



Two Major Earthquakes Hit Türkiye and Syria

An Evaluation of Crisis Management Efforts

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1. Introduction

On February 6, 2023, a series of earthquakes struck southern Türkiye and northern Syria. An earthquake with a magnitude of 7.8 mww and with an epicentre located 34 kilometres to the west of the city of Gaziantep occurred at 04:17 local time.³ An aftershock with magnitude of 6.7 followed just 11 minutes after. In a fashion that also surprised the scientists, another earthquake with a magnitude of 7.5 mww with its epicentre located 4 km to the southeast of Ekinözü district of Kahramanmaraş occurred at 13:24 local time.⁴ This latter was also followed by two aftershocks with about 6mww in magnitude, at 13:35 and 15:02 respectively.⁵ According to Kandilli Observatory and Earthquake Research Institute data, from the time the first earthquake occurred until 11 February 2023 08:00, within a radius of 350 km 6141 aftershocks occurred, of which 391 had a magnitude above 4.0 (see Figure 1).⁶

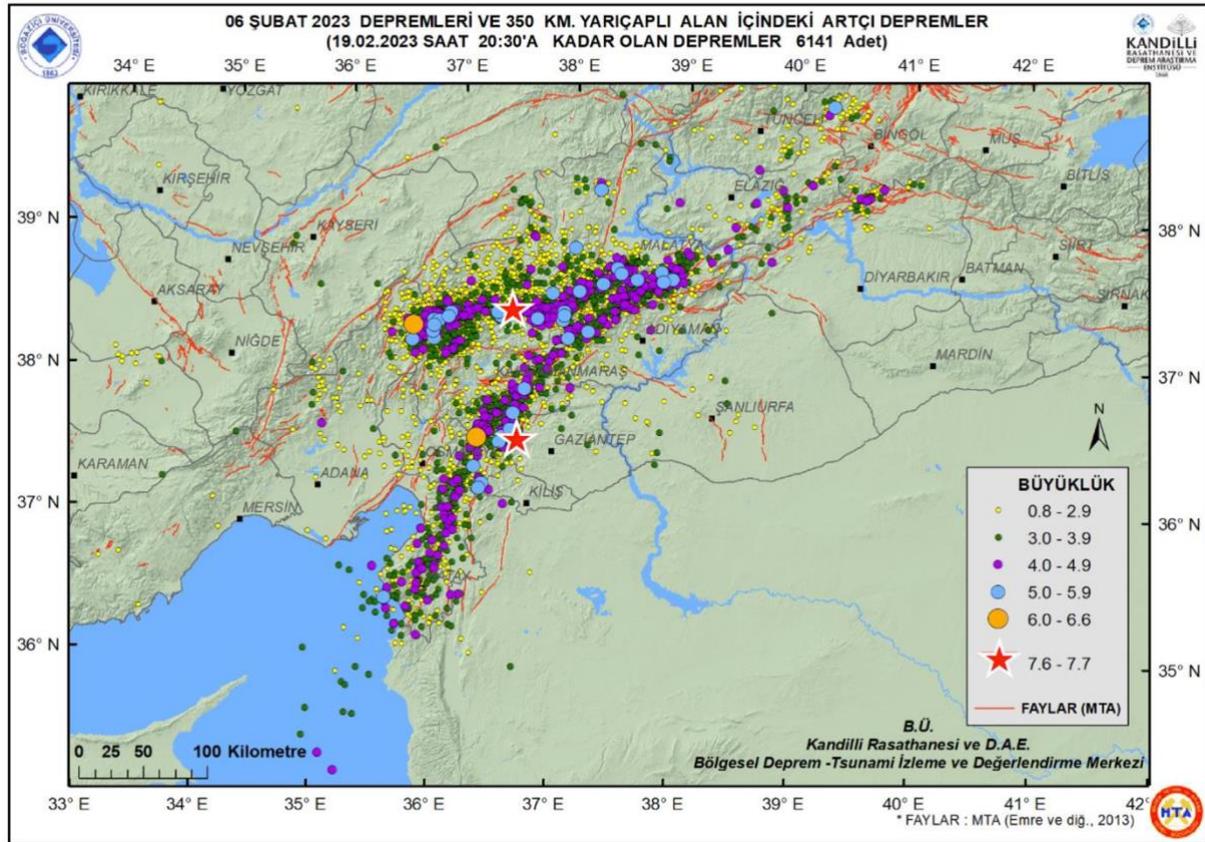


Figure 1. 6th February Earthquakes and Aftershocks within a Radius of 350 km (Kandilli Observatory and Earthquake Research Institute)⁷

The two extremely destructive earthquakes were generated by activation of the East Anatolian Fault (EAF) system. The stricken area forms the boundary between the tectonic plates of Arabia and Anatolia,⁸ which is also very close to the triple junction with the African plate.⁹ Figure 2 shows the location of the epicentre and tectonic plates.

