

Research plan

06.11.2023

Spaces of Safety

How can community spaces bring people together to prepare for a predicted earthquake in Istanbul?

001. Introduction

Personal Fascination

My origins, coming from Izmir, Türkiye, have made the threat of an earthquake striving and affecting my family, a part of my life. While growing up, I heard my family talking about earthquakes, and being scared of them. I always thought: Why be scared of them? Is this building not safe enough? And which buildings are safe?

However, in February 2023, a devastating earthquake hit another part of Türkiye. Witnessing the immediate aftermath of this disaster, I took the initiative to form a foundation, called the Architectural Recovery Team. In this foundation, we came together with a group of students to see how we could help rebuild the villages around Antakya, affected by the earthquake. This included a sight visit to the earthquake area, where many questions were raised. I thought about how the scale of the consequences of this disaster could be minimized. Next to that, I was fascinated by the engagement of local communities and individuals to help. Figure 1.0 shows a drawing of my observations during one of the field trips, where the children from the village wanted to help us document the rumbles and empty plots. They were eager to learn how the rebuilding would take place. For us, this was a learning point, where we could learn from the children how they experienced the earthquake, how they were living at the moment, but also to see how they were looking at the future. My fascination for this topic, now also became my graduation theme, where I am curious how we can learn from this disaster and prepare for predicted earthquakes, such as the one in Istanbul.

Problem Statement:

Earthquakes are a global phenomenon, occurring with alarming frequency in various regions and varying in magnitude. The impact of earthquakes, however, differs significantly on multiple scales.

While earthquakes are a global issue, some cities, like Istanbul, are particularly vulnerable. As Marco Bohnhoff, a German earth scientist, describes it, it is not a matter of if a major earthquake will hit Istanbul but when (2023).

“Experts are in no doubt that the Bosphorus metropolis, with its population of at least 16 million, is facing a major earthquake.

The question is not if it will happen, but when?” - Marco Bohnhoff (2023)

The vulnerability of Istanbul is due to its position on top of active fault lines, next to that the city also faces other complex risks due to the high population density, and its political and economic situation (Müller-Mahn and Everts 2013).

"While the number of earthquakes has not increased, the numbers of disasters caused by earthquakes and the numbers of people affected by earthquakes have been steadily increasing." - Jenny Chandler (January 2023)

Jenny Chandler, AF8 research assistant, explains that although it feels like earthquakes have been happening more frequently over the last couple of years, this is not the case. The number of earthquakes has not increased, however, the disaster caused and people affected by earthquakes have.

Why is this a problem?

The aftermath of an earthquake is marked by many problems that affect various aspects of society. These problems vary in time and scope. Firstly, the most immediate and devastating consequence of earthquakes is the loss of human lives. The earthquakes can result in a significant number of fatalities, leaving families and communities in mourning. Survivors often grapple with trauma, anxiety, and fear, which can persist long after the physical debris has been cleared. This psychological toll not only affects individuals but also affects entire communities.

Secondly, the seismic forces can cause extensive damage to buildings and infrastructure, leading to the displacement of countless individuals and families. The loss of homes not only disrupts people's lives but also creates a pressing need for shelter and reconstruction. Entire cities can be laid to waste by powerful earthquakes. This destruction not only causes physical and economic losses but also disrupts the social fabric of communities. Rebuilding these urban areas is a monumental challenge.

Thirdly, The economic consequences of earthquakes are far-reaching. Businesses are forced to cease operations, transportation networks are disrupted, and the cost of reconstruction is enormous. This economic standstill affects not only the affected regions but can have effects on a national and even global scale.

As mentioned in the problem statement, earthquakes do not occur more often, but disasters caused and people affected by these earthquakes are reoccurring more often. If we compare this statement to the reasons why disasters are such a problem, we can state that designing better earthquake-resilient cities can be a solution to prevent big disasters. Saskia van Manen's question, "Design got us into this mess, so how can design help us out of this mess?" highlights the role of planning and design in mitigating the impact of earthquakes. By recognizing the impact on human lives, communities, and economies, and by embracing design and psychological support, we can work towards a more resilient and disaster-ready society.

"Design got us into this mess, so how can design help us out of this mess?" – Saskia van Manen (July 2023)

To conclude my introduction, I would like to point out the basis of my research: If design can help us out of the mess disasters cause, and where people are affected, how can we, as architects create spaces where people come together, to find solutions for the cities that are currently built, and prepare for earthquakes that are predicted by specialists.

002. Relevance

Kahramanmaras Earthquake

On the 6th of February, 2023, a devastating earthquake occurred, in Turkey and Syria, killing thousands of people and leaving many homeless. During this earthquake 50.000 lives were lost, and 4.000.000 houses were destroyed and 15.730.000 million people were left homeless.

After the earthquake, there was a lot of short-and mid-term planning; such as tents, containers and tiny houses which were being placed in the region. These fast solutions were and are still very much needed but we didn't see any sustainable and long-term planning yet. Additionally, there was saw an urban-rural displacement happening. When the city is destroyed, people fled the city and moved to the more rural areas, where they would join their families and have more places in the gardens.

Another finding is the lack of awareness of the building process. These problems define our focus: 1. To design long-term houses within rural areas: Built long-term affordable housing, suiting the local culture. With our key concepts modularity, flexibility, sustainability, adaptability and the most important earthquake resilient and 2. Creating a platform for our stakeholders. The key factor is the involvement of our stakeholders in the building process for earthquake-resilient houses and the safety of inhabitants in earthquake zones.

