University of Salford MANCHESTER

Implementation of the UNISDR World Disaster Reduction Campaign on Making Cities Resilient

Summary of actions in 2012 by the Centre for Disaster Resilience, University of Salford, UK

Professor Dilanthi Amaratunga & Professor Richard Haigh

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Introduction

University of Salford, UK was ranked 6*, the highest grade in the UK's competitive Research Assessment Exercise (RAE) in 2001 and 1996, the only built environment research institute in the UK to achieve this. In the 2008 RAE Salford's research in this field was rated as the best in the UK and finished top in Research Fortnight's 'Research Power' table for the built environment. It has considerable experience of large research projects; between 1996-2004, it completed over £20M of funded research.

The University's Centre for Disaster Resilience (CDR) promotes 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. The Centre has strong links to extensive international networks and organisations such UN-HABITAT and the International Institute for Infrastructure Renewal and Reconstruction. Salford is thus well placed to lead the transfer of knowledge from project outcomes to the UNISDR and broader international community. Its previous research and industry engagement work in disaster management, disaster risk reduction, developmental activities, alternative dispute resolution, post-conflict reconstruction, gender empowerment, and general construction, will provide the campaign with a strong theoretical and practical knowledgebase. Further details about the Centre and its work are documented at www.disaster-resilience.salford.ac.uk.

CDR is an active partner of the Making Cities Resilient campaign and its members, Professor Dilanthi Amaratunga and Professor Richard Haigh, are Advisory Panel members of the campaign. Accordingly, CDR contributes as a main global partner in the campaign, representing academic, technical and expert institutions, and also contributes toward the overall goal - empower local governments with stronger national policies to invest in risk reduction at local level, as part of urban and regional development plans by working with them closely.

This brief document summarises key activities that have been carried out by the Salford team in contributing towards the Making Cities Resilient Campaign. Key activities are briefly described under the following themes:

- International Conference on Building Resilience 2013: *Individual, institutional and societal coping strategies to address the challenges associated with disaster risk*
- Disaster Management and Resilience Symposium – RMIT University Australia and Centre for Disaster Resilience, University of Salford
- Special disaster management session at the 6th International Conference and workshop on the built environment in developing countries
- Policy briefing in Melbourne, Australia
- Partners in the capacity building 'Making Cities Resilient' campaign in Sri Lanka
- Working with local authorities
- International Journal of Disaster Resilience in the Built Environment
- Themed journal issue on *Making Cities Resilient*
- Make risk knowledge, assessments and risk reduction part of the university curricula
- PhD project on local government role in disaster risk reduction
- Key note speeches and other sessions linked to the Campaign
- International conference presentations
- Partnership with UNESCO Costal Hazard Management Commission
- ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development)
- ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development) 1st conference
- ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development) doctoral school
- Other related research projects
- Other conferences
- Publications
- Other related activities

If you require further details about the Centre its various activities or any specific details of its contributions to UNISDR Making Cities Resilient Campaign, please contact:

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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/

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 .

Please see Appendix 1 for the conference flyer.

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
- Conflict prevention through infrastructure reconstruction
- Communication, social networks and bushfire preparedness
- The Sociology of Social Media and Disasters: the Brisbane Floods 2011
- Broken But Still Beating: Music Video Responses to the Christchurch Earthquake Disaster
- Informal Communication in Disaster Response
- An Evaluation Tool for Assessing Disaster Resilience in Shelter in the Asia-Pacific Region

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.

Special disaster management session at the 6th International Conference and Workshop on the Built Environment in Developing Countries

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 (http://www.plevin.com.au/icbedc2012/index.html)

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 conference, courtesy of the International Journal of Disaster Resilience of the Built Environment.

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).

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. 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 Resilie*nce (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
- Infrastructure resilience

The National Strategy principles provide a framework to help identify information, policy and research needs. A disaster resilient community, town or city has two advantages over others in mitigating the impacts of a disaster. First, it has strategies and processes in place that ensure a high degree of preparedness for extreme events. This may include: appropriate zoning and building regulations that reduce exposure to risk and increase resistance to damage, respectively; high levels of resident and organizational knowledge of hazard risks; well-developed and rehearsed emergency plans; evacuation and rescue plans for the socially and physically vulnerable, including, children, women, the inform, disabled and elderly; business continuity plans; well-established and resourced emergency services and warning, evacuation, rescue and recovery systems; and high levels of intergovernmental relationships, divisions of responsibilities and communication protocols. Together, these and related disaster risk reduction systems can reduce the potential for loss of life and damage to property.

Second, a resilient community is generally well able to cope with a disaster event and its toll, and to use its social and political networks, bonds of trust and other community assets to recover and rebuild much more readily than those not so well prepared. Thus, the very high impacts and delays in recovery experienced in New Orleans after Katrina and in Haiti were not just the results of the severity of the hurricane or earthquake but also, and more significantly, of extremely low levels of disaster resilience through inadequate governance, inequalities in wealth and power, and neglected infrastructure.

The process of the policy briefing forum

The policy briefing enabled EU and Australian researchers and policy makers with expertise to identify research needs for disaster resilience & development. The briefing was designed to bring diverse points of view together so as to crystallise information needs and, where appropriate, policy implications.

