## ANDROID DISASTER RESILIENCE NETWORK

# Exchange

Volume 1 Issue 2

### **International Recovery Platform**

A network of UN agencies, financial institutions and governments concerned with post disaster recovery and reconstruction

Commissioned and published by the ANDROID Disaster Resilience Network

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Lifelong Learning Programme

This document has been produced with the financial assistance of the European Union. The contents are the sole responsibility of the Network consortium and can under no circumstances be regarded as reflecting the position of the European Union.

# Exchange

### About ANDROID

ANDROID is an Erasmus academic network. It aims to promote co-operation and innovation among European Higher Education 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 to increase disaster resilience.

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### Editorial

Welcome to this second issue of ANDROID Exchange, the regular newsletter of the ANDROID Disaster Resilience Network, a new global inter-disciplinary consortium that seeks to promote co-operation and innovation, and increase society's resilience to disasters of human and natural origin. ANDROID is supported by a grant obtained from the EU Lifelong Learning Programme, under the Erasmus networks action.

This issue begins with an introduction to the International Recovery Platform, a network of UN agencies, financial institutions and governments concerned with post disaster recovery and reconstruction. The issue also includes an update from the UNISDR Making Cities Resilient Campaign, with details of the Campaign 2012 Report, a snapshot of how local governments are addressing disaster risk. These articles emphasise the strong links that ANDROID is establishing with ISDR and we very much hope to continue these links in the future.

Although based in Europe and somewhat Euro-centric in its membership, ANDROID recognises the importance of establishing global links. In this issue, we include details of RMIT University's Disaster Resilience Network. RMIT University, based in Australia, is one of three international partners in ANDROID, working alongside our sixty four European partner institutions. A key objective of ANDROID is to encourage collaborative working and we encourage other partner institutions to contribute articles about their research for future issues.

We are also delighted to include further details about our first annual ANDROID conference, which will take place Tallinn, Estonia in October 2012. The event will be the first opportunity for the ANDROID partners to meet as a group. We thank Professor Irene Lill from Tallinn University of Technology for taking responsibility for organising this first event. Irene provides a welcome message to be included in this second issue

We very much look forward to meeting everyone in Tallinn later this year. Until then, we encourage all partners to share this magazine through their networks. We also welcome contributions from our partner institutions for future issues. Submission details are provide on the back cover.

Dr Richard Haigh & Professor Dilanthi Amaratunga Centre for Disaster Resilience, University of Salford, UK





**ANDROID** 

### **The International Recovery Platform**

The International Recovery Platform (IRP) is a network of UN agencies, financial institutions and governments concerned with post disaster recovery and reconstruction. Emphasising the strong links between the ANDROID network and the International Strategy for Disaster Reduction (ISDR), this article explores the resources available through the IRP.

The IRP was conceived at the World Conference on Disaster Reduction (WCDR) in Kobe, Hyogo, Japan in January 2005. As a thematic platform of the ISDR system, IRP is a key pillar for the implementation of the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters, a global plan for disaster risk reduction for the decade adopted by 168 governments at the WCDR.

The key role of IRP is to identify gaps and constraints experienced in post disaster recovery and to serve as a catalyst for the development of tools, resources, and capacity for resilient recovery. IRP aims to be an international source of knowledge on good recovery practice.

### **Products and services**

### Knowledge Management

The IRP website (www.recoveryplatform.org) serves as a tool for sustainable recovery, including a searchable database of key documents on recovery. The website has over 600 documents on post disaster recovery and reconstruction - all in the public domain and all continually growing.

#### **Dissemination of Good Practices**

The quarterly Recovery Network Newsletter disseminates innovative strategies in recovery adopted in different countries.

### **Guidance Notes on Recovery**

The guidance notes emphasize global lessons learned and good practices, providing a menu of options to inform recovery planning.

#### Post-Disaster Needs Assessment

The Post Disaster Needs Assessment Workspace is a webbased platform to facilitate coordination, consultation and information exchange throughout the duration of the PDNA process. Available in English, Spanish and French.

A Post-Disaster Needs Assessment and Recovery Framework (PDNA/RF) together comprise an approach to harmonize the assessment, analysis and prioritization of damages, losses and needs by a range of stakeholders (United Nations agencies and programmes, the World Bank, donors, non-governmental organizations) in support of the national government.