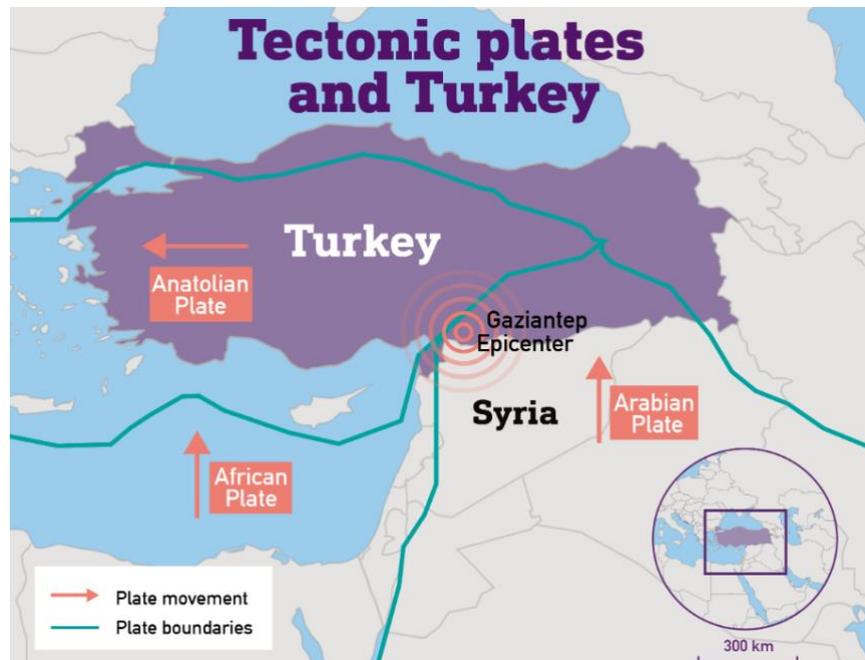


Figure 2 Epicentre of 2023 earthquakes and tectonic plates. Retrieved from Uddin (2023).¹⁰

Although the earthquakes were felt across the region, ten cities in Türkiye were highly impacted from the disaster. Those are: Kahramanmaraş, Gaziantep, Malatya, Diyarbakır, Kilis, Şanlıurfa, Adıyaman, Hatay, Osmaniye and Adana. The total number of inhabitants of these cities correspond to 13 million, about one seventh of the overall Türkiye's population. On the other side of the border, in Syria, Aleppo, Latakia, Hama and Idlib were also badly affected with damaged or collapsed buildings.

This policy brief has been prepared to examine how well the crisis management efforts were implemented during the 2023 earthquakes in Türkiye and neighbouring Syria. The ultimate goal is to identify lessons to be learned from the disaster and improve national and international crisis management in similar cases in the future to reduce human suffering and increase accountability.

2. Crisis management

From an academic viewpoint, crises are grave threats to basic structures or fundamental values and norms of a social system. They require critical decision-making to deal with time pressure and uncertain circumstances.¹¹ Generally, crisis management refers to processes addressing these unexpected and threatening events for organisations and stakeholders.¹² This management is separable into six steps: risk assessment, prevention, preparedness, response, recovery, and learning. The response step becomes crucial once crises occur.¹³ Prevention step, on the other hand, is not applicable in the case of earthquakes. According to McConnell (2011), the success of responses is measurable in effectiveness (control of the crisis), ethicality

(fairness of the management), and legitimacy (broadly supported management).¹⁴ The following chapter analyses the effectiveness of the crisis response to the earthquakes in Türkiye and Syria in 2023. For earthquakes, the first 72 hours after the incident are crucial because most survivors are rescued within this timeframe. After three days, survival chances drastically decline.¹⁵ So, in this brief, despite having a holistic approach in reflecting our assessments on risk assessment and preparedness, we will have a special focus onto the first 72 hours while tackling “response”.

3. Analysis

3.1 Risk Assessment

a. Türkiye

At global scale, each year 500.000 thousand earthquakes occur. One fifth of those are felt by inhabitants while only about 100 of those earthquakes cause damage and loss. Türkiye is located on a seismically active zone that has produced 23 earthquakes with magnitude of 7 and above since 1500. In 2020 alone, Türkiye has experienced 33.824 earthquakes. 322 of those had a magnitude of 4 and above.¹⁶

Cognizant of this fact, Turkish scientists and governments have made efforts to map the seismic zoning of the country to produce the first example in 1945. Those maps have been updated based on technological and scientific developments later in 1947, 1963, 1972, 1996, and finally in 2018. The latest version was published on official gazette on 18 March 2018 together with “Türkiye Building Earthquake Regulation (Türkiye Bina Deprem Yönetmeliği in Turkish)”. This latest version that features ground acceleration values phases out the concept of earthquake zone. Thus, a citizen can, via e-citizen portal, access earthquake danger data to see what kind of earthquake effects his / her building can be subject to.¹⁷ The map can be seen below at Figure 3.