After the key presenters had spoken, each other participant was invited to offer their thoughts in response to the introductory remarks. The major part of the forum was a facilitated discussion of the issues arising, seeking areas of common ground for policy development.

The key speakers at this briefing were Professor Dilanthi Amaratunga and Professor Richard Haigh, both from the Centre for Disaster Resilience, University of Salford, UK:

- 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

The world is experiencing a rapid urban growth with increase in urban poverty and slums. As a result of rapid urbanisation, the world's population is increasingly concentrated in large cities with poor housing and lack of basic protective infrastructure. This excessive unplanned urban growth leads to various physical, social and economic vulnerabilities. Consequently, the impacts of disasters are highly detrimental when they occur in urban environments. Thus, it is important to strengthen the urban cities by increasing city's resilience to disasters. This requires a serious effort to be made by various stakeholders including governmental and non-governmental institutions. The local governments being the one responsible for local area development has a key role in achieving the resilience of the cities under their jurisdiction. As such there is considerable research interest on strengthening local governments to facilitate development of city's resilience to disasters. Although there is a growing concern on the role of the local governments in making cities resilient, several incidents have been reported on the inadequate contribution of local governments in taking the lead role of initiating disaster risk reduction. In this context, research based on which this policy briefing is prepared focuses on exploring the role and challenges for local governments in creating a disaster resilient built environment within urban cities.

What are the main findings?

- The role of local or municipal levels of government in disaster risk reduction is being increasingly recognised and stressed in international discussions
- Local governments have a significant role to play in contributing to the building of disaster resilient cities in order to avoid or limit the adverse impacts of disasters
- Benefits of Investing in Disaster Risk Reduction and Resilience: A Legacy of Leadership; Social and Human Gains; Economic Growth and Job Creation; More Liveable Communities; Inter-connected Cities with National and International Expertise and Resources
- Invest in Resilience as an Opportunity: Not only do disasters set back development processes, disasters have the ability to make a considerable level of contribution to an economy where it took place and also towards the surrounding economies; In the longer term a major natural disaster can generate a construction-led economic boom; Reconstruction be used as development opportunity to help reduce various vulnerabilities. Reconstruction provides an opportunity to reduce vulnerability to hazards.
- A well structured institutional and administrative framework is a pre-requisite for a sound city's resilience initiatives
- *Key challenges faced by local governments in creating disaster resilient built environment*
- All these require an empowered local government to take up the lead in its city's disaster resilience activities.

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

What did the research involve?

Even though the role of the local government in making cities resilient to disasters has been widely recognised in the literature, several authors and researchers have identified that gaps exist in the actual contributions made by local governments in disaster risk reduction endeavours. Accordingly, the intention is to study the current practice of local governments in making cities resilient to disasters. This will develop knowledge on existing barriers faced by local governments and would help to explore good practices. Case studies were selected as the most appropriate strategy it enables the researcher to obtain a good understanding of the context of the research and the processes The study also focuses on a contemporary event where existing background knowledge is present to develop an initial conceptual framework which justifies the selection of the case study research strategy. On the other hand, case studies have a unique strength to deal with a full variety of evidence-documents, artefacts, interviews and observations, and this had an impact on the selection.

Within this context, case study was chosen as the Batticaloa municipal council area in Sri Lanka. This city was badly affected by disasters such as 2004 Indian ocean Tsunami and 30 year long conflict and is also prone to future disasters was chosen. Within the case study, a large number of interviews have been conducted to gather valid and reliable data that are relevant to the area of study. The interviews were designed to capture the city's resilience to disasters and to understand the commitment of the local government in making the city resilient to disasters and associated problems. As such, the data were gathered through semi-structured interviews with the local and other government officials, policy makers, industry practitioners and experts who are engaged in the respective areas of study. In addition, a series of expert interviews were also conducted with the view of gaining background knowledge pertaining to this field of study.

Where can the full research findings be found?

- Malalgoda, C., Amaratunga, D. & Haigh, R. (2012), Creating disaster resilient built environment in urban cities: role of local governments in Sri Lanka, International Journal of Disaster Resilience Vol 4 (1). pp. 72-94.
- Making Cities Resilient : *How Local Governments Reducing Disaster Risks – Sri Lanka Case Study 2012*. *Centre for Disaster Resilience, University of Salford, UK & Disaster Management Centre, Sri Lanka – August 2012*
- Palliyaguru, R., Amaratunga, D. & Haigh, R. , IMPACT OF INTEGRATING DISASTER RISK REDUCTION PHILOSOPHIES INTO INFRASTRUCTURE RECONSTRUCTION PROJECTS , Journal of Civil Engineering and Management , Vol. 18 (5). pp. 685-700

What's next?

- 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

Partners in capacity building for the *Making Cities Resilient* campaign in 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 continuing its partnership and contributions to the local government joint action plan to tackle hazard risk in Sri Lanka, which was launched in 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.

Working with local authorities

Through strong commitment for implementation of disaster risk reduction policies, CDR is:

- Working closely with the local authorities in committing to disaster risk reduction through for example, programmes associated with capacity building
- Collaborating in applied research projects on risk management and reduction in local government environments
- Making its expertise available to local governments and the public at large
- Adapting the science agenda to emphasise this paramount research topic and advance the state-of-the art in risk reduction
- Making risk knowledge, assessments and risk reduction part of the university curricula for urban planners, architects, engineers, geographers and similar disciplines, as well as a cross disciplinary subject.

