

463,681  
people died  
in natural calamities  
in **Asia** between  
1992 and 2002.

These two girls might be next.



**Helping to Make Asian Cities Safer  
Before the Next Disaster Strikes**

---

# Challenges for Asia

**Asia is the fastest urbanizing region in the world. In 2000, 37 percent of its population lived in cities. This proportion is projected to rise to more than 50 percent by 2030.**

## Disaster-Risk Reduction

**People living in Asia are six times more likely than elsewhere to be a casualty of a disaster**

Natural disaster risks increase as cities grow unplanned and marginalized populations are pushed to vulnerable areas and as more houses are built and more infrastructure is constructed without enforcement of regulations that take disaster risks into consideration.

ADPC helps to reduce disaster risk by building disaster-resilient urban communities, promoting development efforts that do not increase cities' vulnerability to disasters and protecting the environment.

## Poverty Reduction

**45 percent of the world's poor live in Asian cities**

Natural disasters can impoverish people and leave those who are already poor unable to cope in a crisis. Preparing for disasters in a multi-dimension approach includes poverty-reduction strategies at a local level that aim to bolster people's ability to survive in a calamity and afterward.

ADPC gives priority to building up the physical, social and economic capacity of communities and institutions in disaster-prone areas.

## Sustainable Development

**Between 1985 and 1999, Asia suffered 45 percent of global economic losses due to disasters**

Poor land-use planning, environmental mismanagement and a lack of regulatory mechanisms increase the risks and exacerbate the effects of disasters.

ADPC works to improve access to safe shelter, services and infrastructure for the urban poor by advocating for and facilitating the incorporation of disaster risks in development planning and management processes.

## Environmental Protection

Environmental degradation leading to climate change, deforestation, loss of biodiversity, reduced water supply and desertification have been found to accelerate or amplify disasters, such as floods, landslides and droughts.

ADPC provides multi-disciplinary, multi-level and multi-hazard approaches to risk reduction that focus on long-term development and environmental protection.



## Complex Disaster Scenarios in Asian Urban Areas



**A poor neighborhood floods during a severe storm, causing many injuries and much damage to property.**

**The flooding triggers a chain of events that involves the crash of a truck carrying toxic chemicals that then leak out near the poor neighborhood.**



**An earthquake in a city results in the collapse of buildings, roads and communication lines.**

**Then a poor electricity connection sparks a fire, blowing up factory plants containing flammable materials and toxic chemicals.**



**Complex scenarios can be very real disasters.  
They require comprehensive preparedness  
to minimize the tragedy where possible.**

## From Enhanced Awareness to Collaborative Actions



Over the past decade many Asian countries have improved their ability to respond to disaster. Most states have legislated and established disaster-management apparatus and many have developed national emergency plans that serve as the basis for inter- and intra-governmental coordination during disaster events. In recent years, the increased severity of disasters and a range of public awareness endeavors have raised governments' sensitivity to the need for more mitigation interventions to reduce individual and structural vulnerability. Some donor agencies now recognize the need to protect economic investments through disaster mitigation activities.

While this new environment provides an opportunity for more cost-effective and sustainable efforts to reduce disaster vulnerability, the increased awareness of governments and donors has yet to translate into tangible action that is focused on comprehensive risk management across all sectors and levels.

## The Asian Urban Disaster Mitigation Program

ADPC's Asian Urban Disaster Mitigation Program (AUDMP) developed in recognition of increased disaster vulnerability of populations, infrastructure, critical facilities and shelter in Asian cities. In an environment where good governance and decentralization are high in most countries' political agenda and where local stakeholders are beginning to see an increasing need to better prepare against disasters, AUDMP centers on strategic approaches to disaster mitigation as part of the urban development planning process in targeted cities of Asia.



Through AUDMP, ADPC supports the capacity building of local authorities, national governments, non-government organizations and others. AUDMP facilitates knowledge sharing and dialogue between key stakeholders to promote replication of its approaches to other cities and countries worldwide. Since 1995, the AUDMP approaches have been introduced, sustained and replicated by national partner institutions in targeted cities of Bangladesh, Cambodia, India, Indonesia, Lao PDR, Nepal, Philippines, Sri Lanka and Thailand.

## What Works in Asia

ADPC strives to build on existing experiences and lessons learned to meet new challenges in Asia. The following initiatives are being supported by USAID's Office of Foreign Disaster Assistance (OFDA) until 2004. ADPC's vision for the next two decades—Strategy Asia 2020—aims to expand its partner network, reach out to other cities and to facilitate collaborative actions for a safer Asia.

