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Special Issue:

Resilience in Crisis

Dossier Editor

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Editorial

"Why has the world not collapsed?" inquire Holling et al. in the book "Panarchy: Understanding Transformations in Human and Natural Systems" (2002, pg. 15). Their interpretation from the human perspective unfolds as follows:

> *"Change and extreme transformations have been part of humanity's evolutionary history. People's adaptive capabilities have made it possible not only to persist passively, but to create and innovate when limits are reached".*

In the face of unprecedented challenges and disruptions, the human has demonstrated remarkable resilience throughout history. The ability to adapt, recover and develop in the face of adversity is a proof of the inherent strength of individuals and societies. As we navigate an era marked by global crises, ranging from health pandemics to environmental emergencies, the concept of resilience has taken center stage in both academic discourse and practical applications.

As the anniversary of the Kahramanmaras earthquakes approaches, our thoughts turn to the victims and those affected by this greatest tragedy. The impact of such disasters goes beyond the physical realm, leaving lasting scars on the lives and communities touched by the calamities. In honor of the resilience shown and the challenges faced, we pay tribute to those who endured the disaster and continue to rebuild. Their strength inspires collective efforts in disaster preparedness, response and recovery, and fosters a future where societies stand resilient in the face of adversity.

Consequently, this special issue of the Journal of Design for Resilience in Architecture & Planning is dedicated to the discussion on "Resilience in Crisis", investigating the multifaceted dimensions of resilience in the context of various challenges. Through rigorous research and insightful analysis, our authors examine how diverse fields contribute to our understanding of resilience.

Ilan Kelman, Victoria Pratt, Ayesha Ahmad, Amy Balderston, Catherine Baxendale, Ben Eaton, Sheila Ghelani, Samrawit Gougsa, Hsi-Nong Huang, Nqatyiswa Mendu,and Cecilia Vilela visually captures the collaborative efforts of Land Body Ecologies (LBE), a global transdisciplinary network situated in London. LBE, integrating science, art, and public engagement, focuses on understanding and addressing the persistent crisis of land trauma among land-dependent and Indigenous communities. Despite ongoing challenges, these communities demonstrate remarkable resilience. The perspective of Kelman et al. captures LBE's London-based work, offering glimpses into the arts-science-community space that serves as the epicenter for their global initiatives.

Louise K. Comfort, Süleyman Çelik and Burçak Başbuğ Erkan explore collective learning in areas affected by the February 6, 2023, Kahramanmaraş Earthquakes in Türkiye. Using a multi-methods approach, the study examines knowledge acquisition, information distribution, interpretation, and organizational memory. It underscores the importance of timely, accurate information and technology in decision-making during seismic events. Comfort et al. identify inaccurate information as a key obstacle to collective learning and emphasizes the need for alignment across diverse community groups and jurisdictional levels. The study offers insights for policymakers

and practitioners to translate collective learning into sustained measures for reducing future disaster risks, moving beyond resilience for sustainable risk reduction.

Sanja Mrksic Kovacevic and Frederic Bouder examine the slow digitalization in the Architecture, Engineering, and Construction (AEC) sector despite increased use of industrial robots and AI (Artificial Intelligence) tools. Highlighting factors like undervaluation by decision-makers and safety decisions amid uncertainty, Kovacevic and Bouder question how AI, especially AI algorithms, might impact uncertainties and act as a crisis prevention tool. Through 21 interviews with AEC professionals, the study suggests potential for wider AI use, contingent on addressing knowledge gaps. Kovacevic and Bouder underline that, while AI can prevent certain crises, its increased usage introduces new uncertainties, emphasizing the importance of proper implementation to avoid new risks.

Çağlar Göksu, Seda Kundak, Kerem Yavuz Arslanlı, Ahmet Atıl Aşıcı, Duygu Kalkanlı and Ali Yılmaz investigate resilience in the face of crises, examining the impacts of seismic events in Türkiye in 1999 and 2023 using Impact Chain analysis. The study traces the evolution of disaster management practices, highlighting advancements in risk management and resilience from 1999 Kocaeli earthquake to 2023 Kahramanmaraş earthquakes. Both events expose vulnerabilities in building design, emphasizing seismic shortcomings. The impact extends to critical infrastructure, affecting transportation, communication, and energy systems, with cascading effects on the socio-economic landscape. The study emphasizes the effectiveness of Impact Chain analysis in revealing complex causal relationships and facilitating communication among stakeholders. The research contributes to understanding disaster resilience, guiding subsequent research, policy formulation, and practical strategies for disaster preparedness and response.

Zeynep Deniz Yaman Galantini examines the impact of the COVID-19 epidemic on urban areas and questions the reasons why the pandemic persists, despite principles of "resilience" and "sustainability" in urban planning. The study aims to integrate these principles into urban planning processes, enhancing institutional capabilities for management and monitoring. Using conceptual analysis, it defines essential elements of the "post-pandemic" urban planning paradigm. Emphasizing the need for "sustainability" and "resilience," the study discusses the "pandemic city" and "post-pandemic city," concluding by exploring how these attributes contribute to the "post-pandemic urban planning" paradigm.

