Achievements of Partners under the Making Cities Resilient Campaign
Reporting for the 2011-13 (March 2013) period

**Name of the reporting person:** Professor Dilanthi Amaratunga & Professor Richard Haigh
**Name of the organization:** Centre for Disaster Resilience, University of Salford
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<table>
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<tr>
<th>Outcome</th>
<th>Actions suggested by the Campaign Strategy 2010</th>
<th>Activities undertaken during 2011-2013</th>
<th>City/Local Government/s involved</th>
<th>Impact of the activities</th>
<th>Future/planned activities for 2013-2016</th>
</tr>
</thead>
</table>
| Raise the commitment for sustainable urbanization, which will reduce disaster risk for all spheres of government and contribute to all levels of decision-making | Organize roundtables and policy dialogues among national and local authorities (at national, regional and international forums), with the goal of create the political space for local actors. | **International Conference on Building Resilience**
Heritage Kandalama near Dambulla, Sri Lanka was the setting for a major international conference on the development of societal resilience to natural and human induced disasters. The International Conference on Building Resilience welcomed over 125 international and Sri Lankan academics, practitioners, professionals and policy makers concerned with interdisciplinary approaches to disaster risk reduction, and the development of sustainable communities and cities. The conference had a particular focus on the challenges associated with reconstruction of communities in a post-war environment. ([www.buildresilience.org](http://www.buildresilience.org)) | Several from Sri Lanka and overseas | • The conference outcomes are being used to support the 2010-2015 United Nations World Disaster Reduction campaign Making Cities Resilient
• Major findings of from the conference that were presented during the conference by leading
| Key findings:                                                                 |
|__________________________________________________________________________|
| **Community engagement**                                                   |
| • In contrast to many other stakeholders involved in disaster risk reduction, the community is typically not organised. As such, efforts must be made to rebalance this relationship. Communities need to be empowered through an organisation. |
| • Through greater consultation, participation, community building and empowerment, communities must be made resilient before facing a disaster, rather than trying to increase resilience post-disaster. |
| • Infrastructure reconstruction programmes have the potential to connect and divide communities. A community sensitive reconstruction process should be adopted to increase the development of the community’s assets, including physical, economic, human, institutional, natural, and social capital. |
| **Joined up for effective action**                                          |
| • There is a need to develop adaptive capacity to deal with the unknown and unexpected, moving from the planning phase to action. The plan must be flexible enough to allow and even facilitate creative and innovative action in appropriate circumstances. In doing so, it must overcome the tension between innovation, creativity, and following a plan. |
| • It is essential to provide the right actors with the right information, at the right time. In order to achieve this, it is necessary to establish what information is available and who is responsible. |
| • Protocols must be identified so that intelligent systems can be utilised, including simulation, scientists and practitioners were provided as a means to inform policy for national and local government, thereby helping to ensure that the conference results in positive action towards sustainable development and reduced disaster risk. |
Mainstreaming disaster risk reduction
- Decision makers must develop a common understanding of what resilience is – to absorb, adapt and thrive – and what it means in practice.
- Disaster management needs to be integrated within all sectors and not just focused through a single government unit. This might be achieved through a coordinating Ministry, but also by mainstreaming disaster risk reduction throughout other government activity.
- Disaster risk reduction must be incorporated into national development policy and practice.
- Legislation frameworks must reinforce policies. Otherwise, policies are unlikely to yield tangible differences in practice.
- If disaster risk reduction is to be mainstreamed effectively, prioritisation of emphasis and effort will be vital.

**Partnership with UNESCO Coastal Hazard Management Commission**
CDR has a strategic partnership with UNESCO Coastal Hazard Management Commission and facilitated the following sessions:

**Event:** Training Workshop on Coastal Hazard Assessment: Applications in Risk Assessment, Management and Mitigation (CHARM)

**Organised by:** UNESCO/IOC ICG/IOTWS Secretariat, Perth with University of Moratuwa, Sri Lanka

**Dates:** 19/20/21/22 March 2013, Mount Lavinia Hotel, Sri Lanka

- Development of resources to enhance professional practice on social dimensions of vulnerability and promoting the concept of resilience cities emphasizing the importance of incorporating
The Training Workshop including Lectures and Training Exercises and CDR will provide input to the following sessions:

- Social dimensions of vulnerability
- Resilient cities - Making disaster risk reduction a reality
- Training session: Concept of stakeholders in disaster risk reduction and management (supplemented by a stakeholder mapping exercise)

them in city development planning .
- Influence on professional standards on stakeholder mapping
- Provision of guidelines on promoting risk reduction at city level
- Training on identifying stakeholders, understand their relationship to the intervention and their needs, Map and prioritise stakeholders, and Select an engagement strategy for each stakeholder, by building and implementing an effective communication plan based on the stakeholder’s
| ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development) 1st conference |  
|---|---|
| • Awareness raising locally, nationally and internationally |  

| supportiveness and receptiveness  
• Encourage the use of research findings on social dimensions of vulnerability towards the conduct of professional work and practice  
• Stimulation of practitioner debate on concepts such as vulnerability, promoting disaster resilient cities and the importance of identification of stakeholders in the disaster risk reduction process |  

| Awareness raising locally, nationally and internationally |  

The first annual ANDROID conference was held in
Tallinn, Estonia between 17th and 19th October. The conference was hosted by the Tallinn University of Technology and chaired by Professor Irene Lill. The event was held at the historic Teachers' House (Õpetajate Maja), which stands on Town Hall Square, right in the centre of the city’s Old Town.

The event was the first meeting of all the partner institutions. Over 60 attendees from across Europe, as well as our partner from Australia, attended the event. The programme included a detailed introduction to the 3 year work plan. A key feature of the conference was a keynote address by Helena Valdes entitled “Making Cities Resilient: My City is Getting Ready”.


| ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development) doctoral school | • Dissemination of best practice  
• Influence on professional standards, guidelines or training  
• Use of research findings in the conduct of professional work or practice. |
| --- | --- |
| The ANDROID doctoral school aims to transfer knowledge and develop the knowledge base of doctoral candidates. This ANDROID disaster resilience network doctoral school consists of two programmes:  
1. Online Doctoral School (ODS) and  
2. Residential Doctoral School (RDS) | Medium to long term capacity building |
| The objective of the ODS is to transfer knowledge and develop the knowledge base of doctoral candidates. This is achieved through the conduct of series of domain expert presentations along with detailed discussion sessions aimed at engaging the participants in knowledge |
discovery through detailed discussion. A panel of experts in disaster management and resilience will lead the discussion. The ODS will be a two day workshop conducted online on 19 & 20 March 2013. Refer the ODS programme schedule or the ANDROID web site for further details. The first school will be a two day workshop conducted online on 19 & 20 March 2013.

These events have been widely publicised via the resilient cities web site and associated mailing lists, and is open to participation by stakeholders associated with the campaign.

**Residential Doctoral School (RDS)**

The RDS programme aims to actively engage the participants in presenting and discussing their doctoral research projects. It involves each candidate submitting a research paper (which will be double-blind peer reviewed) and making a short presentation of it to a panel of experts at the residential workshop. Detailed discussion providing valuable independent feedback will follow each of the presentations. The papers submitted to the RDS by the doctoral candidates will form into an edited published doctoral proceeding. The RDS programme will include keynote presentations from renowned experts and other activities such as excursions to disaster sites or other relevant activity.

The RDS will be a two-day residential workshop conducted in Cyprus on 23rd and 24th October 2013. There are 15 scholarships of €750 each available for selected successful candidates who attend the RDS programme to cover expenses incurred against the programme (subject to selection criteria and ANDROID Network membership). These scholarships will also be widely publicised via the resilient cities web site and
associated mailing lists, and is open to participation by campaign associated stakeholders.