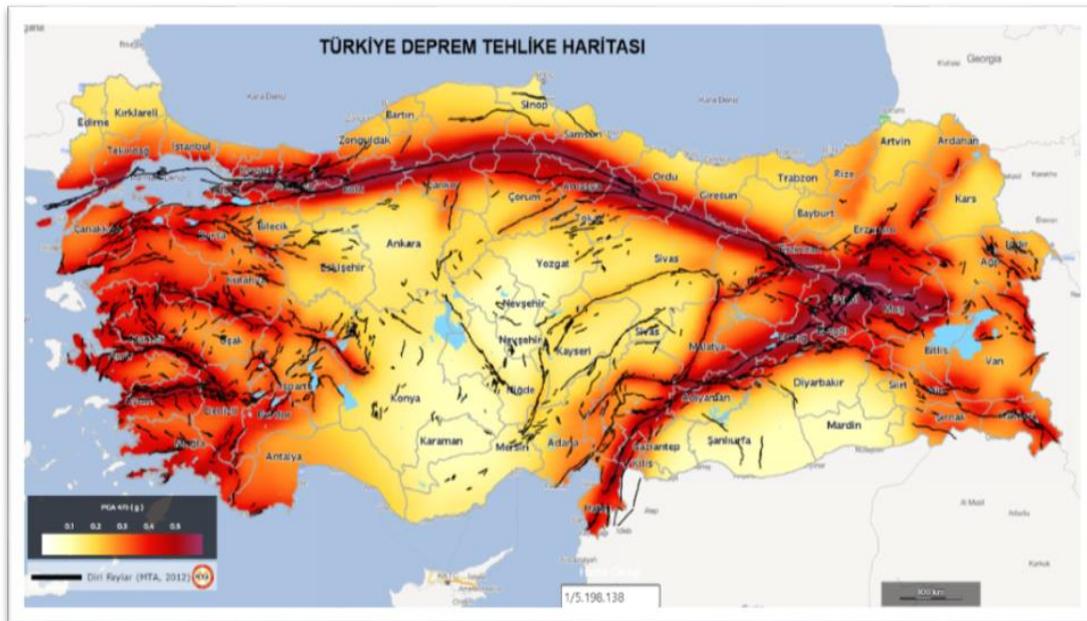


Figure 3. Türkiye Earthquake Danger Map (AFAD)¹⁸

The earthquakes that occurred on 6 February, are well within Türkiye's Earthquake Map. Prof. Feyzi Bingol, former rector of the University of Euphrates, says, especially after the Elazig earthquake with 6.8 magnitude that occurred in 2020, himself and other scientists were actually expecting an earthquake with a magnitude of 7 could happen in Kahramanmaras. Because the location sat on the intersection of two faults, one leading to Hatay, and the other to Malatya, Elazig and Bingol.¹⁹

AFAD or Türkiye's Disaster and Emergency Management Presidency records verifies Prof. Bingol's statement. Accordingly, AFAD conducted a national earthquake exercise with participation of 3500 personnel in 2019. The exercise scenario featured an earthquake with magnitude of 7.5 with epicentre at Pazarcik, Kahramanmaras, the same as the epicentre of the 7.8 earthquake.²⁰ The next year, or in 2020, Kahramanmaraş city Governor's Office and AFAD prepared a Provincial Disaster Risk Reduction Plan (IRAP). The plan detailed the risk with all its components to include magnitude and probable destruction sites. The difference between this plan and the destruction observed during the earthquake are minimal.²¹ This shows, at institutional information level, the earthquakes that shook Türkiye on 6 February were not unexpected.

b. Syria

Similar to Türkiye, Syria also experiences earthquakes due to its proximity to tectonic fault lines. Ahmad et al. (2017) describe in their seismic hazard assessment that the earthquake risk in Syria is moderate overall, but it is relatively higher along the Dead Sea Fault System (DSFS).²² It refers to the fault between the African and Arabian plates, as observable in Figure 2. The Syrian National Seismological Network (SNSN), established in 1995, is the Syrian authority for measuring and monitoring seismic activity. Its main operational organ is the National Earthquake Centre in Damascus, which works closely with the Ministry of Petroleum and Mineral Resources.²³ However, since 2015 there has been no recorded activity of the SNSN. The National Earthquake Centre seems to be currently the primary provider of seismic activity research, even though there is no official statement confirming this takeover. This assumption matches an observation by Alqusairi (2010), who stated that there is a lack of adequate information from Syrian sources on disaster and emergency management.²⁴ Therefore, most information on this topic stems from sources outside Syria. In short, Syria's exposure to hazards is known and institutionalised in the National Earthquake Centre. However, the organisational strength and mandate seem to be limited, which might be a consequence of the Syrian Civil War. The governance structures before the war were already considered weak and ineffective. Years of conflict amplified this problem in the country.²⁵ This had grave consequences for the country's crisis preparedness for the 2023 earthquakes, which will be covered in section 3.2b.

3.2 Preparedness

a. Türkiye

In order to minimise the destructive effects of the earthquake, many steps have to be taken at personal and administrative levels. The citizens' awareness about the probability of earthquakes at their exact location, and proper code of conduct in such eventuality will certainly increase resilience. At the administrative level on the other hand, the administration should set construction standards based on disaster risk and enforce those standards. In doing so, the administration should get expertise and participation of scientists and expert organisations in city planning, engineering, and architecture. Published and regularly updated earthquake danger maps form the first step in the same direction. But unfortunately, that alone does not solve the problem.

