Turkey are also made of concrete, which has been shown in previous earthquakes to be unstable; researchers argue that the government in Turkey should have learned from their past mistakes and implemented safer and sturdier buildings.⁸ However, Turkey did have some disaster management services to support and prevent more damage. Syria, on the other hand, was difficult to reach with humanitarian aid because the government views aid as a “violation of its sovereignty and territorial integrity”.³

In terms of communication, the Syrian president had actually chaired emergency meetings following the earthquake, but he did not address the public about it at all, leaving the country in the dark about rescue efforts and any potential plans.³ Meanwhile, Turkey state authorities declared a level-4 emergency which included communicating with other nations and asking for international aid.³ The president also declared a 3 month state of emergency for ten of the provinces affected.³

Overall, many deaths and injuries from this earthquake in February were most likely inevitable. However, both countries suffered unnecessary losses because of lack of infrastructure, pre-existing conflict, and slow emergency response. Now, more than six months later, millions of people remain displaced and in need of aid.¹

References:

1. Omer S. 2023 Turkey and Syria earthquake: Facts, FAQs, how to help. World Vision. Published August 9, 2023. <https://www.worldvision.org/disaster-relief-news-stories/2023-turkey-and-syria-earthquake-faqs#:~:text=On%20February%206%2C%202023%2C%20a%207.8%20magnitude%20earthquake%20rocked%20southeast>
2. CDP. 2023 Turkey-Syria Earthquake. Center for Disaster Philanthropy. Published March 27, 2023. Accessed September 18, 2023. <https://disasterphilanthropy.org/disasters/2023-turkey-syria-earthquake/>
3. Caliskan M, Hayatsever H, Toksabay E. Turkey leader acknowledges earthquake relief problems as death toll passes 12,000. *Reuters*. <https://www.reuters.com/world/middle-east/death-toll-syria-turkey-quake-rises-more-than-8700-2023-02-08/>. Published February 8, 2023. Accessed September 18, 2023.
4. Staff. Turkey-Syria Earthquake: Three-Month Update. Direct Relief. Published May 8, 2023. Accessed September 18, 2023. <https://www.directrelief.org/2023/05/turkey-syria-earthquake-three-month-update/>
5. Sariyuce RMT. At least 118 dead as 7.8-magnitude earthquake hits southern Turkey. CNN. Published February 6, 2023. Accessed September 18, 2023. <https://www.cnn.com/2023/02/05/europe/earthquake-hits-turkey-intl-hnk/index.html>
6. Earthquake Damage in Türkiye Estimated to Exceed \$34 billion: World Bank Disaster Assessment Report. World Bank. Published February 27, 2023. Accessed September 18, 2023. <https://www.worldbank.org/en/news/press-release/2023/02/27/earthquake-damage-in-turkiye-estimated-to-exceed-34-billion-world-bank-disaster-assessment-report#:~:text=ANKARA%2C%20February%2027%2C%202023%E2%80%94>
7. Earthquake undermines Syria's Economic Outlook, Compounding Dire Socio-Economic Conditions, and Internal Displacement. World Bank. Published March 27, 2023. Accessed September 18, 2023. <https://www.worldbank.org/en/news/press-release/2023/03/17/earthquake-undermines-syria-s-economic-outlook-compounding-dire-socio-economic-conditions-and-internal-displacement#:~:text=According%20to%20the%20Syria%20Earthquake>
8. Diaz J. The earthquake in Turkey and Syria offers lessons and reminders for disaster response. NPR. Published February 16, 2023. Accessed September 18, 2023. <https://www.npr.org/2023/02/16/1156636019/the-earthquake-in-turkey-and-syria-offers-lessons-and-reminders-for-disaster-res>
9. Lewis O. Follow the data: CrisisReady shares emergency response models for Turkey-Syria earthquakes - Syrian Arab Republic | ReliefWeb. [reliefweb.int](https://reliefweb.int/report/syrian-arab-republic/follow-data-crisisready-shares-emergency-response-models-turkey-syria-earthquakes). Published March 7, 2023. Accessed September 18, 2023. <https://reliefweb.int/report/syrian-arab-republic/follow-data-crisisready-shares-emergency-response-models-turkey-syria-earthquakes>

