Development of an
EARTHQUAKE
CULTURE

DEVELOPMENT
WORKSHOP

UNIVERSITY OF LEEDS

Summary

An earthquake culture is much more than responding to a post-earthquake disaster or discussing the possibilities of new earthquakes. Which behaviours we value, how we value our collective spaces, what we remember and learn, how we reinvent ourselves over time become key in any conversation about an earthquake culture.

As Professor İlhan Tekeli's recent report highlighted, the Kahramanmaraş-centered earthquakes on February 6, 2023 that caused significant destruction to Türkiye (and Syria) made us face the bitter fact that an earthquake culture is a missing component of our culture, despite our devastating experience of the 1999 Gölcük Earthquake.

We organised a two-day trans-disciplinary, trans-sectoral, and international workshop in May 2023 at Ankara Kent Konseyi to define the core elements and processes required to develop an earthquake culture in Türkiye. Through our workshop we find that collective action catalysed by new actors, new positions and new responsibilities is crucial for developing a strong earthquake culture. We identify that collective action needs to be oriented towards the five core elements of an earthquake culture: social memory, place-based approaches, communication, healing spaces and innovation. There are a number of collective action strategies that can be used in developing them which are explained in the key considerations section. We do hope that these considerations act as an inspiration or possibly as starting point for individuals, groups, and public, private or third sector organisations who want to contribute to the development of an earthquake culture.

The workshop itself was an attempt to test self-organised collective action for helping develop an earthquake culture. Our experience shows that this is no easy task. Social capital and trust were the key ingredients in moving forward with self-organised collective action. Even so, bringing together different worldviews and interests without much prescription required significant open-mindedness and dedication, but in the end rewarded us with creative insights and nuanced understandings that would not necessarily be possible otherwise.

Background

Our self-organised, collective action emerged from our shared aspiration to move beyond dominant responses to earthquake disasters that revolve around two key approaches:

1) privileging of technology solutions (e.g., indestructible domestic construction),

2) using a top-down, one-size-fits-all approach to urban planning which presents the risks of societal injustice, and loss of local identity and cultural heritage.

Pointing to an exact moment as the starting point of our self-organised collective action is difficult. The coming together of several events led to the mobilisation of sufficient momentum to organise this workshop. Development Workshop had been playing an active role in bringing humanitarian aid to the earthquake-stricken region and had just published Professor İlhan Tekeli's reports[1] that highlight the fault lines in our current thinking about earthquakes and the reconstruction processes. At around the same time, Dr Dicle Kortantamer identified an opportunity to get funding from the University of Leeds, Faculty of Engineering and Physical science to conduct an international, multi-disciplinary, trans-sectoral workshop on post-earthquake disaster recovery and renewal and contacted Development Workshop. Securing this fund led to the mobilisation of a small team[2] that took on the task of organising this workshop.

We wanted to catalyse in-depth discussions at the workshop, so we limited participation to 20 people, excluding the organising team. We started by inviting people from our immediate networks, Professor İlhan Tekeli's colleagues and the contacts of Development Workshop members and Dr Dicle Kortantamer. To ensure interdisciplinary participation we reached out to our broader networks, and asked our participants who else we should invite. For example, one of our team members who had been participating in Professor Ulaş Sunata's earthquake sociology lectures invited her to the workshop as well as Dr. Zehra Güngördü, an earthquake victim and —

---

[1] Tekeli, İ., *"Civic Equity in Urban Planning and Planning Implementation Issues"*, KA Akademi, Development Workshop, Issue 5, 2023 (www.ka.org.tr/dosyalar/file/Yayinlar/KA-Akademi/KA_AKADEMI_S5_EN.pdf); *"After the Kahramanmaras Earthquake"*, KA Akademi, Development Workshop, Issue 6, 2023 (www.ka.org.tr/dosyalar/file/Yayinlar/KA-AKADEMI-S6-EN.pdf).

[2] Dicle Kortantamer, Ayşe Özsoy, Ferhan Saniye Palaz, Jan Byckowski

an academic who had participated in these lectures.

As the organising team, we had never met each other before, and the crafting of the workshop agenda surfaced our different worldviews. We had a few iterations of it, before agreeing to hold three groupwork activities that gradually moved from concept to action. Our intent was to steer the knowledge-production and experience-sharing process from theory to practice. Because we had a time constraint for organising the workshop, we focused on the most significant issue. With Professor İlhan Tekeli's guidance, and how the society continues to struggle to live with earthquakes despite the numerous earthquakes with over 7.0 magnitude Türkiye has experienced in the last century, we decided to focus on the concept of an "earthquake culture". Our intent was to bring this relatively underdeveloped notion to the ongoing debates and action on earthquakes. We recognize that it is not possible to fully develop an understanding on an earthquake culture in a single workshop. Therefore, we decided to focus on constructing a ground for extending the debates and action on earthquakes to include a consideration of the development of an earthquake culture. We started with questioning whether such a concept is useful, how its social and technical aspects can be brought together, what the key elements of such a culture are and how can it be embraced broadly.