The big problematic of earthquakes has taken an important place in public discourse since Golcuk or Marmara earthquake in 1999. In this powerful earthquake with the magnitude of 7.6, the death toll reached 18.373 according to official figures while 365.000 buildings were damaged. Türkiye's Chamber of Geologists, in a report published in 1999, listed three important factors to account for such great destruction: active fault zone, watery alluvium ground, and construction faults. The latter basically referred to faulty construction designs not compatible with the ground, errors in using correct construction material or their low quality, and bad workmanship.²⁶

Türkiye's Chamber of Mechanical Engineers is not convinced that the administration has taken required lessons from this earthquake. Through a public communique published on the occasion of the 20th anniversary of the Marmara Earthquake, the Chamber attracted attention to the efforts of administration to avoid scientific and expert organisational inspection to the newly built constructions in an effort to increase rent revenues. Below is an excerpt from this communique:

Türkiye is no better off today than it was after the Marmara earthquake 20 years ago. **In site selection decisions, building design, production and supervision there is no scientific and holistic order.** This is true to the extent that **problematic filling areas, riverbeds and coasts are being opened for development**, and shopping malls and skyscrapers are being built everywhere. Incorrect transportation policies, wrong urban transformation practices and the increase in wrong mega projects, cut-off of the links between water beds and green areas, increase number of floods, and formation of heat islands increase the destructive effects of earthquakes. Add to these problems the recent **zoning amnesty without considering the earthquake phenomenon and the need to increase the earthquake-resistant building stock**, and the rapid construction in post-earthquake gathering sites, it becomes clear that our country is not ready for earthquakes. At this point, we would like to point out that the government's attack on the professions of engineering, architecture and urban planning clears the path for rent-seeking capitalist forces, leads to the domination of the logic of doing business by disregarding professional requirements, and the continuation of the problems of social destruction caused by earthquakes.²⁷

As mentioned in the communique also, the current government has used zoning amnesty as a tool to increase votes and increase revenues. In most cases, for constructions to start, special permissions should have been taken from local administrations based on inspections like static, architecture, electricity, and plumbing based on Turkish Standard 500, Disaster Regulations, and Turkish Standard 498. Add to that control requirements at all stages of construction, namely: construction location selection, excavation, base application, iron skeleton laying, laying of levels of the construction, cement filling that also require cement slump test, heat isolation etc.²⁸ There are millions of buildings that have not or cannot fulfil such control and inspections and thus don't have required permissions to be inhabited. The government gives with these amnesties such non-standard buildings permissions. The last of such amnesties was issued just before elections in June 2018.²⁹

The lessons learned from the Marmara earthquake trickled down to new regulations to create new stock of disaster resilient buildings in 2001. The government and local administrations actually have responsibility to recycle or take necessary precautions to make the buildings before 2001 resilient while ensuring those built after this date conform to these construction and control standards. But, unfortunately, with implementations such as zoning amnesties, they have behaved in the opposite direction, increasing stock of low quality, disaster-prone buildings, and constructions.

The videos from the cities impacted from the earthquake unfortunately show so many new buildings destroyed, that it becomes not possible to oversee the complicity of the government in the huge destruction. Predicting the total number of lost lives as about 200.000, Prof. Dr. Övgün Ahmet Ercan says the earthquake regulations are good enough and adds: *"If they [government] had complied with this regulation, they would have built structures that would not collapse. The worst part is that the new buildings also collapsed."*³⁰

In a video circulating in social media, a citizen and lawyer Bedia Büyükgebiz says the building to store laboratory test result documents of workplaces and residences at the Building Inspection and Building Materials Branch Directorate in Hatay was to be demolished upon orders by the governor of Hatay. The building is a one-story building that currently hosts AFAD officials and contains an infirmary with doctors. She asks why to demolish a standing building while the whole city is under rubbles? She concludes the Governor of Hatay wants to destroy evidence.³¹ In fact, the building was destroyed and a criminal complaint was filed with the Chief Public Prosecutor's Office against demolition of the building.³²

Erzin, a town in the middle of epicenters of both earthquakes with a population of 50.000, is a good example to confirm professor Ercan's assertions. The town eluded the destructive impacts of the earthquakes, not seeing t even one building that was demolished during and after the earthquakes. The mayor of the town, Ökkeş Elmasoğlu stated that they followed the rules and did not allow illegal buildings and added, *"I even sealed the houses of my relatives. As long as we are not a society that follows the rules, we will continue to experience these sufferings. Not only local governments but also citizens have responsibilities."*³³

b. Syria

As mentioned in section 3.1b, the governmental structures in Syria are relatively weak. Therefore, there are no clear earthquake preparation strategies. Even worse, different parties control different territories in the country. This power struggle is particularly observable in those regions most affected by the 2023 earthquakes. Figure 3 shows that the Syrian government controls most of the country. However, opposition and extremist groups dominate the northwest, Turkish troops the areas in the north, and Kurds in the northeast. Consequently, it is not possible to adequately prepare the region for disasters during the ongoing violent conflict.³⁴