A PDNA is a government-led exercise, with integrated support from the United Nations, the European Commission, the World Bank and other national and international actors. A PDNA pulls together information into a single, consolidated report, information on the physical impacts of a disaster, the economic value of the damages and losses, the human impacts as experienced by the affected population, and the resulting early and long-term recovery needs and priorities.

### **Recovery Status Reports**

Recovery Status Reports document post-disaster recovery lessons. Published reports include lessons from Yogyakarta Earthquake and Gujarat Earthquake. Upcoming reports are on Leyte Landslide, Aceh Tsunami, Sichuan Earthquake and Myanmar's Cyclone Nargis.

### **Special Reports**

Special Reports present research and review based on recovery themes. These include Community Governance in Recovery Process (cases from Yogyakarta, Gujarat, Sichuan, and Hanshin-Awaji) and Livelihood Recovery Experiences (cases from tsunami affected villages in Kanya Kumari District, Tamil Nadu, India).

### **Capacity Building**

Based on the Guidance Notes on Recovery, IRP has developed a training module on recovery planning for Government Officials. The module covers different approaches to long-term memory.



#### For further information about the platform, please contact:

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### **RMIT Disaster Research Network**

At its inception, ANDROID is a consortium of sixty seven institutions, sixty four of them from Europe. In this issue, John Fien and Fiona Madden introduce one of ANDROID's three international (non-EU) partners: RMIT University, Melbourne, Australia.

The RMIT Disaster Research Network brings together researchers across the university to coordinate approaches to managing the natural and human-induced disasters that occur with increasing frequency in many parts of the world today.

RMIT researchers are working with communities in Australia and the Asia Pacific region to identify and build resilience to better respond to and recover from disasters. The network takes a multi-disciplinary approach to disaster research, linking researchers with specialised expertise in a broad range of disciplines, from community development, communication, education and risk management, sociology and psychology to geography, geospatial analysis, political science and governance, urban and regional planning, architecture and design, land and water management through to logistics, project management, economics and business continuity, public health, and technology.

Projects are conducted within several different university academic departments and research centres with clusters organised around three themes: disaster risk reduction, rescue and relief, recovery and reconstruction.

### **DISASTER RISK REDUCTION**

### Managing risk in environmental disasters

### Team: John Handmer, Karyn Bosomworth, Adriana Keating, Blythe McLennan, Briony Towers, Josh Whittaker.

This project in the Centre for Risk and Community Safety is addressing problem related to the increasing frequency and severity of disasters through case studies of bushfire safety policies. Fundamental to dealing with issues of risk management and disaster resilience are questions of policy and risk governance. Researchers in the Centre for Risk and Community Safety are therefore also working with the Australian fire and emergency management sector examining how risk, and responsibility for community safety can be shared in the face of natural disasters. The research also explores larger questions about the appropriate roles of governments and citizens in contemporary Australian society. Decisions about allocation of risk and responsibility involve costs and benefits. A complementary project is providing advice on the economics of disasters, emergency management and climate change adaptation.

The team also leads the Australian national Network on Climate Change Adaptation and Emergency Management (NCCARF), and contribute to the global team preparing a special report for the United Nations Intergovermental Panel for Climate Change, titled "Managing the Risks of Extreme Events and Disasters". One of the goals of the UN report is to establish whether communities and economic sectors can become more adaptive and resilient in the face of environmental disasters.

### Communication and capacity building for bushfire community safety

### Team: Peter Fairbrother, John Fien, Keith Toh, Richard Philipps, Bernard Mees, Susan Chaplin, Meaghan Tyler

This team is working on a suite of projects aimed at improving community education for bushfire preparedness among residents in high-risk bushfire areas. Focusing of the question of what works in bushfire community safety; how, for whom and in what settings, a nation-wide set of case studies was collated between 2005 and 2009 as the basis for developing an overarching framework and methodology for planning and evaluating bushfire community safety and education programs. The framework is capable of accommodating complex interventions in diverse settings. Such interventions are necessary to enhance community capacities for reducing the loss of life and property and environmental damage caused by bushfire. Workshops on this framework with fire agency staff have led to the development of an online training programme on project planning and evaluation for community safety education programs. See URL: http://www.bushfirecrc.com/ resources/product/bushfire-community-safety-professionaldevelopment-course

A related project has been undertaken for the Victorian Country Fire Authority (CFA) with the objective of conducting an research-based assessment of the Community Fireguard (CFG) programme. The research covers questions of consistency in the selection and recruitment of CFG facilitators across all nine CFA areas; an assessment of the training packages and their delivery; the involvement of CFG groups in this process and the role of facilitators. Based on this assessment, the research team has recommended a quality control and assurance framework be adopted.

