Building Resilience

Managing the Risks of Disasters in East Asia and the Pacific

The East Asia and Pacific Disaster Risk Management team supports country-led DRM programs and investments, maintains the World Bank's leading role in research and knowledge sharing of disaster risk management practices and helps improve the quality of Bank lending across multiple sectors by building disaster resilience into core investments. Country Focal Points for Disaster Risk Management in each country are supported by the EAP DRM team in Washington DC, the network of experts working across the region on disaster management issues, and by the regional Quick Response Team in the event of an emergency.

The countries of East Asia and the Pacific (EAP) are among the most vulnerable in the world to the physical, social, and economic effects of disasters. The Asian continent and the Pacific islands represent only 30 percent of global landmass, but have sustained over 50 percent of all recorded disaster events (UNISDR, 2009). The region has sustained 82 percent of total disaster fatalities and its population represents 85 percent of all people affected by disasters since 1997 (IFRC, 2007). Climate change, poorly planned urbanization and population growth have dramatically increased the overall disaster risks in the region. Cities in East Asia absorb 2 million new urban residents every month (World Bank 2007) and are projected to triple their built-up areas in the coming two decades (Angel et al. 2005), a period when climate-related events are projected to accelerate sharply as per current trends. The overall DRM Portfolio in EAP is about US$ 1.5 billion.

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The East Asia & Pacific team helps countries respond to natural disaster challenges in multiple ways:

- **Analytical and advisory services** that provide innovative knowledge products, tools and solutions to help build capacity for disaster risk management and recovery planning. Some examples: a climate variability report on the Pacific Islands in partnership with SOPAC, a study of the impact of climate change on major Asian coastal cities, a guide on Making Cities Climate Resilient, several Post Disaster Needs Assessments, and video-conferencing sessions on disaster risk management topics with ASEAN and SOPAC member state government officials.
- **Investments such as Emergency Recovery Loans and Development Policy Credits to finance post-disaster recovery and reconstruction.** Some examples: the Wenchuan Emergency Recovery Loan (2009, US$ 710 Million), mobilization of resources for recovery activities following Typhoon Ketsana in Lao PDR through a Road Sector Project and a Food Security Improvement Project (2010, US$ 13 Million), and Post Typhoon support for Philippines (2010, US$ 250 Million).
- **Financial Services:** Development and application of unique risk financing instruments, including Contingent Loans, such as the Catastrophe Risk Deferred Drawdown Options, which offer countries immediate liquidity after a disaster and buffer budgetary shocks. Agricultural insurance schemes have been set up to protect farmers against the impact of severe weather. The World Bank is also developing multi-country catastrophe bonds that pool the risks of several countries and transfer the diversified risk to investors and the capital markets.

Post tsunami reconstruction in Aceh and Nias, Indonesia. After nearly six years of the devastating tsunami, the reconstruction of the province of Aceh in Indonesia is nearing its end, with houses, infrastructure and social services almost fully rebuilt and restored. It has been one of the largest reconstruction efforts in the developing world., The Government of Indonesia, through the Agency for Rehabilitation and Reconstruction for Aceh & Nias (BRR) showed tremendous leadership in coordinating the US$7 billion reconstruction effort in Aceh and Nias. The World Bank coordinates nearly US$700 million of the Multi-Donor Fund in Aceh. The success of the World Bank's community driven development approach to reconstruction has encouraged the Government of Indonesia to adopt the same model for rebuilding of houses in Yogyakarta and central Java following the earthquake in 2006. Under the Reconstruction of Aceh Land Administration System (RALAS) project completed community land maps (CLMs) for 317,170 land parcels, contributing to 222,628 land title certificates actually being distributed to land owners, who were either survivors of the tsunami disaster or their heirs or adjoining land owners.2 A total of 63,181 titles were distributed to women owners, individually or as joint owners with their spouses, representing about 28% of all titles distributed. (http://www.multidonorfund.org)

Climate Resilient Cities: A Primer on Reducing Vulnerabilities to Climate Change Impacts and Strengthening Disaster Risk Management in East Asian Cities. The primer supports local governments in introducing good practices on risks assessments, sound urban planning, capacity building, and capital investment programs for building sustainable, resilient communities.

Mongolia Index Based Livestock Insurance. In Mongolia, the World Bank approved a US$ 10 million scale up of the highly innovative Index Based Livestock Insurance Project. Introduced in 2006, the project successfully provided herders with insurance from climate-related losses through partnering with local private insurance companies. In

2009, indemnity payments were made to all 2,117 herders who were eligible following livestock losses.

Wenchuan Earthquake. The World Bank approved the largest ever emergency recovery loan of US$ 710 Million to assist the People's Republic of China in its reconstruction and recovery efforts following the devastating earthquake of May 12, 2008, which lead to 70,000 deaths and US$9.6 billion in economic losses. The speed at which the reconstruction has taken place is remarkable. Two years after the earthquake, the government reports 1.5 million rural houses have been rebuilt, reconstruction of 3,000 schools in 39 counties has started with 90 percent completed. Of 1362 health facilities to be reconstructed, close to 95 percent are under construction. With the World Bank's support, 'Building back better' has been a focus for the government's reconstruction effort.

Post Disaster Needs Assessment (PDNA) in Samoa after the 2009 tsunami. An initiative between agencies that examines the economic and social impacts, supports recovery and reconstruction planning, and promotes a "build back better" approach. The team of Government, UN, ADB, and World Bank formed the basis for a coordinating mechanism between the international technical and financial partners.

