

The Primer is a tool for initiating dialogue...

The **Primer** is a tool for **city governments in the East Asia Region** to better understand how to **plan for climate change impacts** and impending **natural disasters** through **sound urban planning to reduce vulnerabilities**.

It gives local governments information to actively engage in **training**, **capacity building**, and **capital investment** programs that are identified as priorities for building **sustainable**, **resilient** communities.

A step-by-step city **self-assessment** challenges policymakers to think seriously about the resources needed to combat climatic and other natural disasters and the potential effects of unexpected disaster.

- ▶ Integrating climate change with disaster risk management;
- ▶ Presenting a dual-track approach with both climate change *mitigation* and *adaptation* options;
- ▶ Focusing on East Asia's specific vulnerabilities;
- ▶ Catering to a variety of **city types**;
- ▶ Presenting a **"Hot Spot"** matrix to identify priorities for action; and
- ▶ Providing concrete city-level examples, focusing on **sound practices** from the region and globally, based on their relevance to East Asian city environments, vulnerabilities, capacities, and adaptability.



Community mapping in Thailand

The concern is real in East Asia...

- ▶ Increased **greenhouse gas** emissions trapped in the atmosphere affect temperatures, sea levels, and storm frequencies.
- ▶ In 2000, about 18.7 percent of global emissions from fossil fuel combustion originated in the Region.
- ▶ 21st century Asia has already experienced more than **550 floods** affecting over **850 million people**.
- ▶ From 1994–1998, reported disasters averaged 428 per year. That figure jumped to 707 from 1999–2003, a devastating increase of 142 percent in developing countries.
- ▶ Eight of 10 most populous cities, including five in East Asia, are vulnerable to moderate to high **earthquake hazard**. Similarly, eight out of 10 most populous cities are located on the coast and are vulnerable to **storm surge** and **tsunami**.
- ▶ An estimated 46 million people living in cities are at risk yearly from flooding from storm surges in the Region.



Typhoon Mina in Dagupan City, Philippines

Inaction presents risks too high to be acceptable...

- ▶ Standard of living suffers far worse consequences with inaction.
- ▶ Many years of economic and development gains can be wiped out within minutes of a devastating event.
- ▶ In the 1990s, disasters killed almost **seven times** more people in **developing countries** than in industrialized countries.
- ▶ The recent cyclone that devastated Myanmar affected the lives of more than **2.4 million people** and caused **billions of dollars** in damage.

...so the time to act is now.

- ▶ **"No-regrets" policies** and actions are those that make good sense to implement whether or not the consequences of climate change turn out to be as projected.
- ▶ Becoming better informed about climate change and its consequences strengthens practical policies and programs to address impacts and disastrous events.
- ▶ A city's **growth**, prosperity, and **poverty reduction** efforts are linked to its ability to reduce its vulnerabilities to natural disasters.
- ▶ Dealing with climate change impacts and mitigation and adaptation investments and innovations are an exercise in **good governance**.



Banda Aceh after the Asian Tsunami

This Primer is useful to a variety of users...

The Primer is organized as a **knowledge resource** and a process to:

- ▶ Explain the causes and effects from climate change impacts and hazards;
- ▶ Identify issues that directly affect cities; and
- ▶ Develop a plan for mitigation and adaptation.

The Primer has six sections:

- ▶ Sections 01 and 02 introduce the concepts of climate change and the likely impacts for cities.
- ▶ Section 03 offers a self-assessment of the city's unique built environment, socioeconomic characteristics, organizational structure, and skills and guides a city through the "Hot Spot" exercise and the preparation of a disaster history.
- ▶ Section 04 takes the user through the steps of creating a Climate Change Impacts and Disaster Risk Management Workbook, a repository of the City Information Base.
- ▶ Section 05 presents illustrative good practice examples of adaptation and mitigation from cities around the world.
- ▶ Section 06 offers key messages and recommendations in concluding the Primer.

...from cities seeking initial insights as well as those with fairly advanced disaster management programs in place.



Environment Monitoring Plant, China

What people are saying about the Primer...

The Primer – which focuses on reducing vulnerability to climate change impacts and related disasters – is a useful and valuable reference for UCLG ASPAC members, in particular the City Managers and Local Government leaders.