Next to that a lot of community initiatives are being made. VNGI GEMEENTE AMSTERDAM.

Lack of trust, and no communication between government and community.

The severe earthquakes, which occurred on the sixth of February, generated a huge wave of horror throughout Turkey. Since then, however, many citizens outside the disaster area have also become concerned about their safety. This is because the whole country is situated in a seismic danger zone, and the ground can have tremors anytime and anywhere.

003. Research Question

The problem statement, the reasons behind this problem, and the recent earthquakes that took place in Kahramanmaras, Türkiye form the basis of my research: If design can help us out of the mess disasters cause, and where people are affected, how can we, as architects create spaces where people come together, to find solutions for the cities that are currently built, and prepare for earthquakes that are predicted by specialists? This leads to my main question:

How can community spaces bring people together to prepare for a predicted earthquake in Istanbul?

To answer this main question, three sub-questions were formed.

(1) Why is it important to prepare for an earthquake? And how can you prepare?

(2) What are community spaces and how can they bring people together?

Preparation > information to people

Creating a space where people feel at home

What is the culture of the people > how do they make use of community spaces, and what type of spaces? (Market, food, clothes, schools, mosques); How can these communities learn
(3) Where are the weakest areas, that will be affected the most during an earthquake in Istanbul?

These sub-questions will be answered by looking at the earthquakes that happened in Kahranmanmaras in Turkiye on the 6th of February 2023. This is due to the similarities which the earthquake that happened in Antakya has with the predicted one in Istanbul on different topics: scale, population, economical level, cultural, political, building regulations,

(1) What type of community spaces? What do these community spaces need to include? What is the culture > what type of space do people need after an earthquake to heal > stable space; market spaces for food; clothes. Create safe spaces for people to overcome 1. Helplessness, low socioeconomic level, culture of neglect and lack of trust.

Interviews with people; field research; literature research

(2) Why and how to prepare? Lessons learned from Antakya?

Materials

Community spaces

Space where people can feel safe

Space where people can shelter

Space with water and electricity > self-sustaining

Coordination center > distribution center...

What is needed before, during and after an earthquake?

(3) Where in Istanbul? Which areas are going to be affected the most?

Kucukcekmece > Literature research; based on literature from the government

- What type of communities are there
- What are their daily routines/ work/ job > how can they pick that up after a disaster?
- What is already being done for preparedness in the area
- Do these communities already have fear? Or other traumas?
- What is the level of education? Social interaction?

Mapping existing structures in Istanbul; Data Analysis; Network map of places; Market halls; schools; restaurants; ... Studying maps

004. Methods and methodology (700)

> Subquestions: how will I answer them?

Field research

Observations

Literature

Data collection

Choosing a location: based on the amount of buildings that collapse; then collect data about the area; Then map three different kind of “public spaces” which could be used to make a network map of places that could be used to shelter after an earthquake happens. (Culture alive when choosing spaces > where do people go the most in these areas?)

>Lessons learned from Antakya
VNGI!! Community Centers.

> Planning

005. First findings (700)

> Location; choosing a site

>Lessons learned from Antakya > how to write those down.

006. Preliminary conclusions, choices and design strategies (300)

1. What are the initial conclusions of your research that you plan to pursue further in your projects?
2. What are the choices you plan to make to focus and sharpen your designs?
3. Make an argument on relevance of your research and add bibliographical references
 - a. Research literature
 - b. VNGI literature
 - c. Post traumatic PTSD and how to heal from it
4. Draw a research diagram that makes a concise clear and innovative overview of the actions taken.
 - a. Planning diagram

00. Literature list

00. Appendix (location Kucukcekmece)

Connecting Business initiative (CBI), the United Nations Development Programme (UNDP) in Türkiye, the United Nations Resident Coordinator Office (RCO) in Türkiye, the Turkish Enterprise and Business Confederation (TÜRKONFED), and the Business for Goals (B4G) platform organized a [lessons learned workshop](#) to begin answering these questions. The workshop brought together more than 80 Turkish business representatives, Government officials, UN focal points, and Turkish civil society to work through the earthquake response timeline, discuss immediate and long-term recommendations to

improve current approaches of private sector engagement before, during and after emergencies, and foster partnerships amongst actors.

AANTEKENINGEN EXTRA:

- Stakeholders
- Research implications
- Research methods and methodologies
- Ethical considerations

INTRODUCTION

Relevance?

The severe earthquakes of Feb.6 generated terror, horror and a huge wave of solidarity throughout Turkey. Since then, however, many citizens outside the disaster area have also become concerned about their own safety. This is because practically the whole country is a seismic danger zone, and the ground can actually have tremors anytime and anywhere.

Community preparedness and individual preparedness is very important. Especially to be able to psychologically prepare for this earthquake > helps you after a disaster to continue life again...

> Earthquake just happened in another part of Turkey, people there are acting like this? So let's prepare.

Community living

Mental health

Not being able to solve problems within a community

Feeling hopeless and not being able to escape

How can you manage disaster relief? How can you overcome your trauma's

Think about what you intent to do research on. The next step is to explain why you would want to do this research: why is this research necessary? To whom it is important? What do you hope to achieve with this? > What is the knowledge gap?