To this effect, CDR 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.

International Journal of Disaster Resilience in the Built Environment

Launched in 2010, the International Journal of Disaster Resilience in the Built Environment (IJDRBE) is the only 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 Resileince , 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 31st March 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:

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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 Campaign "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:

- **Making Cities Resilient: From Awareness to Implementation. Guest Editorial** by Helena Molin Valdés, Director a.i., United Nations International Strategy for Disaster Reduction (UNISDR)
- **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, Philppines**, 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 Housing**, by Saumyang Patel and Makarand Hastak
- **News articles** featuring the latest news on the Making Cities Resilient Campaign
    - **Key findings of the Resilient Cities Report** - Helena Molin Valdes, Patricia Holly Purcell
    - **Embedding resilience into planning guidance** - Helena Molin Valdes, Patricia Holly Purcell
    - **International conference on building resilience** – September 2013

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.

PhD project on local government role in disaster risk reduction

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 final stage of her PhD study, having successfully completed her interim assessment and internal evaluation. Based on her research, she has already published the following articles in 2012:

- "Creating a disaster resilient built environment in urban cities: the role of local governments in Sri Lanka", International *Journal of Disaster Resilience in the Built Environment*, Vol. 4 Iss: 1. pp. 72-94.
- "Empowering local governments in making cities resilient to disasters: methodological design". *International Postgraduate Research Conference (IPGRC 2013),* April 2013, University of Salford, Salford UK.
- "Creating disaster resilient cities". *Breaking the Mould: Humanitarian Aid and Empowering Local Communities conference*, August 2012, Durham University, Durham, UK.

Conference presentations

- Presented 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.

Poster presentations

- Presented a poster on "Empowering Local Governments to make cities resilient to natural disasters", at Research Showcase, College of Science and Technology, University of Salford, 20th June 2012, , Media City, UK.

Key note speeches and other sessions linked to the Campaign

CDR's members continuously made reference to the campaign during 2012. Related key note speeches, workshops and other events examples are given below:

- Key note speech titled "Rebuilding for Resilience: Reconstructing Infrastructure in the North and East of Sri Lanka : Opportunities and Challenges", 4th APSL Research Symposium & Convention, Sheffield, UK, November 2012, organised by the Association of Professional Sri Lankans in the UK (APSL).
- 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.
- Session on Evaluation of Community Risk Assessment method for development of disaster risk reduction strategies and climate change adaptation plans, Breaking the Mould international conference, 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, Breaking the Mould 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 organised the CIOB World Construction Conference 2012 under the theme, "Global Challenges in Construction Industry" from 28th – 30th June 2012 at Colombo, Sri Lanka.
- Session lead on "Gender sensitivity in reconstruction". Seminar on Reconstruction as a tool for conflict transformation and peace building, March 2012, Colombo, Sri Lanka.
- Session on "Ten-point Checklist - Essentials for Making Cities Resilient", Resilient City Programme, Sri Lanka - Disaster Risk Management Training Program for Local Government Councils, organised by the Ministry of Disaster Management Sri Lanka and Disaster Management Centre, Sri Lanka in Batticaloa, Sri Lanka, March 2012. Participants included representatives from Mannar UC, Eravur UC and Batticaloa MC, District DMC Assistant Directors, Resource Persons and Facilitators
- 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

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 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 conference and workshop on the Built Environment in Developing Countries (ICBEDC),* 4-5 Dec. 2012, University of South Australia, Adelaide, Australia (Accepted for publication).
- 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
- Infrastructure reconstruction programmes in the conflict affected communities of north and east Sri Lanka, Knowledge Society or Knowledge for Society?", International Conference on the Social Sciences and the Humanities, December 2011, University of Peradeniya, 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, Kandy, Sri Lanka ISBN:9-772235-968004
- 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

Partnership with UNESCO Coastal Hazard Management Commission

CDR has a strategic partnership with UNESCO Coastal Hazard Management Commission and will be facilitating 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

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)

ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development)

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

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. 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 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.

Detailed objectives and work plan

ANDROID will:

- Promote discourse among European applied, human, social and natural scientists to, pool their results and findings, discuss methods and develop inter-disciplinary 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 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.

ANDROID will achieve these objectives by:

- Managing network partners to deliver outputs and achieve intended outcomes, and by developing a virtual network platform for European disaster resilience education (WP1&2);
- Organising an inter-disciplinary doctoral school (WP3);
- Capturing and sharing innovative approaches to inter-disciplinary working in disaster resilience (WP4);
- Surveying European education to map teaching and research programmes in disaster resilience (WP5);
- Analysing the capacity of European public administrators to address disaster risk (WP6);
- Creating Special interest groups (SIGs) that address emerging research and teaching concerns in disaster resilience (WP7);
- Developing and hosting Open Educational Resources (OERs) for disaster resilience education (WP8);
- Raising awareness and promote a common understanding among stakeholders of the importance of disaster resilience education and the essential role of European Higher Educational Insinuations (HEIs) in improving society's ability to withstand the threat posed by hazards. (WP9);
- Organising inter-disciplinary conferences and seminars that promote innovation and knowledge exchange on disaster resilience between Higher Education and relevant stakeholders (WP10); and,
- Planning to continue the network and sustain its impact beyond its initial funding (WP11).