Further details of ANDROID Doctoral school within which the Resilient Cities Campaign/UNISDR is a partner can be seen by visiting: [http://www.disaster-resilience.net/index.php/doctoral-workshops](http://www.disaster-resilience.net/index.php/doctoral-workshops)

<table>
<thead>
<tr>
<th>Build partnerships between local and national authorities, along with local actors, civil society groups, academia and expert organizations</th>
<th>Create lasting collaboration between stakeholders in a “local government alliance for disaster risk reduction” and through regional task forces and platforms.</th>
<th>Various</th>
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<tbody>
<tr>
<td><strong>Partners in the national launch of the Making Cities Resilient campaign in Sri Lanka</strong></td>
<td>The International Conference on Building Resilience 2011 (<a href="http://www.buildresilience.org">www.buildresilience.org</a>) was held in association with the National Launch of the United Nations International Strategy for Disaster Reduction (ISDR) Making Cities Resilient Campaign. The Ministry of Disaster Management and the Disaster Management Centre led the national launch in partnership with Ministry of Local Government, University of Salford UK, Practical Action, UNDP Sri Lanka and UNISDR. The launch provided an appropriate backdrop for a policy, academic and practitioner audience to explore how they may support the campaign's goal: to help cities and local governments to get ready, reduce the risks and become resilient to disasters.</td>
<td>• increase the knowledge and awareness of urban risk issues and solutions, as well as the role of local governments in addressing disaster risk at all levels&lt;br&gt;• raise the political profile of disaster risk reduction for local governments and local governance</td>
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<tr>
<td><strong>The launch of the Campaign aimed to:</strong>&lt;br&gt;• To increase the knowledge and awareness of urban risk issues and solutions, as well as the role of local governments in addressing disaster risk at all levels (communication drive, adaptable to local needs and languages)</td>
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<tr>
<td>Working with local authorities</td>
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<td>Through strong commitment for implementation of disaster risk reduction policies, Centre for Disaster Resilience (CDR) is:</td>
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<td>• Working closely with the local authorities in committing to disaster risk reduction through for example, programmes associated with capacity building</td>
<td>Long term capacity building</td>
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<td>• Collaborating in applied research projects on risk management and reduction in local government environments;</td>
<td>Development of resources to enhance professional practice.</td>
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<td>• Making its expertise available to local governments and the public at large;</td>
<td>Integration of DRR concepts in city development planning</td>
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<tr>
<td>• Adapting the science agenda to emphasise this paramount research topic and advance the state-of-the-art in risk reduction;</td>
<td>Local government buy in of DRR concepts</td>
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<tr>
<td>• Making risk knowledge, assessments and risk reduction part of the university curricula for urban planners, architects, engineers,</td>
<td>Adopting and supporting the scientific</td>
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geographers and similar disciplines, as well as a cross disciplinary subject.

Further, Salford actively took part in the local government nominations process and is already working with “Batticaloa District” in Eastern Sri Lanka, in respect of a nomination for “Resilient City Participant” status. The District was severely affected due to the 2004 Tsunami and by the country’s 30 year long civil war. Salford University is working very closely with the Batticaloa District’s local government & a range of national and international partners towards improvement in the ten steps for city resilience.

CDR also has a strategic partnership with Federation of Local Authorities Sri Lanka and is planning several activities to be held in 2013. Leading up to this, CDR and the Federation has worked on the following initiatives:

- Project entitled Collaborative Action towards Societal Challenges through Awareness, Development, and Education. This aims to: compile a regional position paper that identifies global challenges and research priorities; map and develop an inventory of national and regional stakeholders related to global challenges; and, raise awareness on research & innovation priorities for fostering cooperation and towards building mutual understanding on how to address common global societal challenges

- Another project to address current and emerging labour market demands in the construction industry to increase societal resilience to disasters. The proposed work plan will improve the quality and relevance of higher education through active cooperation between Higher...
Education Institutes and partners from outside academia, including construction professional bodies, local/national/international bodies and social partners.

Policy briefing in Melbourne, Australia
There was a policy briefing forum entitled Research needs for disaster resilience and development, organised by the EU Unit at RMIT University, Melbourne, Australia in November 2012. The policy briefing enabled EU and Australian researchers and policy makers with expertise in urban planning, community development, stakeholder engagement and disaster resilience to identify research needs for disaster resilience & development.

There is increasing recognition that emergency and disaster preparedness will not be effective without the engagement of vulnerable communities. The prime component is to involve the vulnerable community in the mitigation and preparedness process. Building their capacities in coping mechanisms and their involvement creates confidence among them and paves the way for a self-reliant community. Research needs in the field of community engagement will be examined as a way to reduce vulnerability to disruptive challenges, build community identity and encourage social cohesion. Strengthening community resilience is the core of current Australian national policy detailed in the National Strategy for Disaster Resilience (February 2011), which embraces four principles:

- Why disaster resilience in the Australian setting and what does a disaster resilient community look like?
- Disaster risk reduction, communication and behaviour
- Community resilience

Various in Australia
- Policy Options and Research Needs for Disasters and its reduction: Creating Disaster Resilient Cities
- Research needs for disasters and development: Interdisciplinary working to increase societal resilience to disasters
- provide a framework to help identify information, policy and research needs
### Infrastructure resilience

**What are the main policy messages?**

- Adopt a policy to make disaster risk reduction a local priority with strong institutional commitment, decentralize and delegate responsibilities;
- Conduct risk assessments and integrate the outcome in the city and urban planning;
- Use knowledge, both scientific and local, in disaster risk reduction practices and ensure that local capacities are enhanced and valued;
- Integrate disaster risk reduction in the city development plans. Integration of DRR philosophies within urban settings can be done at different levels. Starting from the policy and planning strategies, they can be extended to physical/technical strategies, emergency preparedness strategies, natural protection strategies and knowledge management strategies;
- Strengthen disaster preparedness, response, rehabilitation and recovery plans and practice;
- Take a decision to actively participate in national, regional and international networking and sharing of experience for resilient cities.

### Support towards Ministry of Disaster Management, Sri Lanka

The Centre for Disaster Resilience, University of Salford, UK is offering its support to the Ministry of Disaster Management with a view to incorporating the conference outcomes in the local government joint action plan to tackle hazard risk in Sri Lanka, which was launched in

| Large number of cities and councils in Sri Lanka | • achieve key priority actions  
• awareness raising  
• Acceptance of research |  |
July 2011. The plan identifies key priority activities that follow the 'Ten Essentials' of the 'Making Cities Resilient' campaign. The action plan will be implemented in coordination with the Ministry of Disaster Management and the Ministry of Local Government & Provincial Council. This is to convene platforms or task forces for collaboration in the regions of Sri Lanka.

As part of this action plan, together with the Ministry of Disaster Management, CDR facilitated the following events in 2012:

Resilient City Programme, Sri Lanka - Disaster Risk Management Training Program for Local Government Councils, 8th and 9th March 2012 in Batticaloa. Participants included – Representatives from Mannar UC, Eravur UC and Batticaloa MC, District DMC Assistant Directors, Resource Persons and Facilitators

CDR facilitated the following sessions:

- Ten-point checklist - essentials for making cities resilient
- Integrate disaster risk reduction in the city development plan
- Reconstructing infrastructure in the North and East: opportunities and challenges

Lack of disaster risk reduction initiatives within post-disaster reconstruction result in major failures in reconstruction projects, subjecting them to high vulnerabilities. Moreover, the concept of disaster risk reduction has the potential of creating developmental benefits. This presentation explored the level of importance and level of integration of the concept of disaster risk reduction within the infrastructure reconstruction sector. Whilst revealing the different levels at which the concept of disaster risk reduction can be
applied within the infrastructure reconstruction sector, the research identified gaps between incorporating the concept of disaster risk reduction within the national and intermediate-organisational level policies and the actual practise of disaster risk reduction at the infrastructure reconstruction project level.

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<tr>
<th><strong>ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development)</strong></th>
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<tbody>
<tr>
<td><strong>Title:</strong> ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development)</td>
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<tr>
<td><strong>Commencement:</strong> October 2011</td>
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<tr>
<td><strong>Lead partner:</strong> Centre for Disaster Resilience, University of Salford, UK</td>
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<tr>
<td><strong>Partnership:</strong> 64 European Institutions and 3 Third Country (non-EU) Institutions</td>
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<td><strong>Value:</strong> Approximately Euro 850,000.00</td>
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**Aim**

ANDROID aims to promote co-operation and innovation among European Higher education institutions (HE) to increase society’s resilience to disasters of human and natural origin. The network’s teaching and research is concerned with what resilience is, what it means to society, and how societies might achieve greater resilience in the face of increasing threats from natural and human induced hazards. The network will create a European approach that will help us understand the attributes that enable physical, socio-cultural, politico-economic and natural systems to adapt, by resistance or changing in order to reach and maintain an acceptable level of functioning. The network will also raise awareness and promote a common understanding among stakeholders of the importance of disaster resilience education and the essential role of European HEIs in improving society’s ability increase disaster resilience.