With these concerns in mind, we generated the following questions as guides for our groupwork activities:

Activity 1: What does an earthquake culture mean? *(What are the key elements of an earthquake culture? Which actors are associated with an earthquake culture, how?)*

Activity 2: What are the strengths and weaknesses with respect to the identified elements of an earthquake and which strategies do we need to respond to them?

Activity 3: What kinds of collective action are required for realising the identified strategies?

We decided to split up to three groups for each of these activities, and then get back together after each activity to share our insights, identify, and discuss points of convergence and divergence with the guidance and support of Professor İlhan Tekeli. We also discussed the language of the workshop because we would have non-Turkish participants at the workshop. We agreed that it was important for the participants to share their views in the language they are comfortable in, so we decided that one of the three groups would work in English, whereas the other two groups would work in Turkish. However, this meant that we still had to find a solution for the whole-group discussion sessions. Considering we only had two non-Turkish speakers, we arranged for a PhD student to provide live translation to these participants during these sessions.

We looked to secure equitable participation in the organisation and participation of

the workshop through various means. We distributed the work of organising the workshop amongst ourselves equally, which meant all of us had to take on some lengthy administrative tasks. Participants had the opportunity to present their groupwork back to the whole group, and the facilitators of the groups ensured that everyone had voice in the group discussions. To strengthen the rigour of our report, we appointed note takers (one person to each group and one person to the whole groupwork activity). This enabled us to accurately capture the key insights from our open conversations. Moreover, we brought in elements of sustainability to our workshop by ordering the catering for the lunchtime networking sessions from a local family and asking participants to take the train or public transport where possible.

After nearly three months of preparation, we held the workshop jointly organised by the School of Civil Engineering, Leeds University, and the Development Workshop on the 25th and 26th of May in Ankara Kent Konseyi. At first, everyone seemed a bit concerned about the self-organising aspects of the workshop which involved each participant selecting one of the three groups, and each group organising and taking notes as they wanted in discussing the core questions that were defined for each groupwork activity. As the organising team we were also nervous about whether the discussions across different groups would converge and make sense as a whole when brought together. However, this concern and nervousness disappeared fairly quickly, when all of the groups started interacting with great intensity, and sometimes even continuing despite our calls for a coffee or lunch break.

Group 1* Anlı Ataöv (facilitator), Ayşe Özsoy, Beste Avcı Türkoğlu, Ertan Karabıyık, Funda Erkal, Murad Tiryakioğlu, Özgür Çetinkaya, Saime Özçürümez, Ulaş Sunata

in alphabetical order, some participants could only join us for part of the workshop

Group 2* Buğrahan Basmaz Ölmez, Çiğdem Aksu, Ecehan Balta, Emine Yetişkul, Ferhan S. Palaz (facilitator), İlhan Tekeli, İlke Öztürk, Savaş Zafer Şahin, Serap Koydemir, Zehra Güngördü

in alphabetical order, some participants could only join us for part of the workshop

Group 3* Dicle Kortantamer (facilitator), Esen Çevik, Hatice Kübra Karakaya, Jan Byczkowski, Koray Velibeyoglu, Nick Marshall, Özgür Kurç, Sibel Kalaycıoğlu, Tuğba Yıldırım, Vasilis Sarhosis

in alphabetical order, some participants could only join us for part of the workshop

Nevertheless, bringing together the knowledge of multiple disciplines (urban planning, sociology, project management, structural/earthquake engineering, innovation), sectors (third sector, universities, private organisations) and locality (earthquake region, other locations within or outside Türkiye) was not an easy task. For instance, from a structural engineering perspective life loss is minimised by preventing the collapse of buildings through the reinforcement of structure and counteracting potential earthquake forces. So, we had to discuss how this could be done in a way that preserves and supports local identity and resilience through mechanisms of collective action. In this way, we engaged in active dialogues to question the taken-for-granted assumptions of our academic or practical knowledge. Our common motivation to support the earthquake-stricken region played a key role in the accomplishment of this dialogue. As you will see from this report, we were able to develop complementary yet diverse ideas through this workshop. None of us had expected such an outcome from the seemingly ad-hoc way of organising.

As an earthquake victim and an academic from the earthquake region this workshop was the first intellectual activity I participated in after the earthquake. Sharing the situation experienced on the ground had a healing effect on me. I felt motivated to become productive again. I would like to thank the University of Leeds and Development Workshop for including me as a stakeholder.

