

# Mainstreaming disaster risk reduction into construction

In countries susceptible to natural disasters such as earthquakes and tsunamis, the construction of buildings plays a vital role in reducing the risk of homes, businesses and lives being destroyed. The Sendai framework for disaster risk reduction (2015-2030), endorsed by 187 UN states in 2015, calls for businesses to integrate disaster risk into their management practices. The framework identifies the need for disaster risk education and training for construction professionals, a view supported by the Royal Institution of Chartered Surveyors (RICS).



► Professor Dilanthi Amaratunga



► Professor Richard Haigh

## Engaging the global construction industry

Researchers at the University of Huddersfield have played a key role in engaging the global construction industry in disaster resilience building efforts. Professors Dilanthi Amaratunga and Richard Haigh from the Global Disaster Resilience Centre have carried out extensive research which has increased the understanding, awareness and attitudes of disaster risk reduction among accredited professionals in the construction sector.

## Five dimensions of resilience

Their initial research established a need to better understand current and emerging skills for built environment professionals that could contribute to enhancing societal resilience to disasters and the needs of key stakeholders involved in disaster resilience and management.

The underpinning research, undertaken as part of the EU funded CADRE grant, involved stakeholder interviews in Europe and Asia with: national and local government organisations; the community; non-governmental organisations; international non-governmental organisations and other international agencies; academia and research organisations; and the private sector. It explored the five dimensions of resilience: social, economic, institutional, environmental and technological.

## Knowledge requirements

The findings were used to establish thirteen key knowledge requirements including: governance, legal frameworks





and compliance; sustainability and resilience; business continuity management; ethics and human rights; disaster response; innovative financing mechanisms; contracts and procurement; resilience technologies, engineering and infrastructure; a multi-stakeholder approach, inclusion and empowerment; knowledge management; social and cultural awareness; post disaster project management and multi-hazard risk assessment.

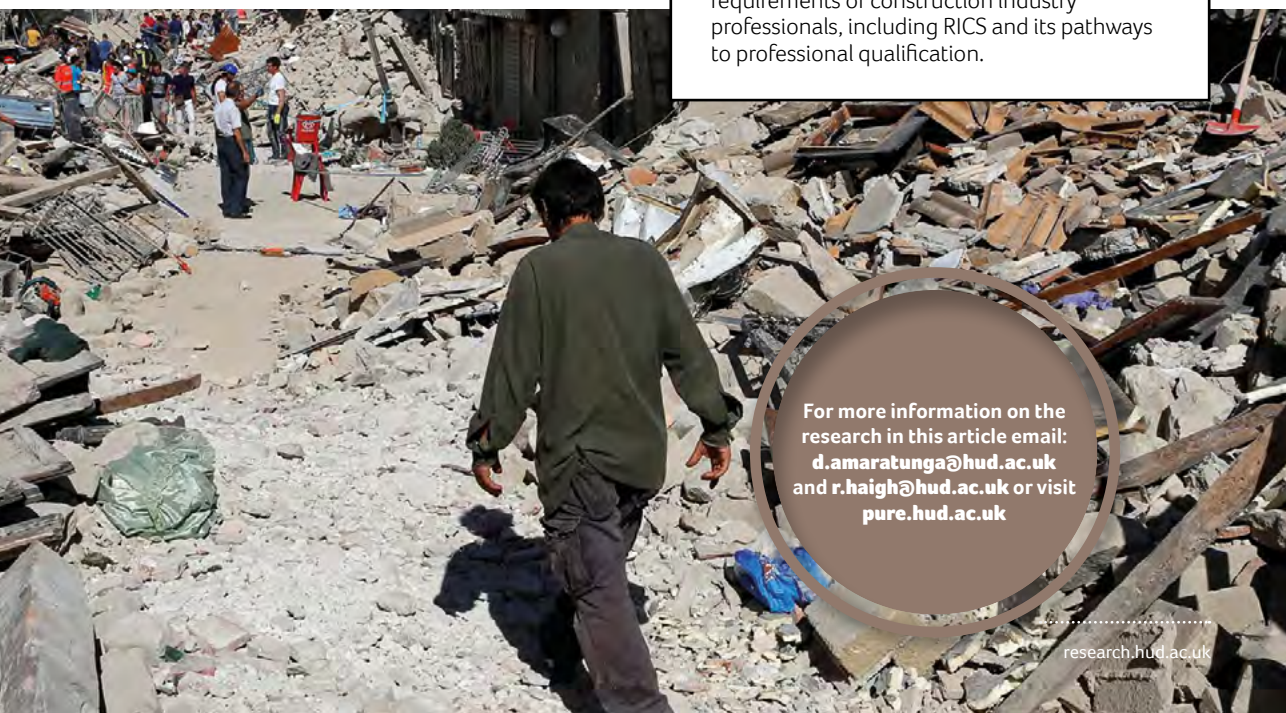
In addition, the study identified a series of recommendations or enablers for key actors in the built environment on how to more effectively mainstream disaster resilience in the construction process. These included the need to close the policy-science gap