- Promote discourse among European applied, human, social and natural scientists to, pool their results and findings, discuss methods and develop interdisciplinary explanations that increase society’s resilience to disasters;
- Describe, analyse, and compare the capacity of European cities and HE to address disaster risk, and thereby
UNISDR is a key partner of the ANDROID project.

**Rationale**

The ANDROID network brings together a consortium of inter-disciplinary scientists and inter-sectorial partners based at European HEIs and International Organisations with the goal of increasing society’s resilience to disasters of human and natural origin. The term resilience has been widely adopted in research, policy and practice to describe the way in which they would like to reduce society’s susceptibility to the threat posed by hazards. Resilience has also been used freely across a range of academic disciplines, including materials, ecology, economics and sociology. Despite this, the complex nature of disasters has led to recognition that risk reduction through increased resilience will require a strategy that is inter-disciplinary. True inter-disciplinarity only occurs where a number of separate disciplines surrender their own concepts and goals, and collectively define themselves by reference to a common set of strategic concepts and goals.

There is also widespread agreement within the literature that addressing disaster risk is an endless or continuous process that cannot stop. Early examples such as comprehensive emergency management were criticised for their excessive focus on hazards at the expense of broader contextual factors and simplistic phases that do not include a sufficient breadth of activities and supporting expertise. There is now recognition of the need for multi-actor engagement that places greater emphasis on the development of resilience, and the link between risk reduction and sustainable development. The process of reducing society’s susceptibility to disaster is thus commonly visualised as a two-phase cycle, with post-disaster recovery informing pre-disaster risk reduction, and vice versa. Although usually represented as discrete

| reinforce the link between education and society; |
| Build the capacity of HE to address emerging challenges in disaster resilience, strengthen the link between research and teaching, and inform policy development. |
| Development of resources to enhance professional practice. |
stages, there is now a strong view that these stages are inter-connected, overlapping and multidimensional. The significance of this concept is its ability to promote a holistic approach to increased resilience.

ANDROID is based on an inter-disciplinary consortium of partners that comprises scientists from applied, human, social and natural disciplines. These partners from across HE have complementary skills, expertise and competences to identify and understand the varied attributes of resilience that underpin the capability and capacity of a community to cope with the threat posed by natural and human hazards. The consortium also has major International Organisations as partners, including the UNISDR, and a Stakeholder Advisory Board. These partners offer strong inter-sectorial linkages and will assist the network in becoming a reliable partner as stakeholders seek to reduce society’s vulnerability to hazards. In recognition of the global impact of disasters and the complex nature of their causes, which frequently require international action to address them, the consortium also includes three partners from third countries, who will contribute specific scientific expertise.

*Contribution towards the making cities resilient campaign*

UNISDR is a partner of this network. The project team will ensure that ANDROID has a sustained impact on the target groups and achieves its intended outcomes. They will also ensure that the network’s output is put to good use. In line with the network’s scope – to enhance societal resilience to disasters – they will also exploit the network to meet national economic and public service objectives. Target groups of ANDROID include policy makers, local authorities and other linked stakeholders. A Stakeholder Board will be appointed to assist the network in realising
The team will attempt to identify and exploit the network partners’ and stakeholder board’s relationship capital to extend ANDROID’s reach and impact, and ensure that the network’s activities and outputs are accessible to relevant target groups. For example, a dedicated seminar series to disseminate the European Roadmap for disaster resilience education in disaster resilience, targeted at public administrators and other stakeholders engaged in increased societal resilience is to be organised in conjunction with UNISDR, with a view to transferring knowledge and impacting policy. The table overleaf provides a summary of the network’s links with the campaign.

<table>
<thead>
<tr>
<th>Raise awareness of disaster risk and inform people how local governments and citizens can reduce risks as part of their development planning, building safer schools and hospitals and strengthening local government services</th>
<th>Organize public meetings, begin dialogues, promote drills and local events, hold high-profile events and involve the media, pledge to safer schools and hospitals (web pledging system) and plan other public awareness activities</th>
<th>International Conference on Building Resilience Interdisciplinary approaches to disaster risk reduction, and the development of sustainable communities and cities, 19th – 21st July, 2011 – Kandalama, Sri Lanka</th>
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<td>Heritance Kandalama near Dambulla, Sri Lanka was the setting for a major international conference on the development of societal resilience to natural and human induced disasters. The International Conference on Building Resilience welcomed over 125 international and Sri Lankan academics, practitioners, professionals and policy makers concerned with interdisciplinary approaches to disaster risk reduction, and the development of sustainable communities and cities. The conference had a particular focus on the challenges associated with reconstruction of communities in a post-war environment.</td>
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**Key note speeches and sessions linked to the Campaign**

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<th>CDR’s members continuously make reference to the</th>
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<td>• Awareness raising locally, nationally and internationally</td>
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<tr>
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<tr>
<td>Various international</td>
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<td>• Better awareness raising.</td>
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campaign during related key note speeches, workshops and other events. Examples are given below:


- Session on Rebuilding for Resilience: Post-Disaster Reconstruction of the Built Environment, Breaking the Mould Conference, Durham University Humanitarian Aid and Empowering Local Communities, 1st - 3rd August, 2012, Durham University, Calman Learning Centre, Durham.


- Creating Disaster Resilient Cities, Breaking the Mould international conference, Durham University Humanitarian Aid and Empowering Local Communities, 1st - 3rd August, 2012, Durham University, Calman Learning Centre, Durham.

- Rebuilding for Resilience, The Ceylon Institute of Builders (CIOB), International Council for Research and Innovation in Building and Construction (CIB) and Building Economics and Management Research Unit (BEMRU) jointly

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<th>audienc es</th>
<th>locally, nationally and internationally</th>
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<td></td>
<td>• Stimulation of practitioner debate</td>
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- Key note speech titled “Post-Disaster Reconstruction of the Built Environment: Rebuilding for Resilience”, International Conference on Global Environmental Change – Challenges & Innovations, Chennai, India, February 2012, organised by University of Madras, India
- Keynote address: "Disaster Resilient Built Environment: A Community Based Disaster Risk Reduction Approach", Patuakhali Science and Technology University, Patuakhali, Bangladesh, September 2011
- Session lead: "Community Based Disaster Risk Reduction: Examples from Post Disaster Reconstruction", Patuakhali Science and Technology University, Patuakhali, Bangladesh, September 2011

• Speech and presentation on “Multi University Consortium for Building Resilience” National Disaster Management Coordination Committee Meeting. Disaster Management Centre, 27th July 2011, Colombo, Sri Lanka

• 2010, Keynote address on “Developing a resilient built environment”, at International Conference on Sustainable Built Environment, Kandy, Sri Lanka.

• Session lead, International Conference on Sustainable Built Environment, Kandy, Sri Lanka, December 2010.

• Session lead “Emergency Preparedness” - Annual International Conference on Disaster Management, organized by the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), USA, in collaboration with American Society of Civil Engineers (ASCE), USA, November 2010

• Speech and presentation on Socio-economic conditions in post conflict reconstruction, Annual International Conference on Disaster Management, organized by the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), USA, in collaboration with American Society of Civil Engineers
<table>
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<tr>
<th>Event</th>
<th>Details</th>
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<tr>
<td>Key note speech on “A Resilient City – A myth or a reality?”</td>
<td>The Royal Institution of Chartered Surveyors (RICS) Annual Research Conference on Building and Construction (COBRA), Dauphine Université Paris, France, on 2-3 September 2010</td>
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<tr>
<td>International Panel Discussion on &quot;Built Environment Education Trends&quot;. International Research Conference on Sustainability in Built Environment, The Commonwealth Association of Surveying and Land Economy (CASLE) UK and Building Economics and Management Research Unit (BEMRU), Department of Building Economics, University of Moratuwa, Sri Lanka, June 2010</td>
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<tr>
<td>Session chair on “Disaster Management”. International Research Conference on Sustainability in Built Environment, The Commonwealth Association of Surveying and Land Economy (CASLE) UK and Building Economics and Management Research Unit (BEMRU), Department of Building Economics, University of Moratuwa, Sri Lanka, June 2010</td>
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<td>Workshop session leader, &quot;Capacity Development for a Resilient Built Environment&quot;, United Nations Development Programme</td>
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• Workshop Session Lead (with Richard Haigh), Making Batticaloa a Resilient City: 2010-2011 World Disaster Reduction Campaign, United Nations Development Programme (UNDP) National Training Workshop on Disaster Risk Assessment and Management for the Coastal Zone of Sri Lanka: Developing a knowledge base on Hazards, Vulnerabilities and Capacities for Disaster Risk Reduction, Kandy, Sri Lanka, June 2010.