Zehra Güngördü

Key Considerations

We identify collective action as the key process required for the development of an earthquake culture and outline five core elements of this culture:

- social memory
- place–based approaches
- communication
- healing spaces
- innovation

We find that the development of an earthquake culture requires new concepts, new actors, new positions, and new responsibilities. Local and international examples of collective action in relation to disasters show us that this is a powerful way of organising that extends our capacity to preparing for and responding to an earthquake. We suggest that local governments, NGOs, academics, private organisations, media, artists participate in the collective action to develop an earthquake culture, whilst re-thinking about the new positions and responsibilities they can take on as catalysers or supporters of such collective action.

This section explains the core elements of an earthquake culture we identified through our workshop. The collective action we undertook resulted in different groups putting the emphasis on different elements or offering a nuanced understanding of what these elements meant or how they could be achieved through collective action. This section intends to capture these rich and nuanced insights by presenting these themes in relation to the discussions in each group.

CORE ELEMENTS
of an earthquake culture, and opportunities for collective action

Social Memory

Groups 1 and 3 considered social memory as a core element of the earthquake culture, emphasising the issue of a lack of social memory about earthquake disasters. In doing so, each group turned their attention to specific considerations about social memory.

Group 1

The discussions of this group point to our cultural tendency to cope with painful events by forgetting which prevents our ability to learn from those events. They also raise the question of whether we rely too much on digital platforms and technological solutions, which often result in the loss or extensive dispersion of crucial data that is required to learn from what happened, when and why.

This group suggests the following opportunities for collective action:

- NGOs, local governments, artists can create memory spaces such as earthquake museums, movies, and documentaries: Memory making through these means can help us remember our socio-economic past but also help us heal from the painful earthquake disasters.
- NGOs can revitalise urban heritage and memory through catalysing acts that generate the sense that "life goes on". These acts may involve the reinvigorating or recovering local heritage as a resource for remembering as well as recovery and renewal.

Group 3

The discussions of this group point to the fact that earthquakes destroyed Antakya many times before, as well as the importance of remembering and learning not only to respect perished lives and heal our traumas, but also to remember and learn from

our past wisdom and mistakes. They raise questions about where we locate our settlements, how we talk about earthquakes, how we perceive the risks related to earthquakes and respond to them, how we prevent socio-cultural loss that emerges in relation to vast amount of people moving to other places and what we reuse or reduce (e.g., which building we keep and which ones we demolish after an earthquake, do we reduce population density in a locality?

This group suggests the following opportunities for collective action:

- Universities, NGOs, and professional chambers can create living museums for active use by teachers and parents,

- Media, universities, local government, NGOs, and community leaders can create leaflets or YouTube videos with resources or calls for action as well as movies or documentaries,

- Champions, local leaders, activists, and influencers can share best practices across communities, and work towards influencing key decision makers.

Place-based Approaches

Every group considered place-based approaches as a core element of an earthquake culture, but each one turned their attention to specific aspects.

Group 1

The discussions of this group point to the importance of local solidarity that is grounded in rational and emotional bonds, supported by an inclusive language that invites all local actors. They raise questions about how to form this language in a way that enables people to move beyond a feeling of despair, local experiences, and emotions. The discussions of this group also highlight the importance of local production in both resilience and renewal of an earthquake-stricken area, particularly local agricultural production, local craftsmen, and shops.

This group suggests the following opportunities for collective action:

- Development of a local network that is active before, during and after an earthquake disaster. Early engagement, preferably from childhood, and a clear division of labour will enable such a network to be productive.

- Local governments or NGOs can fund equitable neighborhood participation initiatives that generate excitement.

- Development of local agriculture production cooperatives (e.g., focusing on the local gastronomy values in Hatay). These cooperatives would act as a source of cultural and rural heritage, solidarity, and a sustainable economic actor in the locality.

- Learning and development activities that focus on restoration and local craftsmanship to preserve structures of architectural significance and cultural heritage.

····· Group 2

The discussions of this group point to a number of issues: 1) before an earthquake: preparation and education in terms of understanding what a structurally sound building is and requesting such buildings, and the establishment of local mechanisms of learning from past earthquake disasters 2) during an earthquake: solidarity and actors that manage risk 3) after an earthquake: identification of urban and rural locations that are best suited for temporary accommodations and future settlements., and managing the tension between short term solutions and medium/long-term ones. The discussions of this group also emphasise the importance of decentralisation for the diversification of solutions and equitable participation in them. These discussions highlight that the centralisation efforts grounded in the concern for coordination often result in coordination issues and resemble charitable work.

This group suggests the following opportunities for collective action:

- Use of media and collective consciousness to move from local demands to local collective action

- Debates on the limits of standard bureaucratic models and extending audit mechanisms to third sector organisations.