Safer Homes, Stronger Communities. A Handbook for Reconstructing after Natural Disasters: Based on the lessons learnt from major housing reconstruction programs, the handbook provides a framework for policy makers and project managers to make the multi-sectoral decisions involved in major housing and community reconstruction projects that empower communities affected by disasters to build resilience against future vulnerability. (**www.housingreconstruction.org**)

GIS-based Open Source Risk Models. The EAP Region supports the development of GIS-based Open Source Risk Models, for example in the Mekong basin. These open platforms are built upon existing initiatives, with the objective of consolidating methodologies and data related to hazard, vulnerability, exposure, risk modeling and their visualization. With software applications for decision making, they do not only quantify risk and expected future losses but support prioritizing disaster risk reduction programs and contribute to structuring overall development project and options.

The work of the East Asia and the Pacific Team is organized around four major service lines. These are some examples of activities being undertaken under each.

Objectives	Strengthening Institutions for Disaster Risk Management	Making Development Climate and Disaster Resilient	Sustainable emergency preparedness response and recovery	Develop Catastrophe Risk Financing Frameworks
Activities	**Measures to develop effective institutional, legislative and financing frameworks for disaster risk reduction:** Comprehensive country programs for Cambodia, Indonesia, Kiribati, Laos, Marshall Islands, Papua New Guinea, Philippines, Solomon Islands, Vanuatu and Vietnam. The programs identify the needs and gaps, and outline agendas for DRM and CCA (http://www.gfdrr.org/gfdrr/node/112). Strong partnerships: Partnering with regional organizations, including the Association of East Asian Nations (ASEAN), the Asian Disaster Preparedness Center (ADPC), Asian Disaster Reduction Center (ADRC),); Pacific Islands Applied Geo-Science Commission (SOPAC), and NTU's Institute of Catastrophe Risk Management (ICRM) to promote South-South knowledge sharing, cooperation, and aid effectiveness. Building in-country capacity: Over 200 government officials trained in Post-Disaster Needs Assessment methodology. Community-based disaster risk management programs: An additional US$300 million of the portfolio comprises risk reduction investments, the bulk of it in Vietnam where a Natural Disaster Risk Management project piloted a Community-based Disaster Risk Management component, which is now being expanded to cover 6,000 communes through a national program launched by the Government of Vietnam.	**Measures to support countries to make their development efforts resilient to the impact of disasters and climate change:** Climate Risk Management: In the Pacific Islands, action plans have been developed, based on a needs analysis for disaster risk reduction, the primary players who are supporting such programs, gaps in delivering support and possible synergies to move towards a joint climate change and disaster risk management agenda. Redesign of drainage infrastructure in coastal cities in Vietnam that takes into account the impact of climate change through sea-level rise and stronger storm surge. Pilot Program for Climate Resilience: Cambodia, Papua New Guinea, Samoa and Tonga: A US$ 30-60 million program to pilot and demonstrate ways in which climate resilience can be achieved through integrating risk management into core development planning, scaling up climate resilient investment, and strengthening capacities at national level, Emergency fund for the transport sector: In Lao PDR, the World Bank established a contingency fund for fast post-disaster response in the road sector. The fund will disburse quickly for emergency civil works after disasters to ensure the passability and safety of affected roads.	**Measures that support countries to prepare, recover efficiently and in a sustainable manner in the event of a disaster:** Post Disaster Assessments: Between 2008-2010, the World Bank supported the governments of Cambodia Indonesia, Laos, Myanmar, Philippines, and Samoa to conduct post-disaster needs assessments that formed the basis for reconstruction and recovery in these countries. Leveraging Financing: The World Bank's post-disaster assistance ranged from assisting in the development of a reconstruction expenditure monitoring system in the Philippines to a doubling of the IDA allocation for Samoa to $40 million and a $13 million IDA grant for Lao PDR for roads and food security. An emergency Recovery Loan for Typhoon Ketsana in Cambodia is currently being prepared. Hydro-meteorological and Early Warning System Capacity Assessments in Cambodia, Indonesia, Laos, Philippines and Vietnam: The assessments will support countries to better collect, process, and disseminate hazard data.	**Measures to support governments manage the contingent financial risks from disasters and climate change:** Pacific Catastrophe Risk Assessment and Financing Initiative: Pacific Island countries are highly exposed to adverse natural events which lead to a level of financial risk that they cannot manage through regular government budgetary appropriations. With support from the EAP region, the PICs are developing catastrophe risk financing solutions that ensure liquidity in the aftermath of a disaster. Enabling environments: In Indonesia and Vietnam, the World Bank identified options of financial protection of the state against natural disasters. The risk financing programs have built institutional capacity on catastrophe risk financing and created an enabling environment. Multi-country catastrophe bonds: The World Bank is developing multi-country catastrophe bonds that pool the risks of several countries and transfer the diversified risk to capital markets. Open Source Risk Models in the Mekong basin: The EAP Region supports the development of Open Source Risk Models that consolidate techniques to risk modeling, thereby providing the basis for insurance and other risk financing options.
Outcomes	Enhanced institutional collaboration among government agencies, ministries, donors and the Bank in key DRM areas.	Stronger integration of climate change and disaster risk management principles within national, institutional policy frameworks and investment programs.	Disaster risk reduction is mainstreamed into post-disaster recovery and reconstruction programs	Increase in the number of comprehensive risk financing programs adopted in selected countries

Disaster Risk Management, East Asia and the Pacific Infrastructure Unit, World Bank
The World Bank / 1818 H Street NW, Washington DC, 20433, USA
Email: eapdrm@worldbank.org
www.worldbank.org/eapdisasters
www.gfdrr.org
http://www.housingreconstruction.org