• Speech titled Evaluation of disaster risk reduction practices and vulnerabilities of infrastructure reconstruction at the International Research Conference on Sustainability, The Commonwealth Association of Surveying and Land Economy (CASLE) and Building Economics and Management Research Unit (BEMRU), Department of Building Economics, University of Moratuwa, Sri Lanka, June 2010

• Session chair, Workshop on Capacity Development for Disaster Risk Reduction in the
• Invited speech on "environmental disaster risk reduction and capacity development", Department of Civil and Environmental Engineering, RMIT University, Melbourne, Australia, March 2010

• Invited speech on "Disaster risk reduction and capacity development", Faculty of Built Environment and Engineering, Queensland University of Technology, Brisbane, Australia, March 2010

• Session on Disaster "risk reduction and the built environment", Department of Civil Engineering, University of Melbourne, Melbourne, Australia, March 2010

• Session on "social impact of reconstruction", Centre for Refugee Studies, York University, Toronto, Canada

• Session lead at the Mini-Symposium Organized by the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), Schulich School of Engineering, University of Calgary, February, 2010. Title of the symposium "Best Practices for Disaster Management". Title of the session "Risk Management for Community Based Post Disaster Reconstruction"

• Session on disasters and the built environment, Eastern University of Sri Lanka, Batticaloa, Sri Lanka, November 2009.

• Session lead - disaster management applications

- 2008 (November), Led a workshop in Colombo, Sri Lanka, organised by the Chamber of the Construction Industry Sri Lanka, which examined how we can increase the resilience of communities by developing the capacity to learn from past disasters and enable better future protection through risk reduction measures, and effective sustainable reconstruction following a disaster. The workshop was entitled Reducing Risk through Post-Disaster Reconstruction, and involved approximately 90 industrialists, academics and politicians from Sri Lanka.

### Conference presentations

There were numerous presentations with links to the Resilient Cities campaign made at international conferences by the CDR members:

- A paper on “Creating Disaster Resilient Cities”, at Breaking the Mould international conference, Humanitarian Aid and Empowering Local Communities, 1st - 3rd August, 2012, Durham University, Calman Learning Centre, Durham, UK.
- Challenges in Managing Housing Needs in Post-Conflict Housing Reconstruction, Towards a research partnership in disaster management and resilience symposium, RMIT University, Australia, November 2012.
- Conflict Prevention through Infrastructure Reconstruction, Towards a research partnership in disaster management and resilience symposium, RMIT University, Australia, November 2012.
- Critical Success Factors for Community-Based

### Additional Points

- Better awareness raising, locally, nationally and internationally
- Influence on professional standards, guidelines or training
- Use of research findings in the conduct of professional work or practice.
| Post-disaster Housing Reconstruction Project (CPHRP) in Pre-Construction stage in Indonesia, 6th International Conference on the Built Environment in Developing Countries – Fragmented futures: the built environment in a volatile world, School of Natural and Built Environments, University of South Australia, Adelaide, Australia, 4 – 5 December 2012.  
• Socio-economic and spatial aspects in post disaster resettlement programmes, 6th International Conference on the Built Environment in Developing Countries – Fragmented futures: the built environment in a volatile world, School of Natural and Built Environments, University of South Australia, Adelaide, Australia, 4 – 5 December 2012.  
• The capability of spatial analysis in planning the accessibility for hazard community from debris-flow events, International Conference on Disaster Management, The 8th Annual International Conference of the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), Department of Civil and Environmental Engineering, Kumamoto University, Kumamoto, Japan, August 2012  
• Post-Disaster Road Reconstruction in Aceh - Local Governments’ Role in Road Maintenance, International Conference on Disaster Management, The 8th Annual International Conference of the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), Department of Civil and Environmental Engineering, Kumamoto University, Kumamoto, Japan.  
• Post-disaster construction & demolition waste management: the case of COWAM project in the city of Galle, Sri Lanka. 6th International | • Stimulation of practitioner debate |
conference and workshop on the Built Environment in Developing Countries (ICBEDC), 4-5 Dec. 2012, University of South Australia, Adelaide, Australia

- Approaches for capacity building for disaster waste management. 2nd International conference on sustainable built environment, 14th -16th Dec.2012, University of Paradeniya : Sri Lanka

- Disaster Risk Reduction Measures in Bangladesh, CIOB World Construction Conference 2012, 28th - 30th June 2012, Colombo, Sri Lanka


- Managing Disaster Knowledge: Identification of Knowledge Factors and Challenges, in International Conference on Structural Engineering, Construction and Management (ICSECM), 15th to 17th December 2012, Kandy, Sri Lanka

- People’s perception of climate change vulnerability and adaptation: Chila union, Mongla upazila, Bagerhat district, Bangladesh, in International Conference on Structural Engineering, Construction and Management (ICSECM), 15th to 17th December, Kandy, Sri Lanka ISBN: 9-772235-968004

Other conferences attended by CDR where Making cities Resilient Campaign was a feature:

- CIB World Congress, Salford Quays, Salford, UK, May 2010
<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Organiser</th>
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<tbody>
<tr>
<td>Partner, International Open Science Conference: Global Environmental Change Innovations and Challenges, 21-24 February 2012, Chennai, India</td>
<td>India</td>
<td>University of Madras, India</td>
</tr>
<tr>
<td>Member of the organising committee, International Conference on Structural Engineering, Construction and Management, 16-18 December 2011, Kandy, Sri Lanka</td>
<td>Sri Lanka</td>
<td>Universities of Peradeniya and Moratuwa, Sri Lanka and University of Melbourne, Australia</td>
</tr>
<tr>
<td>International Conference on Sustainable Built Environment (ICSBE), 13th and 14th December 2010, Faculty of Engineering, University of Peradeniya and Earl's Regency, Kandy, Sri Lanka</td>
<td>Sri Lanka</td>
<td>University of Peradeniya, University of Peradeniya and Earl's Regency, Kandy, Sri Lanka</td>
</tr>
<tr>
<td>Member of the conference organisation committee, The Royal Institution of Chartered Surveyors (RICS) Annual International Conference (COBRA) 2010, Disaster Management stream, Dauphine Université Paris, France, on 2-3 September 2010</td>
<td>France</td>
<td>Dauphine Université Paris, France</td>
</tr>
<tr>
<td>Member of the conference organising committee, International Institute for Infrastructure Renewal &amp; Reconstruction international conference, University of Hawaii, USA. (to be held in September 2010)</td>
<td>USA</td>
<td>University of Hawaii, USA</td>
</tr>
<tr>
<td>Dealing with Disasters International Conference 2012 Mobilities and Disasters - Developing a Mobilities Social Science Perspective on the Analysis of Disaster, November 2012. Organised by Northumbria University and University of</td>
<td>UK</td>
<td>Northumbria University and University of</td>
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Hull.

- International Open Science Conference: Global Environmental Change Innovations and Challenges, Chennai, INDIA, organised by University of Madras, India, 21-24 February 2012.


- 37th Annual conference of the Australasian Universities Building Educators Association (AUBEA), hosted by the Construction Management and Property Program at The University of New South Wales, Australia from 4 to 6 July, 2012.

- CIB W070, W092 & TG72 International Conference 2012, University of Cape Town, South Africa, January 2012.

- Joint CIB W70 and W92 International Conference on Facilities Management and Procurement Systems: "Delivering Value to the Community", to take place at the Graduate School of Business, Breakwater Campus of the University of Cape Town, V&A Waterfront, Cape Town, South Africa, on 23rd - 25th January 2012.
Disaster Management and Resilience Symposium – RMIT University, Australia and Centre for Disaster Resilience, University of Salford, UK

RMIT and the University of Salford Centre for Disaster Resilience Presented a one-day Symposium: Disaster Management and Resilience

International research linkages are increasingly becoming important in securing competitive grants and demonstrating global impact. This one-day research symposium enabled the sharing of disaster and resilience research undertaken by RMIT University and the University of Salford’s Centre for Disaster Resilience and is an opportunity to develop a strong research partnership between our institutions.

