



Themed issue of the International Journal of Disaster Resilience in the Built Environment (IJDRBE)

## **“End-to-end tsunami early warning systems”** *in collaboration with* **IOC-UNESCO IOTWMS**

### **Guest Editor:**

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### **Background**

Experience over recent years of the impacts of tsunamis has shown that inadequate preparation for, and response to, emergency situations have contributed to widespread damage and the avoidable loss of lives and livelihoods. A 2015 United Nations (UN) report estimates that each year, an additional 60,000 people and \$4 billion (US\$) in assets are exposed to the threat of tsunami hazard. As demonstrated by the human and economic losses from the 2004 Indian Ocean and 2011 Tōhoku disasters, and recently, in Palu, Indonesia, tsunamis inflict death and damage through violent, powerful flooding along the world's coastline.

Despite significant progress and achievements in the development of regional warning systems in the Pacific and Indian Oceans, recent studies and practical experiences have highlighted limitations in detection and communication systems, and also inadequate awareness, planning and coordination. There is also a need to position the tsunami early warning systems and preparedness in the wider context of social change in the coastal societies and communities at risk, and for critical reflection of 'on-the-ground' experiences and lessons learnt.

This special issue is a joint initiative between the International Journal of Disaster Resilience in the Built Environment and the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS), which was formed in response to the tragic tsunami on December 26th 2004, in which over 230,000 lives were lost around the Indian Ocean region. It is hoped that the special issue will stimulate the development and sharing of new knowledge on tsunami detection, warning and dissemination, tsunami risk assessment and mitigation, community awareness and preparedness.

## Contents of the themed issue:

### Editorial:

Dias, P. (2020), "Guest editorial", **Early warning systems to reduce tsunami impacts**. <https://doi.org/10.1108/IJDRBE-04-2020-085>

### Research Papers:

Wijetunge, J. (2019), **"A multi-scenario assessment of the seismogenic tsunami hazard for Bangladesh"**, <https://doi.org/10.1108/IJDRBE-07-2019-0047>

Wickramaratne, S., Wirasinghe, S. and Ruwanpura, J. (2019), **"An update of proposed Sri Lanka warning system for east and west coast tsunamis"**, <https://doi.org/10.1108/IJDRBE-08-2019-0052>

Bennett, W. and Karunarathna, H. (2019), **"Coastal flood alleviation through management interventions under changing climate conditions"**, <https://doi.org/10.1108/IJDRBE-07-2019-0042>

Hanggara, D. and Wijeyewickrema, A. (2019), **"Vulnerability assessment of reinforced concrete buildings in Indonesia subjected to tsunami inundation forces"**, <https://doi.org/10.1108/IJDRBE-09-2019-0062>

Haigh, R., Sakalasuriya, M., Amaratunga, D., Basnayake, S., Hettige, S., Premalal, S. and Jayasinghe Arachchi, A. (2020), **"The upstream-downstream interface of Sri Lanka's tsunami early warning system"**, <https://doi.org/10.1108/IJDRBE-07-2019-0051>

Rahayu, H., Comfort, L., Haigh, R., Amaratunga, D. and Khoirunnisa, D. (2020), **"A study of people-centered early warning system in the face of near-field tsunami risk for Indonesian coastal cities"**, <https://doi.org/10.1108/IJDRBE-10-2019-0068>

Hamza, M. and Månsson, P. (2019), **"The human dimension of early warning : a viewpoint"**, <https://doi.org/10.1108/IJDRBE-07-2019-0040>

Rathnayake, D., Kularatne, D., Abeysinghe, S., Shehara, I., Fonseka, T., Edirisinghe Mudiyansele, S., Kamalathne, W., Siriwardana, C., Alagiyawanna Mohotti Appuhamilage, C. and Dissanayake, R. (2020), **"Barriers and enablers of coastal disaster resilience – lessons learned from tsunami in Sri Lanka"**, <https://doi.org/10.1108/IJDRBE-07-2019-0050>

Randil, C., Siriwardana, C. and Hewawasam, K. (2019), **"Framework to analyse Sri Lanka disaster management mechanism"**, <https://doi.org/10.1108/IJDRBE-07-2019-0044>

### **Free Access:**

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<https://www.emerald.com/insight/publication/issn/1759-5908/vol/11/iss/2>

### **Dedication to Late Professor Samantha Hettiarachchi**

This special issue is dedicated to Late Professor Samantha Hettiarachchi, Professor of Civil Engineering at the University of Moratuwa in Sri Lanka, and expert in coastal engineering and disaster risk reduction, who passed away in 2018. After the 2004 Indian Ocean Tsunami, Professor Hettiarachchi provided scientific leadership to the installation of the Indian Ocean Tsunami Warning & Mitigation System under the auspices of UNESCO, ending up as Vice-Chairman and Acting Chairman of its steering group.

### **International Journal of Disaster Resilience in the Built Environment (IJDRBE)**

The International Journal of Disaster Resilience in the Built Environment is edited by Professor Dilanthi Amaratunga and Professor Richard Haigh from the Global Disaster Resilience Centre at the University of Huddersfield, UK. The journal aims to further knowledge and understanding of the link between the built environment and disaster mitigation, response and reconstruction. This is a key journal in the field to promote research and scholarly activity that examines the role of building and construction to anticipate and respond to disasters that damage or destroy the built environment. Although the origins and causes of disasters are varied, the consequences to human society are frequently similar: extensive loss of life, particularly among vulnerable members of a community; economic losses, hindering development goals; destruction of the built and natural environment, increasing vulnerability; and, widespread disruption to local institutions and livelihoods, disempowering the local community.

The Journal is indexed in British Library, Construction and Building Abstracts, ICONDA - The International Construction Database, Business Source Premier (EBSCO), ABI INFORM Global (ProQuest), Cambridge Scientific Abstracts (ProQuest), INSPEC, SCOPUS and in Emerging Sources Citation Index (ESCI) by Clarivate Analytics (formerly ISI Thomson Reuters). **IJDRBE is also a top/best Q1 quartile ranked Journal.**

If you are keen to know more about the journal, editors can be contacted, as follows:

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Further details on the journal is available at: <http://www.emeraldgrouppublishing.com/ijdrbe.htm>