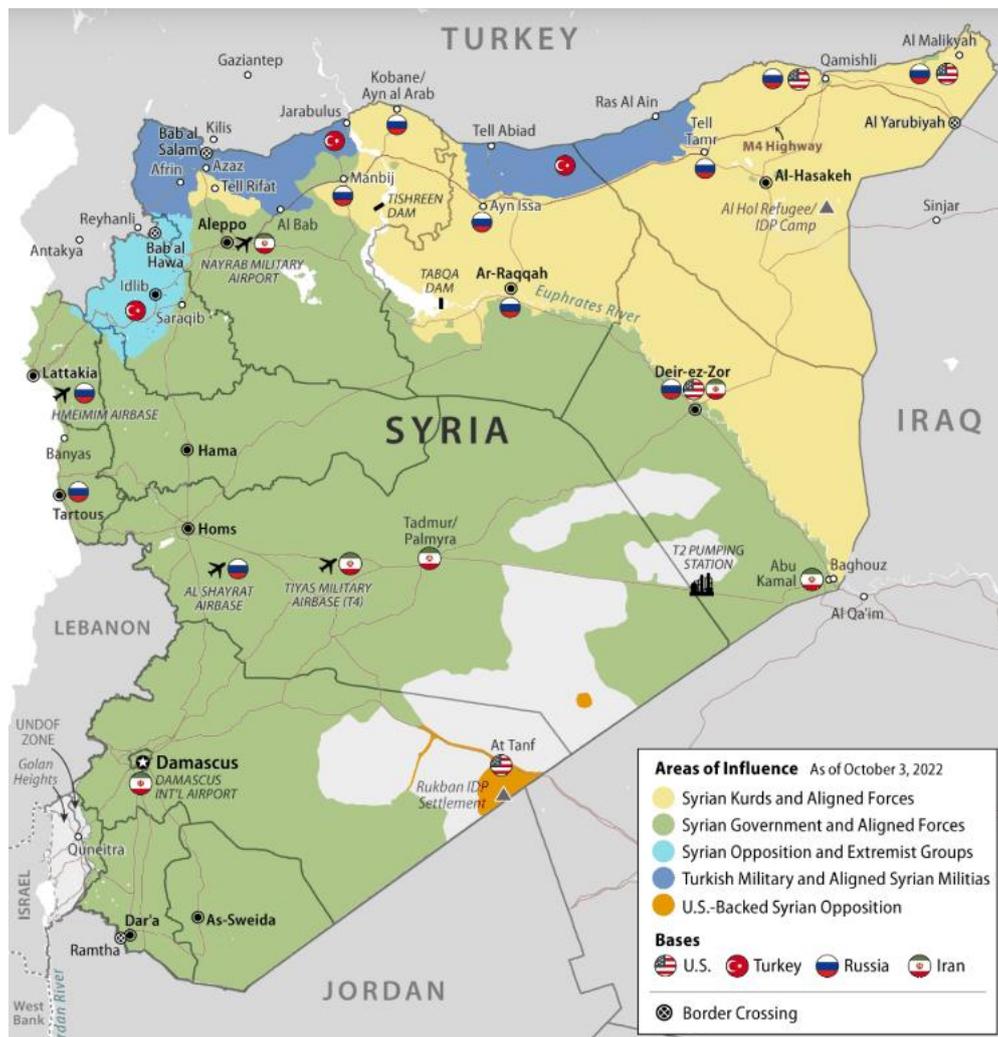


Figure 4 Approximate areas of influence in Syria as of October 3, 2022. Retrieved from Humud (2022).³⁵

The civil war already destroyed large parts of the Syrian infrastructure, and most of it, along with public services, was never rebuilt since then. The absence of rebuilding initiatives is especially true for areas outside the regime's control, such as northern Syria. In a report on the selective reconstruction in Syria, Agha (2022) states that there is lack of foreign investment as countries seek to avoid indirectly financing the Syrian government.³⁶ Consequently, it is expectable that northern Syria was generally unprepared for strong earthquakes.

The most recent assessment of the country's earthquake preparedness was published in 2015 and can serve as a reference point for the situation when the strongest earthquakes struck Syria in 2023. This assessment is part of the Logistics Capacity Assessment (LCA) tool by the World Food Programme containing information on the logistics of countries that require humanitarian aid.³⁷ The report reveals that Syria is ill-prepared for earthquakes due to the absence of coherent crisis management strategies, even though its major urban centres, such as Damascus, Aleppo, Homs, and Hama, are located in the earthquake zone. The government's limited capacities only allow it to identify shelters and call for international assistance. Due to the high number of internally displaced people (IDPs), the 2015 report calculated that most people affected by earthquakes will not have shelter, access to basic health services, or educational services once they occur. There are estimates that even before the earthquakes occurred, more than 4 million people needed some sort of humanitarian assistance in northern Syria.³⁸ Additionally, there is only a limited presence of international NGOs due to the problematic political situation in the country. Furthermore, local NGOs do not have the capacity for sophisticated search and rescue missions as they lack expertise and equipment. The lack of organisations and governmental management capacities to prepare for earthquakes makes Syria highly vulnerable to these disasters.³⁹

3.3 Response

a. Türkiye

Türkiye's response to the earthquakes on 6 February has been somewhat complicated and not easy to grasp in the first instance. To be more precise, AFAD or Türkiye's Disaster and Emergency Management Presidency has the responsibility to prepare a preliminary report within 45 minutes after any disaster. As the first great earthquake occurred at 04:17 local time, AFAD submitted its report within 43 minutes, at 05:00 to the Ministry of Interior as should be.⁴⁰ The Minister of Interior Suleyman Soylu summoned journalists at the press centre to announce the nation about the disaster at 05:38. In the video, he is seen saying himself and other ministers would pass to the disaster area within the day. It would go without saying that all mayors, state and local administrations, military units across the country should have been informed about the disaster to be prepared for a probable deployment for search and rescue operations to be executed in line with contingency plans. Onder Algedik, energy and climate expert asserts if the 600.000 strong Armed Forces were alerted at 06:00, as of 08:00 they could be present in the relief operations.⁴¹

Unfortunately, this is not what happened. **On the very day of the disaster all state institutions fell under a big silence, doing very little about the crisis.**