Papers presented on

- Disasters, complexity and urban resilience
- The Buddha’s last words: Some preliminary thoughts on energy, simplicity and the resilience of urban systems
- Participatory neighbourhood models for bushfire preparedness
- Adaptive capacity of a disaster management sector
- The ‘black swan’ effect of disasters on property values
- EU disaster management partnerships in the Asia Pacific
- Virtual worlds and emergency communication
- Communicating for resilience
- The Case for a Community Resilience Case Study Library
- Community Consultation for Long-term Disaster Resilient Housing
- Mine Clearance in Vietnam

- Better awareness raising, locally, nationally and internationally
- Influence on professional standards, guidelines or training
- Use of research findings in the conduct of professional work or practice.
- Stimulation of practitioner debate
<table>
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<tr>
<th>Special disaster management session at the 6th International Conference and Workshop on the Built Environment in Developing Countries</th>
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<tr>
<td>The University of South Australia hosted the 6th International Conference and Workshop on the Built Environment in Developing Countries (ICBEDC-2012) Fragmented Futures: the built environment in a volatile world in Adelaide, South Australia in December 2012 (<a href="http://www.plevin.com.au/icbedc2012/index.html">http://www.plevin.com.au/icbedc2012/index.html</a>) There was a special theme on disaster management with input from the Centre for Disaster Resilience and a Best Paper award that was published and presented at the...</td>
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<tr>
<th>• Conflict prevention through infrastructure reconstruction</th>
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<tr>
<td>• Communication, social networks and bushfire preparedness</td>
</tr>
<tr>
<td>• The Sociology of Social Media and Disasters: the Brisbane Floods 2011</td>
</tr>
<tr>
<td>• Broken But Still Beating: Music Video Responses to the Christchurch Earthquake Disaster</td>
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<tr>
<td>• Informal Communication in Disaster Response</td>
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<tr>
<td>• An Evaluation Tool for Assessing Disaster Resilience in Shelter in the Asia-Pacific Region</td>
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</table>

Salford team presented the following research, which had direct links to DRR promotion within cities and local authorities:

| Challenges in managing housing needs in post conflict housing reconstruction |
| Conflict prevention through infrastructure reconstruction |

The European Union Centre at RMIT organised this event.
CDR members Dr Kaushal Keraminiyage and Dr Chaminda Pathirage presented the following research:
- Critical success factors for community-based post-disaster housing reconstruction project (CPHRP) in pre-construction stage in Indonesia (This paper received the Best Paper Award).
- Socio-economic and spatial aspects in post disaster resettlement programmes

If further details are needed on the above research, please contact the Centre for Disaster Resilience (CDR).

| Increase knowledge and improve access to tools, technology and capacity development opportunities for local governments and local actors | In collaboration with researchers, practitioners, training centers and role-model cities, develop a “Hyogo Framework” for local authorities by providing city-to-city learning, training, technical cooperation and guidance on how to implement specific areas of the HFA locally | Survey of perceptions of the campaign’s ten point criteria
The International Conference on Building Resilience: Interdisciplinary approaches to disaster risk reduction, and the development of sustainable communities and cities, represented an opportunity to gain some feedback in relation to the campaign’s ten point criteria for reducing disaster risk, as well as to get some early input from local government as to their capacity in these areas. Based on the details of how cities can get involved in the campaign, including the 10 point checklist that cities are expected to work toward and the set of questions relating to the criteria that was prepared as a self-evaluation questionnaire, a study was undertaken to explore whether these criteria sufficiently capture and prioritise the breadth of issues that need to be addressed in order to develop resilience, as well as understand in which areas local government feel they are inadequate. This looked very suitable regarding the actions that should / are being taken and people's views regarding | Various | Self evaluation of the 10 point check list by the cities
- Better awareness raising, locally, nationally and internationally
- Influence on professional standards, guidelines or training
- Stimulation of practitioner debate |
Accordingly, the simpler 10-point approach was used as a sort of questionnaire in giving a very credible foundation. These were combined with some questions regarding perspectives on longer term contextual trends.

As a baseline, the Delphi approach was used with the conference delegates and a parallel postal questionnaire for the local Government representatives, the results of which were used to discuss the issues face to face with them in July 2011, during the conference.

Professor Peter Barrett led this study. The main findings of this survey were presented as a key note speech by Professor Peter Barrett (title of the speech: “Disaster Management: Working with Rocks and Levers”) at the International Conference on Building Resilience, held from 19th – 21st July, 2011 at Kandalama, Sri Lanka.

### Capacity development project

This initiative focused upon how to meet the requirements of affected communities and manage mitigation and reconstruction activities effectively, efficiently and sustainably. The destruction caused by recent natural and human-induced disasters has highlighted the susceptibility of the built environment and its vulnerability to hazards. Due to its linkages with other sectors, the destruction of the built environment by disasters hinders the regular functioning of any social and economic context. It is suggested that in the longer term, improved governance, policies, planning, management and capacity-building can provide the framework for better access by households and local communities to the professional expertise and knowledge within business, local government and civil society. In doing so, it will help communities to reduce their risk to natural disasters, and build their properties, villages and neighbourhoods to withstand the threat posed by hazards, when they cannot

<table>
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<tr>
<td>The framework identifies four stages of capacity development: analysis; creation; utilisation; and retention. The four stages of capacity development are mapped against major stakeholder groups that are involved in disaster risk reduction activities. The categorisation of stakeholder groups within this study is at high level and</td>
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be avoided.

In this context, a capacity development framework has been developed with the aim of strengthening the knowledge, abilities, skills and behaviour of individuals responsible for the built environment, and improving institutional structures and processes to ensure that disaster risk reduction meets its mission and goals in a sustainable way.

Following publications highlight the details of this capacity development exercise:


thus one category may cover a wide range of stakeholders. Stakeholders are any identifiable group or individual who can affect the achievement of disaster risk reduction objectives, or who is affected by the achievement of those objectives. Six major stakeholder groups have been identified: National and local government; International community; Community; Civic society; Private and corporate sector; and, Academia and professional associations.
Other activities

Following are some of the other initiatives associated with the campaign and that CDR has had input to:

- Dr Richard Haigh led the disaster management theme at the CIB World congress, held in Salford in May 2010. Dr Haigh and Professor Amaratunga were also part of the editorial team of the CIB World Congress proceedings. Free access to the proceedings is available at: www.cib2010.org/post

- A special themed workshop entitled “Capacity Development for Disaster Risk Reduction in the Built Environment” was also held as part of the CIB World Congress.

- CDR is providing input for the Making Cities Resilient Mayors handbook input

- CDR members share their research findings by uploading related research outputs to Prevention web

- CDR actively participated in the Third Session of the Global Platform held in Geneva, May 2011, including specific events associated with the Making Cities Resilient campaign associated events

- CDR members continuously make reference to the campaign during key note speeches, workshops and other events

- CDR members are including the resilient cities concept in research proposals that are being developed, including the European Union FP7 Scheme

- CDR members are providing input for the
PRIMERS that are being prepared by the Asian Disaster Prepared Centre on Urban Resilience

- CDR members promote the campaign through membership of related networks such as The International Institute for Infrastructure Renewal and Reconstruction (IIIRR) and CIB

- Foundation Global Risk Forum GRF Davos, 4th International Disaster and Risk Conference IDRC, Davos 2012

- Member, Working Group on Risk Assessment and Reduction of the UNESCO/IOC/ICG/IOTWS. 2011 to date

- Adviser, Asian Disaster Preparedness Centre (ADPC, Bangkok, Thailand. (2011 - to date)

- Technical reviewer, Thematic Primers on "Urban Disaster Risk Management" and "Mainstreaming Disaster Risk Reduction into Development", The Asian Disaster Preparedness Center (ADPC) with the support from the Asian Development Bank (ADB); 2011 – 2012

- Advisor to Chamber of Construction Industry Sri Lanka, 2008 to date

- Partner with the Ministry of Disaster Management Sri Lanka in the national launch of the Making Cities Resilient campaign in Sri Lanka. 2010 to date.

- Partner with Disaster Management Centre, Sri Lanka. 2010 to date

- Committee of Building the bridges between universities and communities: A Regional Policy Dialogue - conference organised by the
University Grants Commission, Bangladesh (UGC) for the Bangladesh Vice Chancellors and coordinated by the British Council. December 2011.