### Peri-urban planning and bushfire risk management Team: Michael Buxton and Melissa Neave

The Peri-Urban Region Research Group is undertaking longterm research into peri-urban areas in Australia together with a number of other project partners. The group has commenced a major study of regional settlement options for rural Victoria.

The group undertook analysis in the wake of the February 2009 bushfires and reported to the 2009 Victorian Bushfires Royal Commission. This work formed the basis of further research and was incorporated into Bushfires Royal Commission analysis and recommendations on land use and bushfire prevention.

This new research program combines spatial land use and development trends, climate data and planning policy analysis for regional cities and Melbourne's broader peri-urban region, including areas of high bushfire risk.

Further details of the Network and news of upcoming projects and events are available at www.rmit.edu.au/browse/ Research/Industry%20and%20government/RMIT%20 Disaster%20Research%20Network/.





ABOVE: Bushfires in Victoria, Australia

### **RESCUE AND RELIEF EFFORTS**

Agent-based simulation framework for improved understanding and enhancement of community and organisational resilience to extreme events

Team: Lin Padgham, Darryn McEvoy, Gaya Jayatilleke, Karyn Bosomworth, Sarah Hickmott, Dave Scerri

This multi-disciplinary project is exploring the value of using agent-based modeling as a decision support tool for better informing responses to extreme events with a focus on bush fires in the first instance.

This project is developing a modular agent based simulation platform, tailored to end-user needs, that allows exploration of complex multi-scalar, multi-actor, emergency management interactions to promote more effective governance arrangements. The first stage of the project is developing a discrete scenario to analyse interactions in a bushfire emergency response context. The scenario is being developed in close partnership with key stakeholders in Victoria's emergency services sector.

### Evaluating the effectiveness of fire safety programs in emergency services management

### Team: Prem Chhetri, Jonathan Corcoran (University of Queensland)

Emergency services agencies, such as Fire, Police, and Ambulance, have limited capacity to systemically evaluate the effectiveness of their safety programs. This capacity can be enhanced through integrating information describing the geographic patterning of emergency calls with data describing the goals and objectives of safety programs. Focusing on fire safety programs, the project employs advanced geographical and statistical methods, enabling the programs to be measured, modelled and monitored. By enhancing evaluation capacity, using the new framework, communities at risk can be better informed and targeted in future safety programs, reducing costs, mitigating risk and saving lives.

### Enhanced agency response strategies through modelling geotemporal characteristics of emergency services calls Team: Prem Chhetri, Jonathan Corcoran (University of Queensland), Robert Stimson (University of Queensland)

The capacity of emergency services agencies, such as Fire, Police, and Ambulance, to respond effectively to emergencies is enhanced when these agencies have appropriate information about the likelihood and spatial distribution of in-coming emergency calls. This information can be used to guide optimal resource allocation in anticipation of likely load, and to identify conditions of increased risk so that preventive strategies can be implemented. This project uses innovative advanced methods of geographic visualisation and spatially based temporal modelling of urban fires to demonstrate the utility of this approach. These methods will also be used to inform response strategies to be developed by Fire Services in the Queensland Department of Emergency Services.



### **RECOVERY AND RECONSTRUCTION**

### Housing on the edge: Designing sustainable housing systems for vulnerable communities

### Team: Esther Charlesworth, Iftekab Ahmed

This research is exploring the roles the architectural profession can play in designing sustainable housing systems for vulnerable communities. Fieldwork is being undertaken across Australian and international case studies collated that reflect 'best practice' in housing projects for communities following a natural disaster. These include: Victoria post-Black Saturday fires, southern Sri Lanka post-tsunami, Haiti post-earthquake, Japan post-earthquake and tidal wave, New Orleans post-Katrina, and low-income neighbourhoods in Vietnam threatened by climate change. A meta-analysis of these cases will be used to identify the 'success' factors that facilitate implementation of a sustainable housing design 'system' as a community-wide rebuilding process. Practical guidelines will be developed to increase the contributions architects can make, in collaboration with other emergency management disciplines, to the construction of housing after severe social disruptions and natural disasters. A key outcome of the research will be an understanding of the opportunities and constraints within the architectural profession to contributing to the design of sustainable housing systems.