In doing so, ANDROID will increase inter-disciplinary and inter-sectorial cooperation to develop innovative European education that can increase societal resilience, and thereby reduce the threat posed by natural and human hazards, a challenge of critical European and global importance.

Methodology

The ANDROID work plan is designed to meet the aim and objectives of the network, and based on the explicit interests and expertise of the partners involved. It achieves an appropriate balance between management, quality, dissemination, exploitation and implementation. It also balances the need to establish effective infrastructure and events that can sustain the network during and beyond the proposed three years, while also proposing meaningful survey and analysis projects. Each work package (WP) has a clear purpose, detailed method, and specified outputs and outcomes. The organisational structure allows for the involvement of the entire network in a transparent process in order to make sure that all goals will be achieved on schedule and within the budget. The Network Board is responsible for ensuring that the network will deliver its planned outputs and achieve its intended outcomes. It will plan and monitor activities of WPs; define and enforce quality standards; and, report to other partners through regular newsletters and the virtual network. The Board comprises the applicant and WP Leaders. Each WP has a nominated Leader who has been selected for their experience and to ensure representation from different many partner institutions in a strategic role within the network. A major function of the Board will be to ensure systematic monitoring

and evaluation of the network's activities. It will oversee the development of a comprehensive quality plan that will establish standards, define objectively verifiable indicators, and describe the means of verification. This verification will incorporate internal and external 'customer' evaluations, including those of an Independent Evaluator and a Stakeholder Board. The network's quality plan will include standard reporting templates for individual WPs. WP leaders will be required to submit reports on a quarterly basis. All reports will be considered by the Network Board. Each WP leader is supported by a working group of partners that will offer specific technical input and contribute to activities. To avoid complexity, partners have been strategically chosen to perform specific tasks within the working groups. All partners not included in working groups will still be expected to attend conferences and seminars, join special interest groups, interact using a virtual network, and contribute to and review regular newsletters.

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 it 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 stake holders. A Stakeholder Board will be appointed to assist the network in realising this. 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.

ANDROID Activity	**Outputs with links with the UNISDR making cities resilient Campaign**
Managing network partners to deliver outputs and achieve intended outcomes, and by developing a virtual network platform for European disaster resilience education (WP1&2)	• Virtual platform • Newsletters • ANDROID virtual network *Note: all campaign related data will be shared via above*
Organising an inter-disciplinary doctoral school (WP3)	• Online doctoral school • Residential doctoral school • Residential doctoral school proceedings *Note: upcoming researchers will be encouraged to pursue campaign related ideas for their future research*
Capturing and sharing innovative approaches to inter-disciplinary working in disaster resilience (WP4)	• Survey of inter-disciplinary working in disaster resilience education • Good practice review of inter-disciplinary working in disaster resilience education • Seminars on inter-disciplinary working in disaster resilience education *Note: all campaign partners will have access to these outputs*
Surveying European education to map teaching and research programmes in disaster resilience (WP5)	• Inventory of European disaster resilience education *Note: all campaign partners will have access to these outputs*
Analysing the capacity of European public administrators to address disaster risk (WP6)	• Capacity analysis of public administrators in European urban areas *Note: all campaign partners will have access to these outputs*
Creating Special Interest Groups (SIGs) that address emerging research and teaching concerns in disaster resilience (WP7)	• Future research directions report in disaster resilience research, and the implications for education • Seminars by Special Interest Groups on disaster resilience research futures *Note: all campaign partners will have access to these outputs*
Developing and hosting OERs (Open Educational Resources) for disaster resilience education (WP8)	• Open Educational Resource Platform • Open Education Resource standards • Material that will be hosted in the OER *Note: all campaign partners will access to these outputs*
Raising awareness and promote a common understanding among stakeholders of the importance of disaster resilience education and the essential role of European Higher Educational Institutions (HEIs) in improving society's ability to withstand the threat posed by hazards (WP9)	• ANDROID public website • ANDROID brochure • Special issue of peer reviewed journal • Roadmap for European Education in Developing Societal Resilience to Disasters • Three stakeholder seminars will be organised to promote the network's agenda for educational policy in the field. • Translation of major outputs *Note: all campaign partners will have access to these outputs*

ANDROID Activity	Outputs with links with the UNISDR making cities resilient Campaign
Organising inter-disciplinary conferences and seminars that promote innovation and knowledge exchange on disaster resilience between Higher Education and relevant stakeholders (WP10)	• First annual conference and set of proceedings consisting of papers, other presentations and publications • Second annual conference and set of proceedings consisting of papers, presentations and publications • Third annual conference and set of proceedings consisting of papers, presentations and publications *Note: 1st ANDROID conference was held in Tallinn in October 2012. 2nd ANDROID conference will be held in Cyprus in October 2013 and there will be ANDROID 3rd conference to be held in 2014. The campaign will be a major feature of these events.*
Planning to continue the network and sustain its impact beyond its initial funding (WP11)	Stakeholder seminars *Note: all campaign partners will have access to these outputs*

Sustaining the network

The ANDROID work plan is designed to ensure the network has a sustained impact on the target groups and achieves its intended outcomes. A Stakeholder Board will be appointed to assist the network in realising this aim. The Board will include four experts that represent different stakeholder groups pertaining to disaster resilience education and practice. The Board will appointed in year 1 of the network so that it can influence direction, review emerging outputs and assist in the organisation of impact events. This Board offer strong inter-sectorial linkages and will assist the network in becoming a reliable partner for public administration, civil society and industry as it seeks to reduce society's vulnerability to disaster hazards. This Board will represent a privileged channel for network valorisation. A detailed valorisation plan will be established early in the project, which will make reference to the objectively verifiable indicators and target groups identified in the network's quality plan.

ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development) 1st conference

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 citýs 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 key note address by Helena Valdes entitled “Making Cities Resilient: My City is Getting Ready”.

Further details on the event, including downloadable copies of presentations, can be found http://www.disaster-resilience.net/index.php/news/2012-android-conference.

ANDROID (Academic Network for Disaster Resilience to Optimise Educational Development) doctoral school

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)

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**

Other related research projects

CDR currently leads several research projects that are linked with the concept of the building resilient cities.

BELLCURVE (Built Environment Lifelong Learning Challenging University Responses to Vocational Education)

It is widely recognised that at each stage of disaster management process the built environment discipline has invaluable expertise and key role to play in the development of society's resilience to disasters. Construction professionals are expected to possess specific knowledge and expertise. The main reason is the peculiar nature of disaster reconstruction. Educating the construction professional to make them act efficiently and effectively in a disaster situation is therefore vital. HEIs delivering Built Environment programmes have a major responsibility to provide specific skills and knowledge that are necessary to be acquired and applied in a disaster situation. Lifelong learning opportunities further enhance this provision as it will facilitate HEIs to act as continuing education centres, providing skills and knowledge in a dynamic environment.

In this context this project analyses lifelong learning needs for disaster management education in the built environment and is funded by the EU LLP scheme. This project further explores the complexity of disaster management in terms of its body of knowledge and modes of education. The implications for lifelong learning provision via HEIs are discussed with specific references to governance system.

CEREBELLA (Community Engagement for Risk Erosion in Bangladesh to Enhance Lifelong Advantage)

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 is IMSPIRE strategic partnerhsips 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. In this context, CEREBELLA intends to achieve following objectives:

- 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 curriculum on disaster risk reduction and climate change adaptation
- Facilitate staff exchange and training programmes to enhance capacity of partner institutions to develop knowledge, competencies and international research skills

In formulating the above objectives, direct reference has been made to Building Resilient Cities Campaign 10 basics and its 10 point check list.

Impacts of flooding on SMEs and their relevance to Chartered Surveyors – The Royal Institution of Chartered Surveyors report & presentation.

The overall aim of the research project is to "build up capabilities and capacities of chartered surveyors in the adaptation of SMEs and their properties to flood risk". The broad goal of this research is to contribute to the overall aspiration of upskilling and raising the profile of Chartered surveyors in order for them to be able to provide independent, reliable and valid advice on property level flood adaptation measures.

The full report can be downloaded at: http://www.rics.org/uk/knowledge/research/research-reports/impacts-of-flooding-on-smes-and-their-relevance-to-chartered-surveyors/

Reconstruction for Peace

This project sought to enhance the capacity of local stakeholders to deliver conflict sensitive infrastructure reconstruction programmes within the North and East of Sri Lanka, and thereby help to prevent future conflict in the region. The project incorporated into a research study into the relationship between physical infrastructure reconstruction programmes and social cohesion among conflict affected people, and a series of dissemination events aimed at raising awareness and understanding among key stakeholders. The study was designed to provide an insight into the critical components of adequate infrastructure and to establish how local people are currently engaged in the reconstruction process.

Background

While war in the N&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 socio-economic framework of the society. However, there is a need to pay special attention to conflict dynamics that may arise through development work.

Sri Lanka has suffered terribly as a result of ethnic war; 30% of the territory and 15% of the population were devastated by the clashes between the government's armed forces and the Liberation Tigers of Tamil Eelam (LTTE). In 2009, Sri Lanka was at the lead of populations displaced – as a proportion of population – in the South Asian region. 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 and taking steps to avoid any future potential conflicts among the communities. Conflict also tends to deepen gender discrimination and disadvantages faced by women. Similarly, young people, 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 inter-disciplinary solutions; those professions traditionally involved in reconstruction of infrastructure – the construction industry – must understand the sensitive environment in which they will be operating. Successful transitions to peace require a comprehensive approach and development assistance will play a key role in this process. However, a "mechanical-materialist approach" to reconstruction is incomplete and inadequate insofar as it neglects the dimension of human relationships. Understanding the needs of those living in the region will be vital if reconstruction is to help prevent future conflict.

In summary, persisting inequalities – vertical and horizontal – and differential access to opportunities can increase social tension and may lead back to conflict. Reconstruction programmes must be sensitive to the varying needs of different groups, while also addressing inequalities in access to infrastructure. Infrastructure that connects rather than divides different constituencies must also be identified and prioritised. In order to

achieve this, there is a need to explore how different constituents affect the post-conflict reconstruction process, and how development interventions, and cultural contexts may change that role.