- CDR is providing input for the Making Cities Resilient report 2012
- CDR members share their research findings by uploading related research outputs to Prevention web
- CDR will actively participate at the Fourth Session of the Global Platform to be held in Geneva, May 2013, including specific events associated with the Making Cities Resilient campaign associated events
- CDR members continuously make reference to the campaign during key note speeches, workshops and other events
- CDR members are including the resilient cities concept in research proposals that are being developed, including the European Union FP7 Scheme
- CDR members are providing input for the PRIMERS that are being prepared by the Asian Disaster Prepared Centre on Urban Resilience
- CDR members promote the campaign through membership of related networks such as The International Institute for Infrastructure Renewal and Reconstruction (IIRR) and CIB

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<tr>
<th>Communicate the progress and successes of local governments in Be part of the global reporting on HFA implementation and collect and share good</th>
<th>International Journal of Disaster Resilience in the Built Environment</th>
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<tbody>
<tr>
<td>Be part of the global reporting on HFA implementation and collect and share good news with the public and stakeholders</td>
<td>Launched in 2010, the International Journal of Disaster Resilience in the Built Environment (IJDRBE) is the only</td>
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| achieving the Ten Steps for City Resilience | practice and experiences | journal to promote research and scholarly activity that examines the role of building and construction to anticipate and respond to unexpected events that damage or destroy the built environment. **The journal seeks to:**  
- Develop the skills and knowledge of the built environment researchers and professions working in disaster prone areas, so that they may strengthen their capacity in strategic and practical aspects of disaster prevention, mitigation, response and reconstruction  
- Provide a unique forum for novel enquiries into the development and application of new and emerging practices as a source of innovation to challenge current practices  
- Promote the exchange of ideas between researchers, educators, practitioners and policy makers  
- Influence disaster prevention, mitigation, response and reconstruction policies and practices | Unique attributes  
IJDRBE aims at developing the skills and knowledge of the built environment professions and will strengthen their capacity in strategic and practical aspects of disaster prevention, mitigation, response and reconstruction to mitigate the effects of disasters nationally and internationally. The journal publishes original and refereed material that contributes to the advancement of the research and practice and provides contributing authors with an opportunity to disseminate their research and experience to a broad audience. |
Editorial objective
IJDRBE promotes research and scholarly activity that examines the role of building and construction to anticipate and respond to unexpected events that damage or destroy the built environment (for example, an infrastructure project – from earthquakes, flooding and climate change to terrorist attacks) and reflects construction’s on-going responsibility toward built environment’s users. Accordingly, the journal is designed for researchers and academics, policy makers and other professionals working with, or who anticipate having, disaster prevention, mitigation, response and reconstruction responsibilities, and who wish to improve their working knowledge of both theory and practice.

Topicality
IJDRBE helps to communicate new practical ideas, applications and development details of education and training, and thus build capacity for self-sufficiency. The journal reports research that assists capacity-building for reconstruction, renewal and development of sustainable infrastructure, supports proactive and fruitful collaborations and networking among various stakeholders, and helps develop appropriate policy development and plans for implementation. Regular special issues on a range of multidisciplinary subjects keeps readers abreast of topical subjects.

Key benefits
This multidisciplinary journal is published under the guidance of an expert international board and presents fully refereed papers on practice and progress in the field. Internationally distinguished contributors will regularly address major topics of relevance to bring subscribers independent, expert and practical information, and will enjoy an influential role in the field. The journal is
internationally acknowledged and established, and is formally encouraged by the CIB for its relevance and link with industry and academia.

- The leading journal contributing to the body of knowledge on disaster mitigation, response and reconstruction within the context of the built environment
- The only journal to promote research and scholarly activity that examines the role of the built environment community in anticipating or responding to natural and human induced events that damage or destroy the built environment
- The only journal that develops the skills and knowledge of the built environment professions and strengthens their capacity in strategic and practical aspects of disaster preparedness, rehabilitation and reconstruction to mitigate the effects of disasters nationally and internationally

**Coverage**

Coverage is international and includes (but is not limited to): Assessment of disaster-related damage; Building resilience auditing; Business continuity analysis and planning; Capacity building for disaster mitigation and reconstruction; Community engagement and participatory approaches to reconstruction; Compensation and insurance; Development and reconstruction; Disaster prevention, mitigation, response and reconstruction; Disaster risk reduction; Disaster vulnerabilities; Disasters and the built environment; Extreme weather events and coping strategies; Knowledge management practices and best practice sharing; Law and regulatory frameworks; Livelihood development, micro finance and community co-operatives; Post-conflict reconstruction; Post-disaster construction waste management; Procuring and supplying
temporary services and shelter; Project management for post-disaster reconstruction; Protection and empowerment of women and other vulnerable groups; Public policy and programmes, governance, procurement and financial management; Reconstruction and sustainable economic development; Resilience of critical infrastructure; Resilience of the built environment to natural and manmade disasters; Restoration of major infrastructure and rehabilitation; Risk management and sustainability; Role of women in mitigating and managing disasters; Social impact of reconstruction; Stakeholder management and corporate social responsibility

**International Journal of Disaster Resilience in the Built Environment (IJDRBE) and the UNISDR “Making Cities Resilient Campaign”**

*International journal of Disaster Resilience in the Built Environment* is the leading academic journal to promote research and scholarly activity associated with the UNISDR “Making Cities Resilient” Campaign. In particular, it aims at developing the skills and knowledge of the built environment professions and will strengthen their capacity in strategic and practical aspects of disaster prevention, mitigation, response and reconstruction to mitigate the effects of disasters nationally and internationally. The journal publishes original and refereed material that contributes to the advancement of the research and practice, and provides contributing authors with an opportunity to disseminate their research and experience to a broad audience. It is indexed in prestigious indexing services including SCOPUS.

The Journal is edited by Professors Dilanthi Amaratunga & Richard Haigh from the Centre for Disaster Resilience, University of Salford, UK, which is a key partner of the UNISDR “Making Cities Resilient” Campaign. The Editors are also Advisory Panel members of the
Campaign.
Please visit: www.emeraldinsight.com/ijdrbe.htm to read more about the Journal and for paper submission details.

**Themed journal issue on Making Cities Resilient**
IJDRBE has just published a special issue entitled *Making Cities Resilient: From Awareness to Implementation*, which has stemmed from the United Nations International Strategy for Disaster Reduction (UNISDR) campaign on Making Cities Resilient. This special issue is edited by **Helena Molin Valdés** Director a.i., United Nations International Strategy for Disaster Reduction (UNISDR).

To celebrate the launch of this issue, the journal is currently **free to access**. This free access runs until 30th April 2013.

Simply log in to the [table of contents](http://www.emeraldinsight.com/journals.htm?issn=1759-5908&volume=4&issue=1) using the following access details:

**Username:** IJDRBE  
**Password:** emerald

**Background to the themed issue**
Cities and local governments need to get ready, reduce the risks and become resilient to disasters. For 2010 – 2015 and beyond, the United Nations International Strategy for Disaster Reduction (UNISDR) will campaign together with its partners for this to happen. “I call for the need of world leaders to address climate change and reduce the increasing risk of disasters- and world leaders must include Mayors, townships and community leaders”, stated UN Secretary-General Ban Ki-moon (2009). In this context, the 2010-2015 World Disaster Reduction
Campign “Making Cities Resilient” addresses issues of local governance and urban risk.

This themed issue of the International Journal of Disaster Resilience in the Built Environment is for researchers and academics, policy makers and other professionals working with disaster prevention, mitigation, response and reconstruction responsibilities who wish to improve their working knowledge of both theory and practice in making cities resilient to disasters. All papers were subjected to the journal’s double-blind peer review process.

Contents of the themed issue:

- Negotiating community resilience in the city in a time of political change and deficit reduction, by Fuad Ali and Keith Jones
- Implementation of Hyogo Framework for Action in Makati City, Philippines, by Yuki Matsuoka, Yukiko Takeuchi and Rajib Shaw
- Social capital and sociological resilience in megacities context, by Barbara Lucini
- Creating disaster resilient built environment in urban cities: role of local governments in Sri Lanka, by Chamindi Malalgoda, Dilanthi Amaratunga and Richard Haigh
- Framing responses to post-earthquake Haiti: how representations of disasters, reconstruction and human settlements shape resilience, by Gonzalo Lizarralde, Lisa Bornstein, Kevin Gould and Colin Davidson
- A Framework to Construct Post-Disaster
**Publications**

A large number of publications that address issues associated with the Making Cities Resilient campaign have been written by CDR. A full list of publications can be accessed at [www.disaster-resilience.salford.ac.uk](http://www.disaster-resilience.salford.ac.uk).