····· Group 3

The discussions of this group point to the central issue of developing a place-based resilience so that an earthquake does not become a disaster, and if it does then local

resources available for effectively responding to it. Inspired by examples of local and international disaster prevention, recovery and renewal efforts, the interpretation of place-based resilience by this group emphasises locally self-sufficient, globally oriented patchwork of varied, structurally sound spaces, and highlights to the need to:

- strengthen the resilience of homes and public buildings through cheap yet structurally sound technical solutions whilst ensuring that the local architectural fabric is not lost,

- create modularity in the local critical infrastructures so that only a module needs to be replaced rather than the infrastructure as well as buffers that allow for failovers,

- create community spaces that provide a shelter immediately after a disaster,

- produce basic products locally through farming and community gardens and delivering them through a local food supply chain.

This group suggests the following opportunities for collective action:

- Civil engineers work together with local communities to show low-cost, structurally-sound housing, also focusing on animal shelters for rural locations. This can be organised through the social responsibility projects by chambers or companies.

- Local government, universities, NGOs, private sector organisations, and communities form a multi-party council, operating on the basis of equitable participation to provide independent audit.

- An open data portal, governed by the local government through novel technologies offering the integrity of the data (e.g., blockchain) but also open to crowdsourcing and for universities, NGOs and public to access, for agile decision making informed by various hazard scenarios.

Communication

While every group touched on communication as a key concern, Group 2 paid specific attention to it. The discussions of this group point to two key issues: 1) trust: whether individuals or groups trust the information and its source, 2) public sphere: the impor-

tance of having dialogue in the public sphere that prevents the reduction of communication to individual interactions.

This group suggests the following opportunities for collective action:

- Development of new communication mechanisms, including open-source platforms that allow for the verification of information and its source.
- Local governments to facilitate bi-directional dialogue in the public sphere in a way that brings communities together.

Healing Spaces

Group 1 paid specific attention to healing spaces. The discussions of this group point to the importance of creating community areas that can contribute to the recovery and renewal of individuals and communities.

This group suggests the following opportunities for collective action:

- Offering art or/and sports-based activities in communal spaces. For example, music-based workshops that allow for people and communities to see their local space in a different way, or creatively express their feelings.
- Creation of social spaces in a locality where people will interact with each other. For example, communal gardens.

Innovation

Group 3 paid specific attention to innovation. The discussions of this group highlight that there is still significant room for the design and implementation of novel solutions that offer better ways of preparing for and responding to an earthquake, in particular questions remain open about:

- Circular economy, such as how can we rapidly reconfigure and re-use existing supply chains when there is an earthquake, and how can we reuse the materials from demolished buildings (e.g., recycle bricks, timber, reinforcing bars and concrete)?
- How can we create novel low-cost new products, methods, and designs for earthquake resilient models (e.g., frugal innovation)?

- How we turn temporary earthquake responses to permanent solutions without trapping ourselves in less-than-ideal solutions?

This group suggests the following opportunities for collective action:

- Architects and civil engineers can work together with local communities to create novel low-cost products, methods, and designs for earthquake resilient designs and implementation. This can be organised by universities, possibly in collaboration with the industry.

- Universities, entrepreneurs, and local actors can establish living labs or test beds, as well as support start-up incubators as local ecosystems for experimenting with novel ideas.

- Universities can look at other industries (e.g., oil and gas) to design and implement innovative negotiation models that are locally appropriate. For example, universities may work with local communities who lost their houses, psychologists, and sociologists one after another in resolving the post-earthquake disaster property ownership issues.

Concluding Comments

This is only a start, but we hope that it triggers debates and mobilises creative collective action that help develop an earthquake culture. We invite you to consider the position or responsibility you can take with respect to these efforts.

In the academic world, a seismic culture is defined as the integration of *"all the activities, attitudes, behaviours, and perceptions of the local population regarding earthquakes."[3]*, and often considered in relation to local knowledge of vulnerabilities and construction of resilient buildings. Our interdisciplinary discussions have highlighted that this is only part of the story. Not only do we need to take into account a broader set of place-based approaches and ways of remembering, but we also need healing spaces, healthy communication structures and innovation.

This report offers a starting point for considering and acting on these issues. In this respect, we would like to make two recommendations that speak across different audiences, including local governments, NGOs, universities, research institutes, media bodies, artists:

- Act as catalysts of local collective action by providing resources, such as funding, and specialised training.
- Enable dialogue around the core elements of an earthquake culture and the processes required for developing it.

In doing so, we invite you to consider new concepts, new actors, new positions, and new responsibilities.

---

[3] Karababa, F.S. and Guthrie, P.M., 2007. Vulnerability reduction through local seismic culture. IEEE Technology and Society Magazine, 26(3), pp.30-41.

ACKNOWLEDGEMENTS