Methodology

It is against this background that the *Conflict Prevention through Infrastructure Reconstruction* project was initiated. The project is part of a longer-term study into the relationship between physical infrastructure reconstruction programmes and social cohesion among conflict affected people in the North and East of Sri Lanka. This phase of the study aimed to provide an insight into the critical components of adequate infrastructure and to establish how local people are currently engaged in the reconstruction process.

The project was funded by the UK Foreign and Commonwealth Office through the British High Commission in Colombo. It was implemented by an international partnership of UK and Sri Lankan Higher Education Institutions and Sri Lankan Construction Professionals. The University of Salford's Centre for Disaster Resilience worked in partnership with the Social Policy and Analysis Research Centre, University of Colombo; the Department of Sociology, Eastern University; the Department of Sociology, University of Jaffna; and, the Chamber of Construction Industry Sri Lanka. Consequently, the project was able to draw upon a team of academics and professionals who represented the built environment, sociology and archaeology disciplines. The partnership also benefited from having partners who were based in the conflict affected regions of Sri Lanka, where much of the fieldwork was undertaken.

Empirical data was from districts in the N&E provinces of Sri Lanka. Grounded theory was selected as the situation in these districts was still sensitive. Society was only recently emerging from conflict and therefore it was important not to go with pre-conceived ideas; some conventional theories and concepts may not have been applicable. Semi-structured interviews and focus groups were conducted with community leaders within the target provinces, and with representatives from government, construction industry actors, and local and international NGOs. These were used to gain an insight on what the critical components are in adequate infrastructure, and how local people were engaged in the reconstruction process. Interview and focus group protocols were jointly developed by academics from the fields of built environment, sociology and development. Analysis involved use of a defined coding paradigm[11] to examine causal conditions, phenomena context, intervening conditions, action strategies and consequences in the data. Towards the end of the project and in order to raise awareness of the project findings, a series of seminar events and meetings was held with key stakeholders, including central & local government and the construction industry.

Results

A majority of the projects studied were donor funded and state agencies were responsible for implementation. Typically, contractors came from outside the region; they often had their own supplies and workers brought from outside the host community. Many local people felt that they did not have opportunity to engage in construction work, and gain experience and economic benefits from this activity.

In many situations, the beneficiaries belonged to diverse communities with a history of inter-community conflict and tension. The projects had not been planned in such a way as to reduce such conflicts and tensions. Indeed, some projects have reinforced them, rather than reducing them and this was evident in both the North and East. Comparative analysis revealed an improved understanding of how infrastructure reconstruction programmes affect social cohesion, including concerns in infrastructure development surrounding: marginalisation of beneficiaries; segregated infrastructure that reinforces divisions; inadequate consultation with target population; and, a lack of economic opportunities for local people despite large-scale construction activity.

It was apparent that much of the physical infrastructure development has been doing little to strengthen relations among communities. Indeed, it is sometimes exacerbating existing tensions or creating new tensions. Much of the infrastructure development is externally driven and there is inadequate consultation with affected and often vulnerable groups. The resultant infrastructure does not meet the needs of marginalised groups, and can create or heighten tensions within and/or among ethnic / religious groups. Although the reconstruction activity has the potential to contribute to and stimulate the local economy, many local people and small construction firms feel excluded from the construction process and its benefits.

They are unable to benefit through jobs and market access. They also believe that the large overseas or 'external' contractors that are undertaking much of the work in current projects are unfamiliar with and/or unsympathetic to local cultural needs.

In order to increase the likelihood that these findings will be used in practice, an impact plan was written by the research team. Target groups of the project – including key stakeholders and decision makers involved or affected by the reconstruction process – were identified and engaged at an early stage with a view to raising awareness and understanding of how infrastructure can connect and divide communities. This early engagement was intended to contextualise the findings, but also increase the likelihood of the project achieving a tangible impact upon on identified target groups and beneficiaries through obtaining support for sustainable implementation of post-conflict recovery and rehabilitation practices. The impact plan included a clear set of activities that promoted collaboration with a variety of stakeholders throughout the life of the project, rather than merely through dissemination at the end of the project. These activities included stakeholder engagement workshops, non-technical summaries, and direct interaction of the research team with the beneficiaries in local languages. Some other policy influences that are envisaged include the shift of attention among certain government policies: to use much needed infrastructure reconstruction projects as a basis to promote inter-ethnic co-existence among conflict-affected communities. With this goal in mind, a policy briefing was written and communicated to key stakeholders in order to raise awareness of the project findings.

Future work

The project has contributed to the capacity development of local stakeholders to deliver conflict sensitive infrastructure reconstruction programmes within the North and East of Sri Lanka, and thereby will help to prevent future conflict in the region. Engagement of key stakeholders through this project has helped to highlight the concerns, opportunities and challenges among them, but it also suggests that there remains inadequate understanding or monitoring of the socio-economic impact of infrastructure projects. From the results of this study, it is apparent that much of the current physical infrastructure development is doing little to strengthen relations among communities. As such, the scale of the problem is larger than originally understood and there remains an urgent need to further sensitise key stakeholders regarding the principles of socially inclusive and equitable infrastructure development, including donors, national and local authorities, and contractors. There is also a need to develop and institutionalise grievance redress mechanisms for marginalised and vulnerable groups such as ex-combatants, youth, women and disabled, and to monitor and evaluate the social and economic impact of infrastructure development. Finally, there is a clear need to increase market access for the North and East construction industry, including local entrepreneurs and labour.