### Reconstructing community livelihood after tsunami

Team: Martin Mulligan, Yaso Nadarajah, Dave Mercer, Judith Shaw (Monash University), Siri Hettige (University of Colombo), Kaleel Aqeel (South Eastern University, Pottuvil)

This project is the longest and most intense study of social recovery from the tsunami and aims to develop an understanding of how communities have been rebuilt after the 2004 tsunami, in order to evaluate the long-term benefit of disaster aid.

Building on detailed empirical work across five case study sites - Seenigama, Hambantota, Thirukkovil, Sainthamuruthu, and Chennai – the project has contributed to policy and theory development. The 'community-engaged' research methodology used for the project-involved consultation with local advisors and reliance on local guides and research assistants. Research methods included: the construction of social profiles of case study areas, surveys, community member profiles, lengthy interviews, and the collection of relevant local stories.

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### Early warning signs in complex projects

Team: Derek Walker, researchers from the University of Southhampton (UK) and Norwegian University of Science and Technology Trondheim (Norway)

A sound understanding of early warning signs in various complex projects is critical to avoiding project failure. This study was undertaken by a research team from Norway, the UK and Australia to investigate why project organisations perform poorly at reading early warning signs. The project identified reasons why some project organisations perform poorly in this area and made recommendations about what can be done to improve it. The project covered construction projects product developments and oil and gas projects, in both the private and public sector. The project resulted in the development of a model and recommendations of what early warning signs to look for and how to detect them. A book outlining the project and findings, Early Warning Signs in Complex Projects, was published by Project Management Institute in 2010.





### International Journal of Disaster Resilience in the Built Environment

We are pleased to announce that ANDROID has created a partnership with the International Journal of Disaster Resilience in the Built Environment (IJDRBE), providing ANDROID partners a publishing opportunity for their research findings.

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. 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.

IJDRBE welcomes papers from ANDROID partners which fit in well with the journal coverage, which includes, but is not limited to: Disaster mitigation, response and reconstruction; Risk reduction and continuity management; Linking reconstruction to sustainable economic development; Participatory approaches to reconstruction and empowerment of women and vulnerable groups; Project management for post-disaster reconstruction; Waste management and recycling after a disaster; Knowledge management practices at different phases of the disaster lifecycle; Financial management, governance and transparency; Corporate social responsibility; Law and regulatory frameworks; Post-conflict reconstruction; and Social impact of reconstruction.

Launched in 2010, IJDRBE aims to further knowledge and understanding of the link between the built environment and disaster mitigation, response and reconstruction. It 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 the 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.



It is the leading journal contributing to the body of knowledge on disaster mitigation, response and reconstruction within the context of the built environment and is 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 and 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.

### Submit a paper

For author submission guidelines and full editorial team details please go to www.emeraldinsight.com/ijdrbe.htm

As a guide, articles should be between 3,000 and 5,000 words in length.

A title of not more than eight words should be provided. Submissions to IJDRBE are made using ScholarOne Manuscripts, Emerald's online submission and peer review system. Registration and access are available at http:// mc.manuscriptcentral.com/ijdrbe

### **Contact the Editorial Team**

We are happy to receive ideas for papers from ANDROID partners.

Journal homepage: www.emeraldinsight.com/ijdrbe.htm



### **Network News**

### ANDROID Conference Tallinn, Estonia 17th - 19th October 2013

As announced in the first issue of ANDROID Exchange, the first annual ANDROID network conference will be held in Tallinn, Estonia and include a varied programme of workshops, round tables, special interest group meetings, WP working group meetings, and plenary addresses.

Professor Irene Lill from the Tallinn University of Technology, Conference Chair and Leader of the ANDROID survey project to assess the capacity of local government's public administrators in European urban areas, looks forward to welcoming partners in October:

I am delighted to welcome you to Tallinn for the first ANDROID Disaster Resilience Network conference which brings together experts and academics from around the world. As the first of three annual conferences for ANDROID, the emphasis at this symposium is on refining objectives and deliberating delivery plan details whereas the second and third conferences will focus more on the discussion and dissemination of emerging results from ANDROID activities. Accordingly, this conference has been organised around meetings and networking opportunities.