Details of some of the most recent papers are listed below:

**Articles in refereed journals**


Amaratunga, D., Malalgoda, C. & Haigh, R. (in press to be published in March 2013). Creating a disaster resilient built environment in urban cities: the role of local governments in Sri Lanka. Disasters Journal · ISI Journal Citation Reports Impact Factor: 0.692

Amaratunga, D., Siriwardena, M., Malalgoda, C., &
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Journal</th>
<th>Year</th>
<th>Impact Factor</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Fernando, G., Amaratunga, D. &amp; Haigh, R.</td>
<td>The career advancement of the professional women in the UK construction industry: Career success factors</td>
<td>Journal of Engineering, Design and Technology</td>
<td>2011</td>
<td>2.171</td>
<td>accepted for publication and in press.</td>
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2011 Journal Citation Report®


Articles in international refereed conference proceedings


Ophiyandri, T., Amaratunga, D. & Pathirage, C.P., (2012), Critical Success Factors for Community-Based Post-disaster Housing Reconstruction Project (CPHRP) in
Pre-Construction stage in Indonesia, 6th International Conference on the Built Environment in Developing Countries – Fragmented futures: the built environment in a volatile world, School of Natural and Built Environments, University of South Australia, Adelaide, Australia, 4 – 5 December 2012.


Piyatadsananon, P., Amaratunga, D. & Keraminiyage, K. (2012), The capability of spatial analysis in planning the accessibility for hazard community from debris-flow events, International Conference on Disaster Management, The 8th Annual International Conference of the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), Department of Civil and Environmental Engineering, Kumamoto University, Kumamoto, Japan, August 2012

Hayat, E. & Amaratunga, D. (2012), Post-Disaster Road Reconstruction in Aceh - Local Governments’ Role in Road Maintenance, International Conference on Disaster Management, The 8th Annual International Conference of the International Institute for Infrastructure, Renewal and Reconstruction (IIIRR), Department of Civil and Environmental Engineering, Kumamoto University, Kumamoto, Japan.

workshop on the Built Environment in Developing Countries (ICBEDC), 4-5 Dec. 2012, University of South Australia, Adelaide, Australia (Accepted for publication).


Editorials

MOLIN VALDÉS, H., AMARATUNGA, D. & HAIGH, R. (in press) MAKING CITIES RESILIENT: FROM AWARENESS TO IMPLEMENTATION, INTERNATIONAL JOURNAL OF DISASTER RESILIENCE IN THE BUILT ENVIRONMENT, VOLUME 4, ISSUE 1

HAIGH, R. & AMARATUNGA, D. 2012, MAKING CITIES RESILIENT, INTERNATIONAL JOURNAL OF DISASTER RESILIENCE IN THE BUILT ENVIRONMENT, VOLUME 3, ISSUE 2

HAIGH, R. & AMARATUNGA, D. 2012, EXTREME WEATHER WILL STRIKE AS CLIMATE CHANGE TAKES HOLD, INTERNATIONAL JOURNAL OF DISASTER RESILIENCE IN THE BUILT ENVIRONMENT, VOLUME 3, ISSUE 1
Other media, innovative or creative activities

"Inaugural ANDROID Conference", News, School of the Built Environment, University of Salford.

"International Conference on Building Resilience", Events, University of Salford.
(http://www.salford.ac.uk/home-page/events/events/international-conference-on-building-resilience)

University of Salford News, April 2012
(http://www.salford.ac.uk/home-page/news/2012/new-academic-network-for-disaster-resilience-created-by-eu)

"University's global disaster resilience network receives UN recognition", US Online, 4 April 2012
(http://staff.salford.ac.uk/news/details/2778)

"New academic network for disaster resilience created by EU" By Tony Flynn, Salford Online, 3rd April 2012

"EU creates academic network for disaster resilience" By Dizery Salim, GENEVA, 14 March 2012
(http://www.unisdr.org/archive/25636)

"Research and education: the Sri Lankan partnership";
"Constructing educational partnerships", RISE Magazine. February/ March 2012, University of Salford.

"Conflict prevention through infrastructure reconstruction", RISE Magazine. February/ March 2012,
University of Salford.

**Make risk knowledge, assessments and risk reduction part of the university curricula**

As part of the long term capacity building process, University of Salford has invested in a three year PhD study (valued at £70,000 over three years) in a theme directly related to the Making Cities Resilient Campaign. The title of the PhD is “Empowering local governments to make cities resilient to disasters”. The researcher is currently in the middle stage of her PhD study having successfully completed her interim assessment. Based on her research, she has already published the following articles:

Make risk knowledge, assessments and risk reduction part of the university curricula
CDR often provides expert input towards university degree programme development activities with the aim to develop the skills and knowledge of the built environment professions so that they may strengthen their capacity in strategic and practical aspects of disaster preparedness, rehabilitation and reconstruction to mitigate the effects of disasters nationally and internationally. Below are some examples of activities that CDR was involved in during 2012:

- Patuakhali Science and Technology University, Bangladesh. The Salford academic team, work closely with the Bangladeshi institution to: carry out hazard, vulnerability, and risk analysis; develop risk response strategies for disaster risk reduction and climate change adaption in Bangladesh; make recommendations for urban safety planning based on disaster risk and climate change impacts; update and develop curriculum on disaster risk reduction and climate change adaption; and, facilitate staff exchange and training programmes to enhance the capacity of partner institutions.

- MSc in Disaster Mitigation and Reconstruction degree programme at the Centre for Interdisciplinary Built Environment Research, School of Architecture and Built Environment, University of Newcastle, Australia

- Planning Urban and Rural Infrastructure and Disaster Management modules of MSc in Development Practice Degree Programme at the Department of Economics and Statistics, Faculty of Arts, University of Peradeniya, Sri Lanka

- Expert advisor/Visiting Professor to 'Master in Disaster Resiliency Management' at UTM Razak School, Universiti Teknologi Malaysia (UTM),
Malaysia
CDR recently led a proposal to develop a Professional Doctorate programme in disaster management and resilience with 4 other EU partners.

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<th>Cities in Bangladesh</th>
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<tr>
<td><strong>CEREBELLA (Community Engagement for Risk Erosion in Bangladesh to Enhance Lifelong Advantage)</strong></td>
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<td>CEREBELLA aims at creating a long-term sustainable and strategic partnership between Patuakhali Science and Technology University (PSTU), Bangladesh and Centre for Disaster Resilience, School of the Built Environment, University of Salford, UK to share skills, knowledge and experience on climate change and disaster management academic learning and research. This project is funded by the British Council under its IMSPIRE strategic partnerships scheme. Bangladesh has been identified as a country that is more vulnerable to climate change and subsequent natural disasters. Dense population and poverty has reduced the adaptability of Bangladesh in disastrous situations thus further increasing severity of disasters. Lack of education and research on disaster risk reduction and climate change adaptation affects socio-economic conditions in Bangladesh. Losses created by disasters and climate change in Bangladesh highlight the importance of making communities resilient against them.</td>
<td>Carryout hazard, vulnerability, risk analysis and develop risk response strategies for disaster risk reduction and climate change adaptation with the engagement of community and local authority of Patuakhali, Bangladesh. Make recommendations for urban safety planning based on disaster risk and climate change impacts of Patuakhali, Bangladesh. Update and develop undergraduate/postgraduate</td>
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<td>Curriculum on disaster risk reduction and climate change adaptation</td>
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<tr>
<td>Facilitate staff exchange and training programmes to enhance capacity of partner institutions to develop knowledge, competencies and international research skills</td>
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In formulating the above objective, direct reference has been made to Building Resilient Cities Campaign 10 basics and its 10 point check list.