Other conferences

CDR members used the following conferences and events to raise awareness of the campaign and its objectives:

- Special disaster management session at the 6th International Conference and Workshop on the Built Environment in Developing Countries (http://www.plevin.com.au/icbedc2012/index.html), 6th International Conference and Workshop on the Built Environment in Developing Countries (ICBEDC-2012) *Fragmented Futures: the built environment in a volatile world*. The University of South Australia, Adelaide, Australia, December 2012.
- 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 Hull.
- International Open Science Conference: Global Environmental Change Innovations and Challenges, Chennai, INDIA, organised by University of Madras, India, 21-24 February 2012.
- CIB World Congress (http://worldbuildingcongress2013.com/) Brisbane, Australia, May 2013.
- International scientific committee, International Conference on Structural Engineering, Construction and Management, 16 - 18 December 2012, Kandy, Sri Lanka.
- International Conference on Industrial Engineering and Operations Management, Guimarães, Portugal, July 9 – 11, 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.

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.

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

Articles in refereed journals

Amaratunga, D., Palliyaguru, R. & Haigh, R. (in press to be published in 2013). Developing an approach to assess the influence of integrating disaster risk reduction practices into infrastructure reconstruction on socio-economic development. Disaster Prevention and Management Journal . ISI Journal Citation Reports / Social Sciences Edition, 2011 Impact Factor: 0.338

Amaratunga, D., Malalgoda, C. & Haigh, R. (in press to be published in March 2013). C*reating 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., & Thayapran, M. (accepted for publication and in press), 'DISASTER RESILIENT BUILT ENVIRONMENT: ROLE OF LIFELONG LEARNING AND THE IMPLICATIONS FOR HIGHER EDUCATION'. International Journal of Strategic Property Management. 2011 Impact Factor: 1.620; © Thomson ISI Journal Citation Reports

Pathirage, C., Seneviratne, K., Amaratunga, D. & Haigh, R. (2012), '*Managing disaster knowledge: identification of knowledge factors and challenges',* International Journal of Disaster Resilience in the Built Environment, Vol3(3), pp. 237 – 252.

Fernando, G., Amaratunga, D. & Haigh, R (accepted for publication and in press). The career advancement of the professional women in the UK construction industry: Career success factors, Journal of Engineering, Design and Technology

Palliyaguru, R., Amaratunga, D., Haigh, R. & Baldry, D. (accepted for publication and in press), 'Constructing a Holistic Approach to Disaster Risk Reduction: Significance of Focusing on Vulnerability Reduction'. Disasters Journal. ISI Journal Citation Reports Impact Factor: 0.692

Palliyaguru, R., Amaratunga, D. & Haigh, R. (2012) 'Impact of integrating disaster risk reduction philosophies into infrastructure reconstruction projects in Sri Lanka'. Journal of Civil Engineering and Management, Vol. 18 (5). pp. 685-700. 2011 Impact Factor: 2.171 ©2012 Thomson Reuters, 2011 Journal Citation Report®

Karunasena, G., Amaratunga, D. & Haigh, R. (2012), 'Post disaster construction & demolition debris management: A Sri Lanka Case Study'. Journal of Civil Engineering and Management, Vol. 18 (4). pp. 457-468. 2011 Impact Factor: 2.171 ©2012 Thomson Reuters, 2011 Journal Citation Report®

Wedawatta, G & Ingirige, B & Proverbs, D 2013, 'SMEs and flood impacts: The case of the 2009 flood event in Cockermouth', *Journal of Flood Risk Management [available in early cite via journal website] VISIT Http://onlinelibrary.wiley.com/doi/10.1111/jfr3.12031/abstract*.

Wedawatta, G & Ingirige, B 2012, 'Resilience and adaptation of Small and Medium-sized Enterprises to flood risk', *Disaster Prevention and Management: An International Journal* , **21**(4), pp.474-488.

Pathirage, C & Seneviratne, K & Amaratunga, D & Haigh, R 2012, 'Managing Disaster Knowledge: Identification of Knowledge Factors and Challenges', *International Journal of Disaster Resilience in the Built Environment*, **3**(3), pp.237-252.

Articles in international refereed conference proceedings

Amaratunga, D. & Haigh, R. (2012), 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.

Haigh, R., Amaratunga, D., Hettige, S., Shanmuralingam, M., Wigneshwaran, E. (2012), Conflict Prevention through Infrastructure Reconstruction, TOWARDS A RESEARCH PARTNERSHIP IN DISASTER MANAGEMENT AND RESILIENCE SYMPOSIUM, RMIT University, Australia, November 2012.

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). 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.

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.

Karunasena, G., Rameezdeen, R. and Amaratunga, D. (2012), Post-disaster construction & demolition waste management: the case of COWAM project in the city of Galle, Sri Lanka. *6th International conference and workshop on the Built Environment in Developing Countries (ICBEDC),* 4-5 Dec. 2012, University of South Australia, Adelaide, Australia (Accepted for publication).