through the development of more policy orientated guides for construction stakeholders; the recognition of disaster resilience through accreditation and the incorporation of disaster resilience in professional and ethical standards. They also recommended improving regulatory frameworks following large scale disasters; the education of construction professionals and the need to adopt a multi-stakeholder and multi-hazard approach.

### Research impact

The research has increased the understanding, awareness and attitudes of disaster risk reduction among accredited professionals in the construction sector. It has contributed globally through the UN in publications for city mayors and urban development guidelines, and in Sri Lanka with the Association of Disaster Risk Management Professionals of Sri Lanka. It has ensured that disaster risk reduction is incorporated into the Green Building Council of Sri Lanka's GREENSL® Rating System for Built Environment and has improved the knowledge of built environment professionals to address disaster risk.

Professor Amaratunga and Professor Haigh are currently working to incorporate disaster risk knowledge in formal and professional education and training through changes to policy associated with the competency requirements of construction industry professionals, including RICS and its pathways to professional qualification.



For more information on the research in this article email: [d.amaratunga@hud.ac.uk](mailto:d.amaratunga@hud.ac.uk) and [r.haigh@hud.ac.uk](mailto:r.haigh@hud.ac.uk) or visit [pure.hud.ac.uk](http://pure.hud.ac.uk)

# DISCOVER

2021



**Research with a global impact**

the people, discoveries and stories behind our research

*University of*  
**HUDDERSFIELD**  
Inspiring global professionals



# DISCOVER

2021

## Contents ▶▶

### Research with a global impact

- 04** Rising to the challenge of Covid-19
- 08** Using research and innovative technology to prevent domestic violence
- 12** Improving welfare support for professional rugby league players
- 14** Designing out crime
- 16** Mainstreaming of disaster risk reduction into the construction process
- 18** Empowering girls and women to work in music technology
- 20** De-stigmatising mental ill-health through creative arts practice
- 24** The social impact and business compliance requirements of expanding religious food markets
- 26** Digital re-engineering of railway safety systems
- 28** The changing landscape of television
- 30** Challenging the stereotypes of young people
- 32** Using AI technology to support ADHD diagnosis
- 34** New research from the University of Huddersfield Press



Using research and innovative technology to prevent domestic violence.  
**See page 8 ▶▶**



Rising to the challenge of COVID-19.  
**See pages 4-7 ▶▶**

To find out more about our research and to keep up to date with the latest research news, visit: [research.hud.ac.uk](https://research.hud.ac.uk)

To find out more about the researchers featured in Discover visit the University of Huddersfield Research Portal: [pure.hud.ac.uk](https://pure.hud.ac.uk)

You can also get involved with discussions around our research by joining our online community: [@weloveresearch](https://twitter.com/weloveresearch) [#hudresearch](https://twitter.com/hudresearch)