In the following day, or the second day after the disaster (7 February) the situation did not change much. Search and rescue efforts were seen on TV channels but if you asked the locals, those channels were showing only a very small part within the whole reality. If you excluded the parts that the cameras were recording, you would see no relief work at all or nobody coming for help. For example, an MP from Turkish Worker's Party Barış Atay Mengüllüoğlu who was on exploration visit in the disaster area said on this day **at 06:30 that no one except volunteer construction workers in Antakya participated in the search and**

rescue efforts.⁴² Despite this statement, the efforts did not intensify till the end of the day. During live broadcast of Habertürk TV at 22:30 local time, the reporter Mehmet Akif Ersoy asked for the camera lights to be turned off to show the level of activity in the search and rescue efforts in Antakya again. The camera showed the whole city was in dark. But even worse than that, viewers understood that the search and rescue efforts were being conducted under camera lights. Ersoy further continued saying, "Hatay is a complete ghost city. I walked on the road using the light of my phone. I heard people shouting quietly between the buildings. There was no search and rescue or aid team for 2.5 km. I walked ashamedly, stepping on my toes so they wouldn't hear me walking."⁴³

In this second day, AFAD's Director Yunus Sezer, announced there were pledges for support from 65 nations and upon arrival they would be dispatched to the needed locations. Minister of Foreign Affairs Mevlut Cavusoglu announced at 21:30 that 3.319 relief workers from 36 nations were working in the field. But there were problems in coordinating those efforts also. For example, Israeli team that was comprised of 30 doctors, 100 aid workers, and 50 nurses were kept waiting at the airport while their support was needed in the field. It was also reported that search and rescue teams from Switzerland were kept waiting at Adana Airport and teams from Greece were kept waiting at Incirlik Base.⁴⁴ It was on this second day that the Ministry of Defense announced it had decided to dispatch brigades of the 2nd Army (headquartered in Malatya) to the disaster areas.⁴⁵

So, in the first 48 hours, the state's existence was poorly felt aside from politicians' interviews saying the coordination and the help was on the way.

Instead, main opposition party or CHP leader Kemal Kilicdaroglu was the first prominent politician to set foot in the disaster area. Together with mayors of Ankara, Istanbul and Izmir, Kilicdaroglu visited Hatay on this day.

On the third day, at early hours, the declaration of state of emergency in 10 most impacted cities was published on the Official Gazette and entered into force. At 13:33, the General Directorate of Highways announced that all main arteries in Türkiye's road network were opened to transportation and that there were no routes closed to traffic due to the earthquake. An interesting announcement came at 14:15 from the Presidency Communication Directorate. Accordingly, Turkish Armed Forces had directed 34 field kitchens and 4 field bakeries to the disaster zone. 8 engineer teams had arrived, and 4 others were in preparation. Turkish Armed Forces was an operational entity in the past. The figures shared created rather disillusionment. It was so little and so late...⁴⁶

Kilicdaroglu and his team continued their visit in the region with Osmaniye and Kahramanmaras on this third day. Responding to President Erdogan's efforts to create a rally around the flag effect, he said: *"I have seen the situation of our people on the ground. I refuse to look at what is happening above politics, I refuse to align with the government. **This collapse is precisely the result of systematic rent politics.** I will not meet Erdoğan, his palace and the rent gangs on any ground."*⁴⁷

Losing the initiative to Kilicdaroglu, Erdogan started his disaster region visits the next fourth day with Adana. From this day on, the whole range of state institutions under strict control of

Erdogan, started a political impression management campaign to settle theatre for the upcoming elections. The core messages were:

- a. **The disaster is so big that no government can cope with it.** To make this ingrained in the public’s mind, Erdogan devised the term “the century’s catastrophe” or “asrın felaketi” in Turkish to describe the disaster.
- b. **The government has been coordinating all efforts and is behind all benevolent work.** In a video of reporting from the region on 9 February, the reporter Mehmet Akif Ersoy reported that the locals say: “We are doing search and rescue, we are digging and digging and reaching to the people [under debris]. Pat! a team comes and says 'your work is done, move away, we will take him out.' They call the cameras, they take him out." He then said he heard this from many others at other places too. After he says this, the audience on the field applauds him.⁴⁸ There are many other efforts in the similar direction such as putting stickers with AKP logos to the aid trucks and packages.⁴⁹
- c. The main opposition party and any other entity’s critiques towards the search and rescue efforts are to be denigrated with the argument that at such terrible days politicians should leverage a language that does not seek political gains.
- d. Public anger should be diverted from the government to the looters, and the perpetrators should be defined as the Syrian refugees.
- e. Propaganda that 98 percent of the destroyed buildings were built before 1999. Actually, this counter factual assertion was openly leveraged by Erdogan during a speech in AFAD.⁵⁰ It was quickly refuted through google maps and Copernicus satellite images.⁵¹

The first 72 hours are of utmost importance for rescuing lives in disasters. After that, chances for survival drop. If especially the winter conditions that showed temperature range between -5 and 11 °C are considered, the chances for rescuing lives after 72 hours becomes extremely low.⁵² Taking this into account and also to keep this brief concise, we mainly looked into those first 72 hours. Beyond 72 hours, there are in fact many rescues in the fourth day especially. Our count based on CNN Turk webpage⁵³ that announces names of the survivors has revealed the following figures for the number of survivors:

