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POLICY BRIEFING FORUM

RESEARCH NEEDS FOR DISASTER RESILIENCE & DEVELOPMENT

Date: Wednesday 28 November 2012, 11am to 2pm

Venue: RMIT City Campus,
Emily McPherson Building, Room 13.04.02
Cnr Russell and Victoria Streets, Melbourne

BRIEFING PAPER

A shared experience of disaster

For Australia and its Asia-Pacific neighbours, the past decade will be remembered as a period of large-scale disasters with devastating impacts on economies, communities and, above all, the lives of people across our region. From the Indian Ocean Tsunami in 2004 through typhoons and cyclones in Myanmar, Bangladesh, The Philippines, Vietnam and Queensland, floods in Pakistan, China, Thailand and Brisbane and Victoria, and earthquakes in New Zealand, Pakistan and China, it seemed that nothing could be worse. Then, the region experienced the Great East Japan Earthquake, tsunami and the ensuing nuclear disaster.

In 2011 alone, these disasters caused regional economic losses of \$294 billion – representing 80 per cent of global losses due to disasters that year. However, it is even more striking to recall that the region's single year losses in 2011 were also 80 per cent of its total disaster losses from the decade 2000-2009.

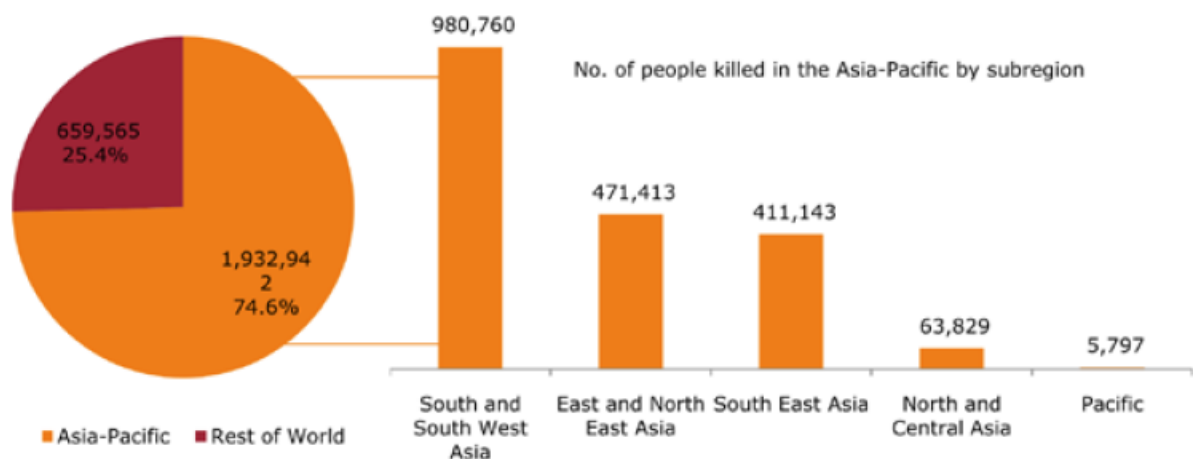
The following table traces the rise in such losses in the region since 2000.

Subregions	Economic losses 2000-2009 (billion US dollars)	Economic losses 2010 (billion US dollars)	Economic losses 2011 (billion US dollars)
East and North-East Asia	280.1	23.75	227.0
South-East Asia	28.3	1.58	41.3
South and South-West Asia	44.9	11.85	6.9
North and Central Asia	2.1	3.91	0.1
Pacific	11.6	16.68	19.6
Asia-Pacific	366.9	57.76	294.8
Global	896.2	57.76	366.1

Disasters are affecting developed and developing countries alike. Yet risk factors remains only partially understood, especially in the developing countries of the region. Exposure to risk and the associated vulnerability to social, economic and human disaster can be mitigated by the twin processes of preparedness and reconstruction if these are done within

a Disaster Risk Reduction (DRR) framework. The lessons learnt from such processes mean that the death toll from such disasters as typhoons, floods and landslides in some parts of the Asia-Pacific region is decreasing despite the increased frequency of these events and increased damage to property and livelihoods.

However, as the United Nations 2012 *Asia-Pacific Disaster Report* indicates, while collective actions can mitigate disasters, and protect populations, “we are in a race against time” with exposure to risk “growing faster than our ability to build resilience”. As a result, the average number of people exposed to annual flooding in Asia and the Pacific has increased from 29.5 to 63.8 million over the past four decades while populations in cyclone-prone areas have grown from 71.8 million to 120.7 million. The following graph compares the number of global and Asia-Pacific disaster fatalities for the period 1970-2011 and the distribution of these fatalities across the Asia-Pacific by sub-regions.



