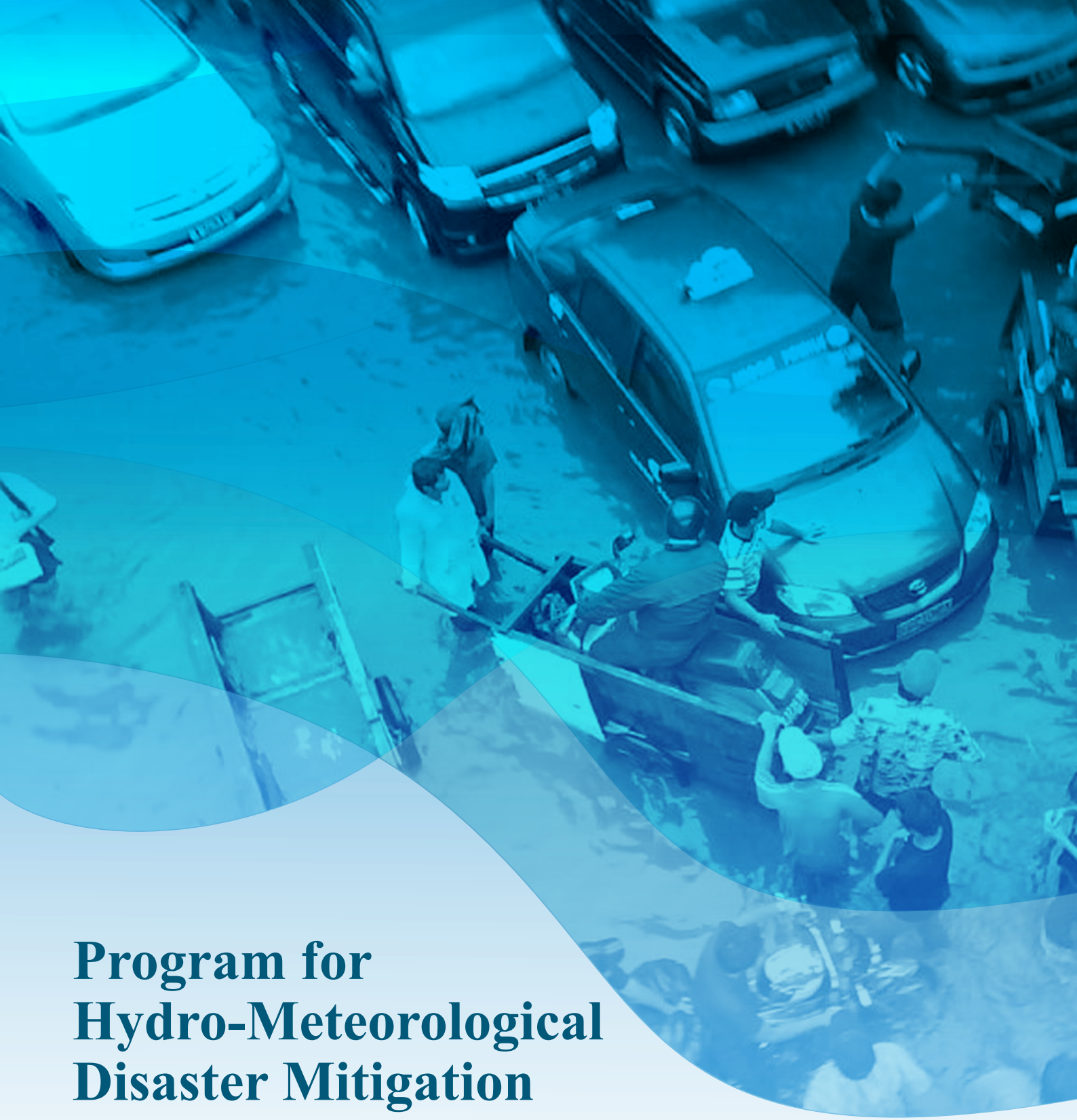

Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE)

Final Program Implementation Report
2005 to 2010

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2005 to 2010

Cooperative Grant Agreement No. DFD-G-00-05-00232-00

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Acronyms

ADPC	Asian Disaster Preparedness Center
AKPBSP	Aga Khan Planning and Building Service Pakistan
AUDMP	Asian Urban Disaster Mitigation Program
BDPC	Bangladesh Disaster Preparedness Centre
C-BERC	Community-Based Emergency Response Course
CBDRM	Community-Based Disaster Risk Management
CDP	Center for Disaster Preparedness
CECI	Centre for International Studies and Cooperation
DRR	Disaster Risk Reduction
EOC	Emergency Operations Center
EWS	Early Warning System
GDRR	Regional Course on Governance and Disaster Risk Reduction
GN	Grama Nilidari
IEC	Information, Education, Communication
ITB	Bandung Institute of Technology
JPG	Jakarta Provincial Government
MDRRG	Regional Courseon Mainstreaming DRR into Local Governance
NBRO	National Building Research Organisation
OFDA	Office of US Foreign Disaster Assistance
PRA	Participatory Risk Assessment
PROMISE	Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia
RCC	Regional Consultative Committee on DRR
RW	*Rukun Warga*
SHOUHARDO	Strengthening Household Ability to Respond to Development Opportunities
SMAN 8	Sekolah Menengah Atas Negeri 8
SOPs	Standard Operating Procedures
TAF	The Asia Foundation
TWG	Technical Working Group
USAID	United States Agency for International Development