### Assessing Risks

**Lessons Learned: Know what the risks are before acting on them.**

A fire-risk map of Vientiane, Lao PDR was developed covering 100 communities. This formed the basis for developing strategies for fire prevention, mitigation and preparedness.

At the community level, Ban Hatsdy Tay villagers near Vientiane developed their own fire-risk map showing areas of high, medium and low risk. This participatory process led to the formulation of a preparedness plan including fire escape routes and awareness-raising activities.

### Promoting Awareness

**Lessons Learned: A broad base of support and commitment is mutually reinforcing. An enlightened public will put pressure on local authorities but will also be more receptive to risk-reduction guidance.**

Since 1999, every 15 January is Earthquake Safety Day (ESD) in Kathmandu, Nepal to remember the devastating earthquake of 1934 and to remind people of the need to be prepared.

The ESD National Committee is chaired by the Minister of Science and Technology. ESD activities include parades, exhibitions, shaking table demonstrations, seminars, plays, radio and television shows.



### Building Capacity

**Lessons Learned: Combine informal hands-on demonstration, education and formal training for effective results.**

In Bandung, Indonesia, partners recognize that disaster-risk management cuts across sectors and disciplines. To build a common understanding of disaster-risk management, innovative capacity building methodologies such as seminars, simulations, information products and practice drills are used to enhance the knowledge and skills of engineers, architects, masons, teachers and students.



Students participate in rescue operations during an earthquake drill in Kathmandu

## Demonstrating Disaster-Risk Management

**Lessons Learned: Seeing is believing. New concepts, methodologies and tools need to bear in mind issues of sustainability and replication in other areas.**

Disaster-risk issues are incorporated in land-use policy, planning and management in Ratnapura and Nawalapitiya, Sri Lanka and in Naga City, Philippines, with adequate government budget allocated.

***“When disasters occur, it is our community that is affected first. We realize it is important to be prepared because there will be a gap between the disaster and the time external assistance arrives,” says Mr. Bikash R. Dhakhwa, General Secretary of the Handicraft Association of Nepal.***



Naga City's most vulnerable areas



Communities work together to construct a bridge in Prey Veng.

***“I think we have acquired enough skills to build another bridge on our own. We understand about 80 percent of the technical aspects of bridge construction,” claims Mr. Long Lak, a 36-year-old resident of Boeng Psauth in Prey Veng, Cambodia.***

Communities in Bangladesh, Cambodia, Nepal and Sri Lanka benefit from a safer environment following a participatory process of community disaster-risk assessment and action planning.

The retrofitting of infrastructure and shelters simultaneously builds capacities in Cambodia, Indonesia and Nepal.

# Strategy Asia 2020

**Strategy Asia 2020 will expand ADPC's geographical outreach from 30 to 300 cities in Asia through collaborative efforts with local, national and regional agencies to reduce urban vulnerability and, at the same time, build disaster-resilient communities. ADPC is targeting the Asian challenges through the following interrelated strategies.**

## Planning and Building Safer Cities: A Comprehensive Approach

As most Asian countries now prioritize good governance and decentralization, local governments are expected to handle a range of issues from risk assessment, development of building standards, enforcement of building codes, retrofitting of weak existing structures, regulation and taxation of land and property markets to infrastructure financing, construction and management.

**Strategy:** To develop a comprehensive decision-making support system for planning and building safer cities by:

- building capacity to incorporate risk-based mitigation planning as part of urban development
- surveying the vulnerability of shelters and infrastructure
- researching building code practices and reasons for non-compliance
- developing and disseminating simple, user-friendly, non-engineered construction guidelines in disaster-prone areas for use by the community and construction artisans
- creating grassroots technology-transfer mechanisms
- implementing a micro-finance system to strengthen shelters and infrastructure as well as promote community-based projects
- transferring risks



**Target:** Strategy Asia 2020 will develop a comprehensive program to plan and build safer environments in 100 identified cities in Asia.

## Emergency Management and Response Planning for Cities: A Multi-Sectoral Approach

The success and effectiveness of response to a disaster depends largely on the preparations that were put in place beforehand. A good response system can save more lives and reduce damage to livelihoods and economies. Response planning is particularly crucial in cities, not only because of the concentration of people, infrastructure, utilities and lifeline facilities but also because urban disasters are a complex mix of natural, technological and social events.