We are honoured to have as our keynote speakers Helena Molin Valdés of the United Nations International Strategy for Disaster Reduction (UNISDR) and Professor Tarmo Soomere, Fellow of the Estonian Academy of Sciences, from the Institute of Cybernetics at Tallinn University of Technology.

I am happy to see all our old partners with whom we have had a good relationship for years and I hope that our cooperation with new partners will be as fruitful. I would like to thank our lead partner, the University of Salford, whose systematic work has built up this network and brought people here from all over the world.

The conference venue is the historical Tallinn Teachers' House - a property first mentioned in chronicles of 1333. Its location on Town Hall Square is right at the centre of Tallinn's medieval Old Town. With its largely intact city walls, cobble streets and 13th-16th century buildings the Old Town is a UNESCO World Heritage site. Many of Tallinn's main tourist attractions and all the accommodation for delegates are within the Old Town and in easy walking distance from the conference venue.

*I hope that you will find the conference and your stay in Estonia both valuable and enjoyable.* 

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**Professor Irene Lill** Tallinn University of Technology, Estonia



ABOVE: The first annual ANDROID network conference will be held at the historic Teachers' House (Õpetajate Maja) in Tallinn, Estonia

For the latest information about the conference, including a detailed programme, please visit the conference webpage at: http://www.disaster-resilience.net/index.php/news/2012-android-conference

**Please note:** one member from each ANDROID partner institution is invited to participate at the conference. Travel expenses and subsistance costs associated with the conference will be reimbursed in accordance with standard ANDROID and EU practice. Please refer to the ANDROID Terms of Reference document for further information. If other members of a partner institution wishes to attend, they are welcome to do so at their own expense. Please register for the conference as per the guidelines provided on the website.



### **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

ANDROID partner institutions the University of Salford, UK, RMIT University, Australia, and University of Moratuwa, Sri Lanka are organising a major international conference in 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 maybeintheformofresearchpapers, practicenotes or case studies.

#### **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/.

### For further information, visit the conference website: www.buildresilience.org/2013

### Themes

Papers are welcome that address the following conference themes:

#### 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 the reconstruction process

#### 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 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 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 create public private partnerships to address disaster risk?

- Partnership models
- Procurement strategies
- **Financial models**
- Investment decisions in the private sector and levels of disaster risk •
- increasing disaster losses and consideration of disaster risk in investment decision making

#### 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
- Project management for reconstruction
- Long term reconstruction strategies and sustainability

#### 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 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



DISASTER

**NFTWORK** 



International Strategy for Disaster Reduction





www.unisdr.org/campaign/resilientcities/

### **Making Cities Resilient Report 2012**

In issue 1 of ANDROID Exchange we emphasised the strong links between the ANDROID Disaster Resilience Network and a global campaign that aims to make cities more resilient to disasters. This issue provides details of the Making Cities Resilient Report 2012: A global snapshot of how local governments reduce disaster risk. The report has been published by UNISDR and the International Institute for Environment and Development.

Helena Molin Valdes (molinvaldes@un.org), Deputy Director of UNISDR and Chief of Advocacy and Outreach & Patricia Holly Purcell (holly-davis@un.org), Technical and Strategic Adviser, Making Cities Resilient Campaign

The United Nations Office of Disaster Risk Reduction (UNISDR) launched the Making Cities Resilient Campaign: My City is Getting Ready! In 2010 in recognition of the increasing risks linked to global urbanization and local governments' strengthening role in reducing these risks. Since it's launch, the Campaign has amassed pledges from more than 1,100 cities. By signing onto the Campaign, local governments commit to the 10 Essentials for Making Cities Resilient, as 10-point checklist that serves as a guide to good disaster risk management and reduction practice.

From San Francisco, California to San Francisco, Philippines, the Campaign's signatories range from small and modestly resourced municipalities to some of the world's most populous and economically vibrant metropolises. While there are significant differences in the ability of local governments to cope with disasters and build resilience, there are also many similarities in the challenges they face and in their political will to invest in making their cities safer.