As a result of urbanization of typhoon prone coastlines and flood plains, the Asia-Pacific region represents more than 85 per cent of global economic exposure to tropical cyclones. And without strong, effective governments for the most part, let alone widespread insurance cover let alone national disaster insurance schemes, when disasters hit, private citizens and communities pay the highest price. For example, Typhoon Ketsana, which hit the Philippines in 2009, caused damage of \$4.3 billion - 90 per cent of which were borne by poor urban households. It then swept across central Vietnam into Laos. Of the \$58 million worth of losses in Laos, over 50 per cent was borne by small farmers. Similarly, 70 per cent of the \$9.7 billion in flood damage in Pakistan in 2010 was borne by poor households and small farmers.

Purpose of this Policy Briefing Forum

The scale of disaster fatalities and economic losses across the Asia-Pacific region are sobering to Australians for whom the experience of frequent drought, bushfire, cyclones and floods seem to almost define aspects of our national character. Yet, we measure the cost of the many disasters we experience in single digit percentages of GDP and even lower percentage reductions in social and economic development – while across the region, disasters are major constraints on development and can undermine decades of development planning and infrastructure.

The purpose of this Policy Briefing is to consider ways in which Australian and European expertise in Disaster Risk Reduction (DRR) and disaster management can be shared with communities and countries in our region.

In particular, we will be exploring the research needs for DRR and disaster management in the region.

For example, key concepts in DRR include resilience and adaptive capacity, and there is a mutually reinforcing cycle in building resilience and adaptive capacity. European and Australian research is beginning to indicate that increasing the capacity to adapt before a disaster occurs can lead to reduced loss of life and damage during the event and to more effective and quicker recovery. In turn, when recovery and reconstruction are framed to enhance resilience, then the better the disaster risk reduction for future events.

Resilience and adaptive capacity can be enhanced through the 'hardening' of infrastructure and the development of resilient governance processes, strong social networks and economic diversity. Strategies for 'hardening' infrastructure can be similar across socio-economic systems although they do need to be adapted to suit locally available resources and technology. However, there is great variety in the suitability of the range of strategies for building social, political and economic resilience across the diverse regional contexts in Australia and the Asia-Pacific.

Research is needed into ways of integrating processes for resilience and adaptive capacity into Disaster Risk Reduction and the conditions under which different policy and actions options can be most suitable and effective.

There is also a need to develop an understanding of the institutional and human capabilities that underpin resilience and adaptive capacity, how these may most effectively be measured, developed and applied, and the governance, education and communication processes appropriate to mobilizing communities and resources for effective preparedness, recovery and reconstruction. These can be investigated through post-disaster fieldwork and the critical review of secondary data as well as through Dynamic Systems and Agent-Based Modelling that can test the relationships at play across the diverse variables involved and the strategies to be/being deployed. Sociological studies of power, agency and decision-making across the disaster management cycle are needed, as are investigations of the psychological impacts of disaster, loss and grief. A further research need is to investigate the processes of design, construction and infrastructure management in both pre-disaster and reconstruction periods that can not only reduce the impacts of future disasters but also enhance social and economic resilience and reconstruction.

The Process of the Policy Briefing Forum

The policy briefing will enable EU and Australian researchers and policy makers with expertise to identify research needs for Disaster Resilience & Development. You will be one of about twenty participants. The Briefing is designed to bring diverse points of view together so as to crystallise information needs and, where appropriate, policy implications.

The key speakers at this Briefing will be Professor Dilanthi Amaratunga and Professor Richard Haigh, both from the Centre for Disaster Resilience, University of Salford, UK, and RMIT's Adjunct Professor Steve Barton who is also the founder of the Recovery Resource Centre Australia.

After the key presenters have spoken, you and each other participant will be invited to offer your thoughts in response to the introductory remarks. The major part of the Forum would be a facilitated discussion of the issues arising, seeking areas of common ground for policy development.

The Agenda for the Policy Briefing Forum follows.

Note: All data in this Briefing paper are taken from United Nations (2012) *Asia-Pacific Disaster Report 2012*



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PROGRAM

Chair: Professor Bruce Wilson, Director, European Union Centre at RMIT
Facilitator: Professor John Fien, Innovation Professor in Sustainability, RMIT

- 11.00 Introductions and seating
- 11.10 Welcome to the Policy Briefing by Professor Bruce Wilson, EU Centre Director
- 11.15 Introduction to the Briefing by Professor John Fien
- 11.20 Lead Speaker: Professor Dilanthi Amaratunga, Head of the Centre for Disaster Resilience, University of Salford
- 11.35 Lead Speaker: Professor Richard Haigh, Centre for Disaster Resilience, University of Salford; and Editor of the *International Journal of Disaster Resilience*.
- 11.50 Lead Speaker: Adjunct Professor Steve Barton, RMIT; and founder of The Recovery Resource Centre Australia
- 12.05 Introductory Remarks from other participants
- 12.35 Lunch distributed
- 12.45 Plenary discussion
- 1.45 Final remarks
- 1.55 Thanks
- 2.00 Policy Briefing closes.