Emeritus Mayor Peter Woods OAM
Secretary General, United Cities and Local Governments Asia-Pacific (UCLG ASPAC)

Climate Change is real. The Albay Declaration on Climate Change Adaptation is the embodiment of efforts to arrest the imminent threats and dangers posed by radical ecological shifts occurring to our beloved planet earth. In this regard, the contents of the Primer are timely and are of importance to many local governments like Albay.

Joey Sarte Salceda
Governor, Albay Province, **Philippines**

We commend the World Bank, GFDRR and UN/ISDR's efforts on the Primer of guidelines to strengthen the capacity of local governments and partners in building resilient communities. CITYNET is very proud to be part of this initiative and we hope to promote optimal usage of the Primer through activities on mainstreaming disaster risk reduction and climate change in overall urban planning and management.

Dato' Lakhbir Singh Chahl
Secretary General, **CITYNET** (Regional Network of Local Authorities for the Management of Human Settlements)

There are a number of actions that can be taken to reduce vulnerability to natural hazards and adapt to climate change, and we already have a framework that guides us - the Hyogo Framework for Action. The Primer is a useful tool to advance the understanding in cities of the linkages between disaster risk reduction and climate change adaptation.

Sálvano Briceño
Director **UN/ISDR**

GFDRR, a partnership of the UN, the World Bank, and 16 bilateral donors, aims to strengthen global and regional cooperation for disaster risk reduction and recovery. This Primer offers innovative and practical approaches to enable city officials to move from words to action for reducing their vulnerabilities to natural hazards in changing climates.

Saroj Jha
Program Manager, Global Facility for Disaster Reduction and Recovery (**GFDRR**)

Given the potential devastation associated with future climate change-related disasters, it is vital to change the way we build and manage our cities to lower our emissions. The Primer offers policymakers with tools for reducing vulnerabilities to climate change and other natural disasters in a comprehensive disaster management system.

Keshav Varma
Sector Director, Urban Water and Disaster Management Sector Unit, East Asia and the Pacific Region of the **World Bank** (EASUR)

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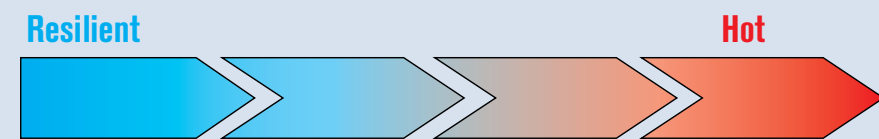
...to enable cities to become more climate-resilient.

....and potential loss of life and livelihoods is significant.

The Primer offers innovative exercises...

In a participatory process, a city and its stakeholders delve into a thorough assessment of **typology** and **risk characterization**.

The objective of the "Hot Spot" exercise is to **identify potential vulnerabilities**, **determine priorities for action** and **benchmark progress**.



Where a city falls on a **Hot Spot spectrum** is a critical part of a city's planning process. A city is hotter when possessing these attributes:

- ▶ Vulnerability to natural hazards;
- ▶ Moderate to high sectoral vulnerability of climate change;
- ▶ Poor or no urban development or growth plan;
- ▶ Poor quality building stock;
- ▶ High population and slum density and high growth rate;
- ▶ No comprehensive disaster response system; and
- ▶ Either or both economic and/or political significance in regional or national context.

Some elements of a city's risk characterization are given – e.g. **geography** and **disaster history** – while others can be influenced by policy – e.g. **governance** and management, **fiscal authority**, **spatial planning** and the built environment, **economic diversification** and **disaster response** systems.

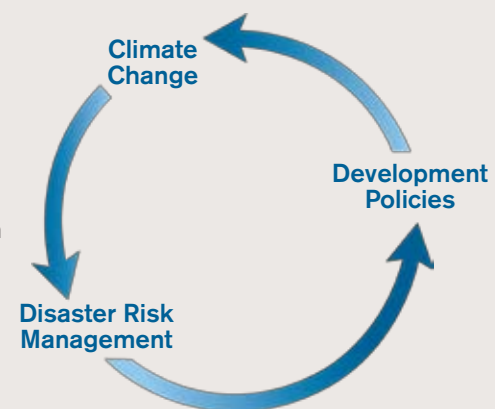
The **City Information Base** holds annotated maps and all pertinent documentation critical to developing, implementing, evaluating, and recording plans and programs to address current and future risks.