**Strategy:** To strengthen the capacity of national and local governments in managing emergencies and planning response. This will be achieved by assessing and improving systems and procedures that will enhance inter-governmental coordination, as well as cooperation with non-government, international and community organizations in a range of sectors from health, shelter, infrastructure and communications to water supply, sanitation and utilities. An evaluation methodology will also be put in place to ensure that the lessons learned during a disaster will further improve systems and procedures.

**Target:** Strategy Asia 2020 will work in partnership with government and non-government agencies to develop response plans in 10 disaster-prone countries in Asia and build capacity to implement the plans during emergencies in cities.

## Public Awareness Campaigns: A Partnership Approach

People living in hazard-prone areas need to understand that they live in areas of risk. They need to know the specific dangers they are exposed to, the warnings that are issued and the appropriate actions to take to protect their lives and minimize damage and loss. They need information. Customizing public awareness approaches, tools and messages can push the message through the heavy traffic of information competing for people's attention. The overall goal is to motivate people to act.

ADPC has developed communication guidelines for urban disaster-risk management in Asia and a regional training course curriculum on disaster-risk communication targeted at government agencies, non-government organizations and media groups. The guidelines and course focus on strategies to "package" and "channel" carefully designed messages effectively to targeted populations so that appropriate protective actions will be taken.

**Strategy:** To promote awareness on disaster-risk management, a partnership approach is required with training institutes, the media, organizations of targeted sectors and the population at risk. ADPC aims to develop a cadre of competent professionals to adapt and deliver the disaster-risk communication course nationally and locally. By the end of the course, participants will be expected to have an action plan and draft proposal for a public awareness project. An alumni network will be set up to regularly share knowledge, experiences and lessons learned on the Web site, through e-mail discussion lists and in face-to-face meetings.

**Target:** Strategy Asia 2020 will develop and implement tailored risk communication strategies in 10 disaster-prone countries in Asia.



## Knowledge Development and Capacity Building: A Holistic Approach

The management of disasters is changing as existing relevant institutions and policies come under criticism and in response to calls for better preparation. The nature of cities is also changing. They are bigger with growing demands from expanding and diversifying populations. Disaster-risk management involves more than one player or agency; and a common understanding of risks is important among them. Increased education, information, networking and research that presents a range of approaches to deal with the risks is needed. ADPC's plans involve the following four key targets:

### a. "How-to" resource books that translate increased awareness into action

Advances have emerged in the fields of hazard forecasting, risk assessment, mitigation planning and implementation and community-based disaster-risk management over the past two decades. However, most of the currently available resource documents on disaster-risk management are out of date and do not represent current development issues and trends. Asia, in particular, lacks well-resourced comprehensive reference documents that could be used by professionals and practitioners for understanding disasters in their own contexts.





**Strategy:** To develop a *Primer on Disaster-Risk Management for Asia* that would serve as a comprehensive, practical and updated resource on disaster-risk management. The overall goal is to assure an appreciation for and common understanding of disaster-risk management that is applied across all sectors and among all levels of current and potential participants in the disaster-risk reduction process.

Following extensive consultations with stakeholders of disaster management in a range of forums, it was agreed that the Primer would be a series of different volumes. Volume I will provide the rationale and theoretical context of a holistic approach to disaster-risk management. The other volumes will be hazard-specific and include “how-to” guides, effective strategies, policy options, proven tools, good practices and lessons learned.

**Target:** Strategy Asia 2020 will deliver five volumes of the Primer on the management of slow onset flood, rapid onset flood (coastal flood, storm surge and typhoon), seismic hazards, drought and mass movements (landslide).

### b. Research on disaster-risk reduction

There is much research on cities and disasters but little communication between the scholars and professionals studying them. Disaster-risk management is a critical urban issue but it competes for attention with other problems (e.g. new urban in-migrants, decaying infrastructure, poor housing, pollution, street crime, ethnic and racial tensions). And yet, those problems are what make communities more vulnerable to disasters. For example, the recent flood and landslide disaster in central Sri Lanka exacerbated the problems of poor migrants from rural areas in obtaining affordable housing.

**Strategy:** To partner with networks of universities to facilitate research of different hazards and in different contexts and to provide guidance in pilot project implementation to young professionals at the graduate level in a range of fields including environment, planning and construction in disaster-prone areas.

**Target:** Strategy Asia 2020 will form three networks of research groups and universities in conducting research and sharing findings in the different fields of urban disaster-risk management.