Date / Day	Number of Survivors
9 February (Day 4)	74
10 February (Day 5)	31
11 February (Day 6)	14
12 February (Day 7)	33
13 February (Day 8)	19
14 February (Day 9)	15
15 February (Day 10)	2
16 February (Day 11)	2
18 February (Day 13)	4

The poor conduct in the relief operations and AFAD that has central role in this has attracted attention of local and external media, eliciting extremely interesting facts. AFAD was established by the law number 5902 in 2009 to coordinate all relief efforts in case of a disaster.⁵⁴ Yet, in the years leading to the latest earthquake, it has been seen as a place to employ President Erdoğan and his minister's friends and family to the key governing positions. With assignments by the President Erdoğan that was published on January 11, 2023, the vice President of AFAD and key directors were replaced with interesting figures. For example, the vice president Ugur Sezer was in bureaucracy and his political career skyrocketed after a physical assault was made to Kilicdaroglu in June 2019 in Cubuk, Ankara where Sezer was the governor. He is also a former consultant of Minister Soyulu. Housing and Construction Works General Director Nehar POÇAN, on the other hand, is the husband of Minister of Environment Murat Kurum's sister. Disaster Response General Director İsmail PALAKOĞLU is a theologian and a former Diyanet member.⁵⁵ As the inefficiency of AFAD began to be more circulated, the government summoned Mehmet Güllüoğlu, the former President of AFAD from Tanzania where he was ambassador.⁵⁶

Nepotism is not the only problem in AFAD. After the earthquake, CHP leader Kemal Kilicdaroglu cited a "Duzce Earthquake Report" that was originally prepared by AFAD itself for the Ministry of Interior to detail problems around operations and crisis management in AFAD. The report reads:

"After the earthquake, Türkiye Disaster Response Plan (TAMP) could not be put into effect because disaster groups and institutions were not sufficiently prepared. Since TAMP could not be implemented, disaster management turned into chaos and confusion, leading to confusion of duties and authorities. Decisions could not be taken properly due to lack of communication. Disaster response groups could not manage their resources effectively and thus the response was inadequate. [...] Losses of life and property will be prevented by making the housing stock resilient in provinces with high earthquake risk, as in the case of Düzce. Implementation of IRAP before the disaster will reduce the risks and effective implementation of TAMP after the disaster will reduce the losses. For a disaster-resilient Türkiye, we need to prepare both our institutions and citizens with a holistic approach before, during and after disasters."⁵⁷

Despite these problems in AFAD, the organization's already low TRL 12 billion budget saw a 33,6 % cut in 2023, leaving it with an insufficient budget of 8,1 billion. This leaves less personnel and resources to conduct and coordinate relief efforts.

Beyond AFAD, Türkiye becomes increasingly authoritarian resulting in the erosion in the autonomy of the institutions and their management. The ministries, instead of taking direct action in their areas of responsibility, await orders from the President to manage and contribute to the response and recovery efforts in the crisis. Asli Aydintaşbaş, a visiting fellow at the Brookings Institution, when summarising reasons for such great destruction and loss of life, cites President Erdoğan's centralisation efforts over the past years as one of the most prominent factor. Accordingly, this further produced poor coordination with local governmental institutions.⁵⁸

The last but not least important is the rate of corruption in Türkiye. Director of Transparency International in Türkiye, Oya Ozarslan, says during a video interview that Türkiye has been making a free fall since 2013, in terms of corruption perceptions index. Accordingly, the country that ranked 53rd with a score of 50 in 2013 currently ranks 101st with a score of 36. She says Türkiye has satisfactory laws and regulations for construction, control and corruption. But, those laws are not implemented. She further highlights importance of accountability based on the fact that the government has been collecting a disaster tax since 1999 that is calculated to have amounted to US\$38 billion. If the roads get destroyed or airports are destroyed, then for what purpose has this tax money used she asks. This is a question asked after each disaster. The governments see this as an additional budget and in the past some PMs openly stated they have made double-lane roads with the money.⁵⁹

At the time of writing this article, according to official AFAD figures, there has been 41.020 fatalities in the earthquakes.⁶⁰ Minister of Environment had earlier announced there were 84.726 buildings with 332.947 independent units that were demolished, urgently needed to be demolished or heavily damaged.⁶¹ Looking at these figures, one cannot help asking, if the regulations were enforced and the state with all its branches worked in perfect synchronisation to conduct search and rescue since the first moment, what would be of those figures? We will never be able to know that.

b. Syria

The large-scale destruction and humanitarian suffering put the international community in a complicated situation to support the Syrian government's relief efforts. It forces opponents of the regime to cooperate with it to reach affected people in the north. The most critical problem in the response effort is to reach the affected areas. Türkiye also does not wish to help Kurdish militias in Syria. Figure 4 shows the power distribution in the country. Over the past years, territories under non-governmental control received international humanitarian aid via the Turkish border. However, the U.N. Security Council must approve this process every six months.⁶² There is only one route via Bab al-Hawa because Russia blocks other options with its veto power in the Security Council. This restriction limits the amount of potential aid delivered across the border. Russia and Syria claim that all international efforts should go through the Syrian government as the sovereign entity of the country, but primarily Western countries oppose this idea.⁶³

While many opponents of President Bashar al-Assad blamed him for the ineffective Syrian response, it is critical to notice that also within the rebel-held areas, there is mismanagement. The Islamist group Hayat Tahrir al-Sham controls most of these areas. The organisation announced that it does not accept aid coming from government-held areas as it wants the international community to take stronger action against Assad. Hayat Tahrir al-Sham also blocked convoys from its enemies in Kurdish-held areas. The affected population bears the burden of aid politicisation by the Islamist group.⁶⁴

In short, areas under non-governmental control in Syria wish to receive aid from the international community. The goal is to put higher pressure on Assad. However, the Syrian government, controlling the rest of the country, states that all aid should go through the

government. The overall goal is to increase Assad's legitimacy. Therefore, the earthquake response in Syria is highly politicised.