...that can form the basis for a climate and disaster-reliant action plan for a city.

Sound practices offer tested success stories from all over the world...

City examples have been provided from King County, New York City, Albuquerque, and Rockville in the U.S.; Makati, Dagupan, Navotas, and Albay in the Philippines; Tokyo, Japan; Singapore; Thua Thien Hue, Hanoi, and Nam Dinh, Vietnam; Jakarta, Indonesia; Dongtan, China; Bogota, Colombia; Vancouver, Canada; Milan and Venice, Italy; and London, U.K.

- ▶ The Association of British Insurers advises the City of London on land-use planning and flood defenses.
- ▶ The Singapore Civil Defense Force has set up an island-wide disaster management system to respond to various natural hazards.
- ▶ Constructions in Tokyo store rainwater and force permeation into the grounds around public spaces, roads and parks for reducing the strain on river basins.
- ▶ Makati City reduces electricity consumption by replacing street lights with more energy efficient systems.
- ▶ Ecopass restricts access to the central area of Milan by charging heavily polluting vehicles.
- ▶ Albuquerque aims to reduce greenhouse gases by requiring new buildings and renovated existing buildings to be more energy efficient.
- ▶ Two initiatives in Jakarta have reduced traffic congestion and significantly reduced greenhouse gas emissions within the transportation sector.
- ▶ The New York City Department of Environmental Protection has developed a climate risk management framework.



...including integrating climate change into a comprehensive disaster management system.

The final plan is up to the city...

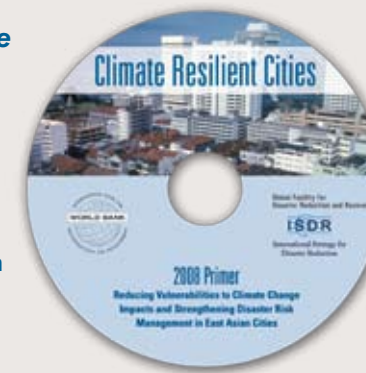
- ▶ Set priorities to reduce climate change impacts and address disaster risk. With the background gathered from the City Typology and Risk Characterization Matrix and the City Information Base, cities should be able to recognize and find ways to address their priorities.
- ▶ Establish a city mandate through executive orders and city council legislation that articulates commitment and establishes a transparent record to guide, monitor, and evaluate a city's progress.
- ▶ Identify ways and means of dealing with hazard management to mitigate and adapt to changing conditions and events.
- ▶ Seek external partners to assist in the process, either with financial or technical assistance.
- ▶ Develop, finance, and implement plans and programs to accomplish goals. The city needs to set up an action plan which not only defines priorities, but also introduces specific programs, budget, targets, and timeline.
- ▶ Engage citizens and other cities, partnering to develop a broader and more effective resilient community.
- ▶ Monitor, evaluate, and modify the initiatives as needed and as the city accomplishments allow.

...to take responsibility for action to protect its citizens, assets, history and future.



A CD-ROM of city profiles offers rich resources...

City Profiles of Sound Practice on the CD-ROM accompany the Primer. The cities were selected for their efforts at addressing climate change impacts, consequences, and disaster risk management issues. The City Profiles on the CD-ROM offer a detailed presentation of the cities' initiatives, projects, and programs.



Cities included in the Profiles on the CD-ROM are:

- ▶ Albuquerque (New Mexico), USA;
- ▶ Dongtan, China;
- ▶ Hanoi, Vietnam;
- ▶ Jakarta, Indonesia;
- ▶ London, United Kingdom;
- ▶ Makati City, Philippines;
- ▶ Milan, Italy;
- ▶ New York (New York), USA;
- ▶ Rockville (Maryland), USA;
- ▶ Seattle (Washington), USA;
- ▶ Singapore;
- ▶ Tokyo, Japan; and
- ▶ Venice, Italy.

The CD-ROM also includes:

- ▶ An electronic version of the complete Primer;
- ▶ Agenda, presentations, and materials from the Pattaya Launch Workshop (July 2008) and the Makati Consultation Workshop (May 2008); and
- ▶ Selected World Bank and UN reference documents.

...for adapting sound practices to local contexts.

www.worldbank.org/eap/climatecities



Climate Resilient Cities



Global Facility for Disaster Reduction and Recovery



International Strategy for Disaster Reduction