The first Making Cities Resilient Report, which was carried out by the London-based International Institute for Environment and Development, aimed to take stock of the efforts these cities are making to reduce their risk to disasters and identify key trends in resilience building. The report also summarizes the work of the Campaign to date and makes recommendations for how it can evolve to help local governments begin to implement disaster risk reduction plans. This report is available for downloading at http://www.unisdr.org/campaign/resilientcities/toolkit/ report2012/.

Today, more than half the global population resides in urban areas. By 2025, roughly two-thirds of the world's inhabitants and the vast majority of wealth will be concentrated in urban centers. Many of the world's mega-cities, characterized as those with populations exceeding 10 million, are already situated in locations already prone to major earthquakes and severe droughts, and along flood-prone coastlines, where the impacts of more extreme climatic events and sea level rise pose a greater risk to disasters. Urbanization happening in relatively smaller cities is also a concern—particularly in regions where existing infrastructure and institutions are ill equipped to cope with disasters. The vulnerability of this new generation of urbanites will become a defining theme of disaster risk in the coming decades. Against this backdrop, the report observes two diverging trends relevant to strengthening urban resilience. The first is one in which competent, sufficiently resourced city and municipal governments work with citizens, businesses and other stakeholders to reduce disaster risk, both through specific risk reduction policies and investments, and by improving infrastructure and the provision of services. There is much innovation to celebrate here. These policies and measures also help build resilience to climate change. There are also notable successes in cities located in low- and middle-income nations, demonstrating that resilience is not exclusive to high-income nations.

The second trend points to many cases in which national and local governments' attention to disaster risk reduction activities, or to the institutions, infrastructure and services that help build resilience, is failing to keep pace with the rapid rate of urbanization they are witnessing. There are also many cities and smaller urban centers where even the best-oriented disaster risk reduction policies have limited impact due to large deficits in critical social infrastructure and local investment capacity. Consequently, one of the key issues for building urban resilience is how to support and learn from the innovators and leverage significant changes in city-level resilience, even where there are limited resources. Across all the cities analyzed, the five types of activities occurring most frequently are:

1. Taking disaster risk reduction into account in new urban planning regulations, plans and development activities;

2. Establishing councils/committees/disaster management structures dedicated to disaster risk reduction;

3. Constructing hazard-resistant infrastructure or improving existing facilities;

- Establishing education/awareness/training programs;
- 5. Citizen participation/ multi-stakeholder dialogues.

Another important trend is the extent to which cities are integrating disaster risk reduction into other local government activities, including education, livelihoods, health, environment, and planning, either by incorporating risk considerations into existing activities or initiating projects that address multiple issues simultaneously.

Often, it is the willingness to engage communities and partners that has stimulated progress despite limited resources. Where, for instance, citywide storm and surface drainage system are improved to cope with extreme rainfall, or building stock and other infrastructure are designed to withstand high winds, multiple benefits for local development are being achieved. Innovation, whether homegrown or shared from afar, remains an essential instrument in overcoming the very real challenges to building and sustaining resilience in our cities.

Future issues of ANDROID Exchange will continue to provide updates on the campaign.

### Write for ANDROID Exchange

The ANDROID Disaster Resilience Network provides an opportunity for people to share knowledge and experience. ANDROID Exchange is written by the ANDROID membership for the ANDROID membership, and also for other readers working with national and international NGOs, UN agencies, government and donor institutions, academics, and independent consultants.

We, the Editors of ANDROID Exchange, welcome contributions from ANDROID Members and Associate Members. We are also pleased to consider articles submitted by anyone involved in some way in increasing societal resilience to disasters. If you have knowledge and experience to share, please consider making a contribution.

The scope of contributions should be consistent with the aims of ANDROID. 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. Typically, we welcome contributions in the following categories (word counts are advisory):

- News and reports from activities and events linked to the Network (100 500 words)
- Reports on developments in the field / projects that are being investigated by partners these
  do not have to be activities directly linked to the Network, but should be relevant to Network
  members (100 500 words)
- Useful Resources relevant publications, websites (up to 20 40 words)
- Upcoming events (20 words)

We welcome suggestions for alternative types / styles of contribution. If you have an idea for an article that you would like to develop, the Editors would be pleased to discuss it with you - send an email to android@disaster-resilience.net.

The Editors reserve the right to edit any contribution.

This edition of ANDROID exchange was edited by Dr Richard Haigh.

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