Admittedly, the earthquake response in Syria was even worse compared to neighbouring Türkiye due to the complicated political and humanitarian situation even before the earthquakes occurred. In section 2, we explained that the crisis response is assessable on effectiveness, ethicality, and legitimacy. It is difficult to justify the legitimacy of the earthquake response in Syria as different entities rule over the country. Certainly, the crisis response was not ethical as governmental-controlled areas had better access to equipment such as excavators and governmental support than other areas. This circumstance also explains the overall ineffectiveness of relief efforts. The borders within the country between political entities prevented a quick and coherent crisis response. Even though international aid is slowly arriving in northern Syria, it consists of shelters, food, and medical equipment, not search and rescue equipment such as excavators.⁶⁵

This circumstance shows that the hope of finding people alive is over. The lack of search and rescue equipment was the greatest weakness in the crisis response, intensely illustrated by those videos circulating the internet where people are condemned to hear their relatives dying under ruins without realistic chances of helping them. The response phase in the crisis management cycle is over now, as it only refers to the immediate time after a crisis occurs. The crisis management enters the recovery phase that addresses rebuilding and supporting affected people in the long run.

4. Conclusion and policy recommendations

The large-scale destruction and humanitarian suffering in Türkiye and Syria are consequences of mismanagement and extreme political preconditions, not just the earthquakes themselves. While it is undeniable that those earthquakes would have significantly affected the region, the ineffective crisis response showed that responsible authorities neither in Türkiye nor Syria adequately prepared for the crisis.

Below are some policy recommendations for Türkiye and Syria to prepare for an effective crisis response to future possible scenarios:

- a. Both countries are located in a seismically active region and earthquakes are an inevitable part of life. The **seismic zoning of both countries should be revised** while **construction regulations should be developed or strengthened** to ensure that structures can withstand earthquakes. The lessons that can be derived from the latest earthquakes should be reflected in these efforts. Especially in Türkiye, there is an expectation of a big earthquake in Istanbul. Sufficient government funds should be allocated to check resistance of the current buildings while putting additional pressure for ensuring conformity to the earthquake standards.
- b. Both governments should develop a **comprehensive earthquake risk management plan** that will outline how resources (from inside and outside disaster area to include personnel, equipment, and expandables) will be generated, transported and delivered. This plan could define roles and responsibilities in a comprehensive manner that will employ all resources to

include NGOs, CSOs, and citizens. The plan could prioritize geographic and functional areas to save more lives.

- c. Both countries should invest in **early warning systems for earthquakes** as the time saved can save thousands of lives, giving people time to evacuate or take other safety measures. Dokuz Eylül University (DEÜ) of Türkiye has already developed an earthquake early warning system with the name DEUSİS. The system announced this February should be further developed.
- d. Institutions operating national emergency response systems, namely **Disaster and Emergency Management Presidency (AFAD) in Türkiye and Syrian Civil Defense and the National Emergency Management Authority (NEMA) in Syria**, need to be supported to provide a more efficient and effective response to earthquakes. This could include measures such as increasing the number of emergency responders, upgrading equipment and technology, ensuring adequate training and new legislation.
- e. **Education and public awareness** are critical components of earthquake preparedness. The government could invest in public awareness campaigns to educate citizens about earthquake risks, safety measures, and emergency procedures. The governments, media and civil society should invest more on ethics education also, highlighting the role of not abiding by construction standards and corruption in the magnitude of the destruction.
- f. **Regular drills** are key to prepare for future disasters. They provide conditions to implement standards for collaboration with different institutions and CSOs, to increase interoperability, and identify areas for improvement.
- g. **Collaboration with international organizations** that specialize in earthquake preparedness and response will increase capacities of both countries. The collaboration could include sharing best practices, exchanging knowledge and accessing resources and funding for disaster preparedness. This recommendation will be complicated to be implemented in Syria due to war conditions and its political repercussions.
- h. Syria, is a war torn country. International **society should mobilize more resources to intervene and relieve sufferings**.
- i. The international community must provide humanitarian aid in both regions in the crisis recovery phase. Particularly Western countries have no choice but to cooperate to some extent with the Assad regime if they wish to help the affected people.

Notes:

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a) Earthquake preparedness, response, earthquake risk management,
b) Carrying out zoning, planning and project procedures for places that are likely to be damaged in earthquakes and places that have been damaged,

c) Identification and effective use of all kinds of resources belonging to public, private and non-governmental organizations and foreign individuals and organizations that can be used in earthquake preparedness, response and recovery phases,

ç) Informing the public about earthquakes,

d) To determine, monitor and evaluate the policies to be implemented on earthquake-related issues and to provide consultancy to other units of the Presidency in the execution of earthquake-related services.

e) To perform similar duties to be assigned by the President.

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