### c. Asian conference on disaster-risk management

Disaster-risk reduction is an integral part of sustainable development, is multi-sector and inter-disciplinary in nature. As natural and built environments are constantly changing, the threats posed by hazards also change. Disaster management laws, institutions, plans and programs must anticipate changes and adapt to new knowledge and conditions. Thus, it is important for stakeholders in the region to meet regularly to share updates on scientific findings, as well as practical approaches.

**Strategy:** To organize an annual multi-stakeholder conference in Asia, involving policy and decision makers in international and regional agencies, national governments, donors, bilateral and multilateral institutions, the scientific community, NGOs and private sector organizations. ADPC conducted its first multi-stakeholder conference in September 2002 in Bali, Indonesia. The conference was co-organized by Citynet, Institute of Technology Bandung, UNDP’s Urban Governance Initiative and the UN’s International Strategy for Disaster Reduction, with funding support from USAID’s Office of Foreign Disaster Assistance.

**Target:** Strategy Asia 2020 will facilitate a disaster-risk management conference every two years.

### d. Build capacities to reduce risks

The concept of capacity building is to provide a target group with skills, resources and technical abilities to enable it to better help itself. There is a greater need for the training of professionals in risk reduction, as both the public and political authorities recognize that effective risk-management strategies require many different skills. But it is also important to target the new generation of young graduates and professionals who will one day plan and manage cities.

At ADPC, a range of regional and national courses for Asia have been designed and conducted to include both target groups. The courses focus on hazard awareness and specific components of disaster-risk and sector management—all of which emphasize a multi-disciplinary approach to understanding risk.

Hazard-related courses	Disaster-risk management courses	Sector-specific courses
<ul style="list-style-type: none"> <li>• Earthquake Vulnerability for Cities</li> <li>• Flood-Risk Management</li> <li>• Technological Risk</li> <li>• Urban Fire-Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>• Climate Forecasting and Applications</li> <li>• Community-Based Disaster-Risk Management</li> <li>• Disaster-Risk Communication</li> <li>• Disaster-Risk Management</li> <li>• Urban Disaster Mitigation</li> </ul>	<ul style="list-style-type: none"> <li>• Land-Use Planning and Risk Management</li> <li>• Public Health in Complex Emergencies</li> <li>• Hospital Preparedness for Emergencies</li> <li>• Medical First Responders</li> <li>• Training for Instructors</li> </ul>

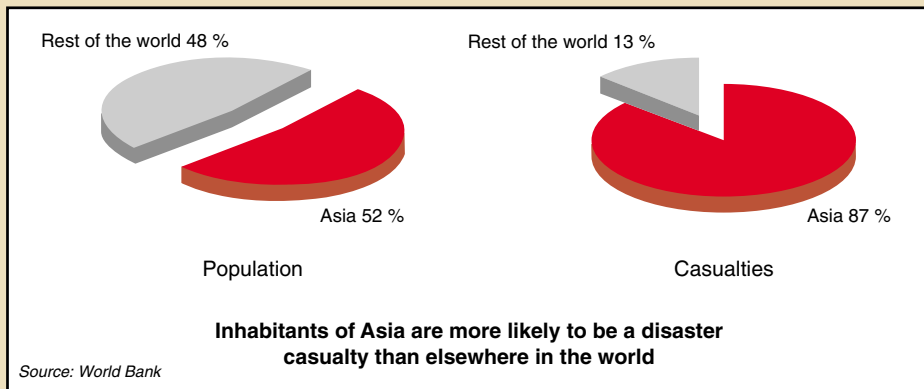
**Strategy:** To build the capacity of mid-level professionals from government and non-government organizations by working in partnership with appropriate in-country training institutes and universities. Through a “training of trainers” approach, ADPC will work with selected training institutes and universities to adapt the appropriate regional course curriculum to suit national and institutional needs and conduct the course in the local language on a regular basis. Resources such as the Primer and research conducted will be valuable contributions to updated and advanced course curriculum.

**Target:** Strategy Asia 2020 will institutionalize appropriate training in 10 countries in Asia.

**For further information...**

Strategy Asia 2020 Secretariat  
Asian Disaster Preparedness Center  
P.O. Box 4, Klong Luang, Pathumthani 12120  
THAILAND

Tel: (662) 516 5900 to 10  
Fax: (662) 524 5350  
E-mail: [audmp@adpc.net](mailto:audmp@adpc.net)  
URL: <http://www.adpc.net>



**As the fastest urbanizing region in the world,  
the challenges for Asia are fast increasing.**



**Asian Disaster Preparedness Center**