Aysun Aygün Oğur examines the impact of extreme heat on urban and rural areas, challenging the common focus on the economy, built environment, and daily human life. Through an extensive literature review, it explores the divergent resilience of these areas across economic, social, environmental, structural, and governmental factors. The research concludes that both settings have unique advantages and disadvantages, influencing their vulnerability and resilience levels. Aygün Oğur's work contributes to a comprehensive understanding of resilience studies related to extreme heat.

Seda Yurtcanlı Duymaz investigates earthquake-induced migration, as a significant challenge in Türkiye. Türkiye has experienced various forms of forced migration due to earthquakes, impacting physical security, human dignity, and societal structures. Yurtcanlı Duymaz 's study focuses on İstanbul, a high-risk area, assessing whether existing legislation aligns with international standards to effectively protect against environmental displacement and "build resilience in crisis". The study emphasizes the human rights approach and legal mechanisms in establishing resilience during crises, relying on content analysis of disaster plans, policy texts, and relevant legal provisions related to earthquake-induced migration scenarios in İstanbul.

Meltem Narter addresses the psychological impact of natural disasters, particularly earthquakes, emphasizing the need to define and discuss crises that follow. Resilience is crucial in coping with the aftermath, described as the ability to adapt to adverse conditions. Narter highlights the responsibility on both individuals and society to foster psychological resilience, advocating against leaving individuals alone to cope. Instead, she suggests mobilizing various resources, including emotional, mental, social, and artistic investments, to actively address the wounds caused by natural disasters and enhance individual and societal well-being.

Gülru Koca addresses challenges in Türkiye's rapid urbanization, emphasizing the need for urban sustainability to balance urban and rural development. With seismic risk in mind, she highlights the importance of preventing dense housing and uncontrolled migration in urban areas to mitigate earthquake-related issues. Strengthening connections between urban and rural areas, ensuring social and economic sustainability in rural areas, and

designing settlements away from fault lines are key measures. The study emphasizes using appropriate construction techniques, favoring traditional methods, and preserving architectural texture for earthquake-resistant and sustainable settlements in Türkiye.

Özcan Erdoğan and Rümeyza Kazancıoğlu emphasize the crucial role of hospitals in disaster situations, stressing the need for accessibility and operational readiness during various crises. To enhance resilience, hospitals are expected to identify and address both structural and non-structural risks. Social resilience through health services is achieved through organizational planning, human resource management, effective communication, and logistical and financial preparation. The ultimate goal is to guarantee uninterrupted patient care and supportive services, with measures in place for decontamination, patient evacuation, and overall hospital security when necessary.

As we struggle with the uncertainties of the present and future, understanding resilience is becoming not only an academic endeavor, but also an important pillar of promoting preparedness, response and recovery. The lessons learnt from the studies in this special issue have the potential to inform policies, interventions and practices that enhance resilience at individual, societal and global scales.

We are grateful to the researchers who contributed their expertise to this issue. May their work inspire further exploration and collaboration as we all strive to build a more resilient and sustainable future together.

Sincerely,

Following names that provided valuable contribution as referees of articles in this issue are:

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Cover photo: Image copyright ©Murat Germen, (February 2023). The image on the left is detail " View from Kurtulus Street to Sokullu Street in historic Antakya after the earthquake."

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DRArch's objectives are:

- to question how future building technologies are revolutionizing architectural design, city planning, urban design, landscape design, industrial design, interior design and education,

- to catalyze the processes that lean on interdisciplinary and collaborative design thinking, creating a resilient thinking culture,

- to improve the quality of built environment through encouraging greater sharing of academicians, analysts and specialists to share their experience and answer for issues in various areas, which distributes top-level work,

- to discover role of the designers and design disciplines -architecture, city planning, urban design, landscape design, industrial design, interior design, education and art in creating building and urban resilience,

- to retrofit the existing urban fabric to produce resilience appears and to support making and using technology within the building arts,

- to discuss academic issue about the digital life and its built-up environments, internet of space, digital in architecture, digital data in design, digital fabrication, software development in architecture, photogrammetry software, information technology in architecture, Archi-Walks, virtual design, cyber space, experiences through simulations, 3D technology in design, robotic construction, digital fabrication, parametric design and architecture, Building Information Management (BIM), extraterrestrial architecture, , artificial intelligence (AI) systems, Energy efficiency in buildings, digitization of human, the digitization of the construction, manufacturing, collaborative design, design integration, the accessibility of mobile devices and sensors, augmented reality apps, and GPS, emerging materials, new constructions techniques,

-to express new technology in architecture and planning for parametric urban design, real estate development and design, parametric smart planning (PSP), more human-centered products, sustainable development, sustainable cities, smart cities, vertical cities, urban morphology, urban aesthetics and townscape, urban structure and form, urban transformation, local and regional identity, design control and guidance, property development, practice and implementation.

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Editorial Team

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