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<th>Reconstruction for Peace</th>
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<td>While war in the N&amp;E of Sri Lanka has ended, peace, especially sustainable peace, is not so easily forthcoming. Post-conflict reconstruction supports the transition from conflict to peace through the rebuilding of the</td>
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- How reconstruction programmes engage, employ, connect and divide youth in
socio-economic framework of the society. However, there is a need to pay special attention to conflict dynamics that may arise through development work. Interest in helping to support a lasting resolution to the Sri Lanka conflict has led some to focus efforts on strengthening incentives for peace and reconciliation, including encouraging conflict sensitive approaches and supporting post conflict recovery & reconstruction. Physical infrastructure broadly defined to include services that are essential ingredients to quality of life and economic activity – has the potential to connect or divide communities. Reconstructing physical infrastructure after a war can help in the peace building process through restoring dignity, providing much needed employment opportunity and promoting conflict sensitive approaches.

Any physical reconstruction needs to be tailored to the needs of the affected people, including diverse ethnic groups. Precautions need to be taken to avoid repeating mistakes that occurred during post tsunami reconstruction efforts – lack of consideration of ethnic co-existence. Conflict also tends to deepen gender discrimination and disadvantages faced by women. Similarly, youth, who have been born into and often participated in the war, must overcome persisting inequalities and differential access to opportunities, while the elderly face challenging economic constraints and often require special care. There is growing recognition that reconstruction requires interdisciplinary solutions; those professions traditionally involved in reconstruction of infrastructure – the construction industry – must understand the sensitive environment in which they will be operating. Understanding the needs of those living in the region will be vital if reconstruction is to help prevent future conflict.

- The extent to which inequality in access to infrastructure affects social cohesion among youth;
- The factors of infrastructure reconstruction programmes that are most sensitive to impacting conflict prevention.

The study was used to inform policy development and build the capacities of: Universities in the North and East of Sri Lanka; and, the Sri Lankan construction industry (including SMEs) and local government engaged in reconstruction projects within the region.
Q: Any other new initiatives and/or projects you have launched or been involved in, which is associated to the Making Cities Resilient Campaign:

1. International Conference on Building Resilience, 2013

*Individual, institutional and societal coping strategies to address the challenges associated with disaster risk*

17th – 19th September 2013, Heritance Ahungalla, Sri Lanka, [www.buildresilience.org/2013](http://www.buildresilience.org/2013/)

Communities around the world are faced with the threat of disasters on a daily basis. National governments, local government associations, international, regional and civil society organisations, donors, the private sector, academia and professional associations as well as every citizen needs to be engaged in reducing their risk to disasters. All these stakeholders must play their part in contributing to building disaster resilient communities. Despite this, research and evidence based knowledge about the need for and benefits of disaster risk reduction are both poor and underutilized. We need to find mechanisms that apply scientific evidence and knowledge in policy and decision-making.

The 2013 International Conference on Building Resilience will encourage debate on individual, institutional and societal coping strategies to address the challenges associated with disaster risk. The conference will be held at Heritance Ahungalla, on Sri Lanka’s southwest coast. As a country subject to several large-scale disasters in recent years, including the 2004 Tsunami and a civil war spanning several decades, Sri Lanka provides an ideal setting to explore the challenge of creating resilient communities and cities.

This event will build upon the successful 2011 International Conference on Building Resilience, which was held in association with the launch of *The Making Cities Resilient: 'My City is getting ready!'* campaign, which addresses issues of local governance and urban risk. The 2013 Conference will continue to support the campaign focus areas up to and beyond 2015, including city-to-city learning and capacity building, and an emphasis on partnerships.

The scientific committee welcomes contributions from researchers, policy makers and practitioners. These contributions may be in the form of research papers, practice notes or case studies. Please see overleaf for a detailed list of conference themes.

Further details on the conference can be found at [www.buildresilience.org/2013](http://www.buildresilience.org/2013).

2. Capacity building to reduce the impact of disasters and build resilience among the Local Governments of Sri Lanka

**Rationale**

The Centre for Disaster Resilience (CDR) has been working with Sri Lankan stakeholders to achieve resilient, sustainable urban communities by working with local governments to reduce the risks associated with disasters. In Sri Lanka, which has suffered significant from natural and man-made disasters in recent years, CDR focused on reaching the most vulnerable urban communities where people suffer most from the impact of hazards. Work began in 2010 and was designed to better understand the relationship between physical infrastructure reconstruction programmes and social cohesion among conflict-affected people in the region, and enhance the capacity of local stakeholders to deliver sensitive and sustainable infrastructure reconstruction programmes.
CDR initiated a series of capacity development activities with the aim of strengthening the knowledge, abilities, skills and behaviour of those responsible for the built environment in Sri Lanka, and improving institutional structures and processes to ensure that disaster mitigation and reconstruction could be achieved in a sustainable way. In doing so, we sought to empower local government through stronger national policies investing in risk reduction at local level, as part of urban and regional development plans. The project succeeded in enhancing the capacity of stakeholders to identify constraints and to plan and manage mitigation and reconstruction in the built environment effectively, efficiently and sustainably. This involved the development of human resources, institutions, and communities, and a supportive policy environment.

Comparative analysis revealed that much of the infrastructure development was externally driven and, with inadequate consultation, did not meet the needs of people who are marginalised. This created or heightened tensions within and/or among ethnic/religious groups. Community members also believed that the large overseas or ‘external’ contractors undertaking much of the work were unfamiliar with and/or unsympathetic to local cultural needs.

City & local level governments and campaign partners consistently emphasise the critical need to shift the focus from advocacy to practical actions, and to support efforts that build essential capacities.

Solutions to these issues include:

- Stakeholder consultation workshops to analyse existing capacity, and identify and prioritise capacity gaps.
- Based on this analysis, capacity development events developed on agreed topics which will upgrade organisational ability to deal with disaster risk.
- Access to specially-designed short courses for local government officials and academics to upgrade their knowledge and skills relating to disaster risk reduction via open educational resources, including in local languages.
- A training forum for national teams, involving organisations that have a mission and mandate for capacity building.
- Support for local governments across Sri Lanka in preparing bids for external funding for innovative risk reduction strategies and techniques plus the development of a long-term partnership of key stakeholders.

3. Other CDR activities that will be initiated with the Federation of Local Government Association will include:

- Empowerment of local governments is proposed as a way of responding to the aforementioned challenges faced by local governments in their attempt to make cities resilient to disasters. This can be proposed by developing the organisational capacities and reforming the governance related to way in which local government is established. In doing so, local governments can effectively contribute to making their cities more resilient to disasters;
- Further reinforcing the concept of resilience at the city level, local government capacity building on DRR and its integration;
- Further test and promote aspects of the Policy such as integration of DRR into infrastructure
- The need for disaster risk reduction policy planning and implementation conducted through a transparent and multi stakeholder approach;
- Explore the scale and range of internal and international accountability mechanisms and the potential for such mechanisms to be applied to the field of disaster risk reduction
- Access to information, particularly information on disaster risks generating social demand for disaster risk management
- A culture of planning and regulation based on partnerships and joint ownership between local and central governments and risk-prone communities;
• Adoption of a participatory approach to risk management representing a more cost-effective and sustainable mechanism for reducing risks
• Develop and provide more guidance, principles and tools on how good practice is achieved in disaster risk management and what works (risk assessments, definitions of disaster and risk; integration of climate change adaptation and disaster risk management; working at national and local levels; and, vulnerability of communities to the impact of hazards);
• Around Governance, Local Level Implementation and Multi-stakeholder Participation as a strong focus;
• Gender perspectives in disaster risk reduction

4. Other projects that are in the planning stage:

• Project entitled Collaborative Action towards Societal Challenges through Awareness, Development, and Education. This aims to: compile a regional position paper that identifies global challenges and research priorities; map and develop an inventory of national and regional stakeholders related to global challenges; and, raise awareness on research & innovation priorities for fostering cooperation and towards building mutual understanding on how to address common global societal challenges

• Another project to address current and emerging labour market demands in the construction industry to increase societal resilience to disasters. The proposed work plan will improve the quality and relevance of higher education through active cooperation between Higher Education Institutes and partners from outside academia, including construction professional bodies, local/national/international bodies and social partners.

Q: How have you used any of the Campaign tools and common resources (Ten Essentials; Handbook for Local Government Leaders; Local HFA/LGSAT; Website; posters; buttons and other communications; press stories; Champions). Any suggestions for improvements?

Open Educational Resources proposal that has been developed jointly with UNISDR

Q: We welcome any additional reflections or suggestions you may have for way forward!

RETURN THIS QUESTIONNAIRE TO UNISDR, Abhilash Panda, email: panda@un.org by latest 25 April 2013