Karunasena, G., Amaratunga, D., and Haigh, R.(2012, Approaches for capacity building for disaster waste management. *2nd International conference on sustainable built environment*, 14th -16th Dec.2012, University of Paradeniya : Sri Lanka (Accepted for publication).

Kulatunga, U., Wedawatta, G., Parvez, A., Kumar, R. & Amaratunga, D. (2012), Disaster Risk Reduction Measures in Bangladesh, CIOB World Construction Conference 2012, 28th - 30th June 2012, Colombo, Sri Lanka

Fernando, G. & Amaratunga, D. (2012), The impact of Training and Development on career advancement of professional women in the UK construction industry, CIOB World Construction Conference 2012, 28th - 30th June 2012, Colombo, Sri Lanka

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

"Centre for Disaster Resilience teams up with Russian Federation partners", US Online, 22 January 2013 (http://staff.salford.ac.uk/news/details/3235)

"Inaugural ANDROID Conference", News, School of the Built Environment, University of Salford. (http://www.salford.ac.uk/built-environment/about-us/news-and-events/news/inaugural-android-conference)

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

"New academic network for disaster resilience created by EU", By Andrea Rover, http://www.salford.ac.uk/built-environment/about-us/news-and-events/news/inaugural-android-conference; October 2012.

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 (http://www.salfordonline.com/educationnews.php?func=viewdetails&vdetails=34961)

"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.

Other activities

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

- 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 (IIIRR) and CIB

Appendix 1: International Conference on Building Resilience 2013 flyer

International Conference on Building Resilience

Abstracts are invited that address the conference themes below. In particular, national and local government need better access to policies and tools to effectively deal with disasters and engage diverse stakeholder groups. Urban risk reduction provides opportunities for capital investments through infrastructure upgrades and improvements, building retrofits for energy efficiency and safety, urban renovation and renewal, cleaner energies, and slum upgrading. Local governments are the closest level of government to citizens and their communities. They play the first role in responding to crises and emergencies. They deliver essential services to their citizens, such as health, education, transport and water services, which need to be made resilient to disasters.

How can we increase community engagement towards increasing societal resilience?

- Urban risk reduction
- Making cities resilient
- Sustainability and community resilience
- Achievable resilience
- Role of the community in developing resilience

How can we promote inclusive development to increase resilience?

- Multi stakeholder perspective
- Resilience and sustainable development
- Gender considerations
- Conflict sensitive reconstruction
- DRR in reconstruction and sustainability

How can we promote social transformation through post disaster reconstruction?

- Livelihoods and micro-enterprise development
- Housing and infrastructure
- Social cohesion
- Mainstreaming social transformation into recovery projects
- Promoting community capacities for social transformation

What will be the role of the built environment professions in addressing disaster risk?

- Interdependency of expertise
- Rebranding disaster risk reduction
- What expertise to use and when
- Professional institutions and their role

How can national and local governments be empowered to incorporate disaster risk in their development plans?

- Trends and models in capacity development
- Scale of needs
- Challenges in bringing capacities up to scale
- Role of DRR networks in the context of supporting local capacity development
- Capacity development in making cities resilient
- Entry points of DRR in development planning

How can we facilitate evidence-based policy?

- Knowledge for policy and society
- Improved science-based policy decision making in disaster risk reduction
- Knowledge platforms, networking and uptake of research results
- Shaping immediate relief action in line with the goals of development co-operation in post crisis / post conflict societies

How can we manage disaster risk in development planning?

- Role of the national government in setting policy and creating an enabling environment
- Incorporating DRR in city development planning and industry sectors
- Project management for reconstruction
- Long term reconstruction strategies and sustainability
- Business continuity planning

How can we create public private partnerships to address disaster risk?

- Partnership models
- Procurement strategies
- Financial models
- Disaster risk in investment decision making

Abstracts may be submitted in the form of research papers or practice notes & case studies.

Research papers

Authors who have their abstracts accepted will be invited to submit a full research paper that will be subjected to double blind peer review. Accepted papers will be presented at the Conference and published in the ISBN Electronic Conference Proceedings.

Practice notes and case studies

Practice notes and case studies are particularly welcome from Policy Makers and Practitioners operating in related fields. Authors who have their abstracts accepted will be invited to present their practice notes and case studies at the Conference and have their abstracts published in the ISBN Conference Book of Abstracts.

Key Dates

31st January 2013 – Submission of abstracts
7th February 2013 – Notification of abstract acceptance
29th March 2013 – Submission of full papers
15th June 2013 – Submission of camera ready papers

International Conference on Building Resilience

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

17th – 19th September 2013, Sri Lanka, 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 in Sri Lanka. 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.

Conference Venue

Heritance Ahungalla is a five-star luxury hotel with 152 rooms located on 15 acres of beachfront on Sri Lanka's southwest coast, just south of Bentota and 76km from Colombo. The hotel was designed by local architect Geoffrey Bawa, famous for blending interior and exterior spaces, connecting buildings with the natural environment. Further details about the venue can be found at www.heritancehotels.com/ahungalla/.

We look forward to welcoming you to Heritance Ahungalla.

Call for research papers, practice notes and case studies

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