EXECUTIVE SUMMARY: SOUND DISASTER MITIGATION AGAINST CYCLONES AND FLOODS

The Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (**PROMISE**) emphasized enhanced preparedness for and mitigation of the destructive impacts of hydro-meteorological events on the vulnerable urban communities and the economic infrastructure. PROMISE was designed as a program that builds the capacity of respective stakeholders from the regional level to national and community levels. It was expected that as capacities are enhanced, practitioners and decision makers will possess the tools and methodologies needed to plan for long and short-term mitigation of hydro-meteorological disasters.

PROMISE built upon the experience, knowledge, and professional networks formed under the Asian Urban Disaster Mitigation Program (**AUDMP**) funded by the US Office for Foreign Disaster Assistance (OFDA). In the five years that the PROMISE was implemented, solutions were created for the targeted urban communities that were grounded in their actual needs, integrated into the disaster preparedness and mitigation plans of urban local authorities, sustainable *via* local institutions, and may be supported for replication within their country contexts.

PROMISE was designed for 06 target countries in Asia that suffer each year from a multitude of recurring hydro-meteorological hazards (floods, cyclones, landslides, droughts) that threaten millions of lives and cause heavy damage and economic losses that reverse years of development and set back the efforts of achieving the UN Millennium Development Goals. The impacts are more significant for the rapidly growing urban centers of this region, given the scale of the unplanned urban and industrial growth, increases in population particularly from rural-to-urban migration, the settlement by urban poor families in marginal lands. Asian cities generally possess poor urban governance for disaster risk management as evidenced by an inadequate disaster preparedness setup, fragile political will, and lack of community awareness about disaster risk reduction.

City Demonstration Projects

The main component of the program is to have demonstration projects in cities exposed to extreme and/or frequent tropical cyclone and flood hazards, with concentrations of urban poor communities, and a potential for increasing risk due to either urbanization or in-migration. Nine cities in South and Southeast Asia became part of the program, to serve as the social laboratories for developing local disaster preparedness practices and disaster mitigation approaches and systems. At the end of the projects, they would serve as living models of urban flood disaster mitigation for their countries and the rest of the world. The cities and countries are: Chittagong and Jamalpur (Bangladesh), South Jakarta (Indonesia), Hyderabad (Pakistan), Dagupan and Pasig (Philippines), Kalutara and Matara (Sri Lanka), and Da Nang (Viet Nam).

The program activities started with a planning workshop held in October 2005 to explain the scope and expectations of the program to selected lead partners from the first five countries in the program. The partners then consulted city officials of their selected cities and formulated project proposals for city demonstration projects in. The city demonstration projects have been mainly focusing on: hazard, vulnerability and risk assessment using various participatory tools and processes; action planning workshops for urban resilience that involved multiple stakeholders; improving urban disaster preparedness systems and capacities; and increasing urban community resilience.

The degree that PROMISE was successful in reducing the vulnerabilities of the urban communities in the nine cities will not be seen immediately, but the activities which are summarized in Table 1 will explain the extent of involvement of target stakeholders and the level of sustaining actions that will promote disaster preparedness and mitigation practice in the urban context. What this end-of-program report cannot capture is the richness of the experience on the ground and the far-reaching impacts in reducing hydro-meteorological disaster impacts. Some of the contexts, lessons and methodologies are captured as case studies and local training material, and are appended to the report.

Table 1: Success of city demonstration projects

Criteria		*Dagupan*	*Da Nang*	*Chittagong*	*Jakarta*	*Kalutara*	*Pasig*	*Matara*	*Hyderabad*	*Jamalpur*
Objective 1, Result 1.1: Increased resilience of selected communities to hydro-meteorological disasters	Community disaster mitigation projects	✓	✓	✓		✓		✓	✓	✓
	Flood EWS that reaches the target urban poor communities	✓			✓	✓	✓			✓
	Training in skills for emergency response	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Active participation in emergency response by trained volunteers	✓		✓	✓		x		✓	
Objective 2, Result 2.1: Increased adoption of tools and methodologies for community preparedness and mitigation of hydro-	Emergency response plans	✓	✓							x
	Standard operating procedures (SOPs) for emergency response	✓		✓	✓		x			
	Risk-centered land use / construction guidelines / building by-laws		✓	✓		✓		✓		
	Risk reduction action plan	✓	✓	✓		✓	✓	✓	✓	✓
Objective 2, Result 2.2: Improved practices (techniques, methodologies, tools) and strategies for hazard mitigation and	CBDRM practice by target urban poor communities	✓	✓	✓	T W	✓	✓	C W	✓	✓
	Functional Emergency Operations Center	✓	✓	x	x		x			
	Raising awareness for disaster preparedness	✓	✓	✓	✓	✓	✓	✓	✓	
	Acceptance of CBDRM methodology by city officials	✓	✓	x	✓		✓		✓	x
Additional Results	Team of trained first responders in city government	✓					x			x
	Emergency drills	x			✓		x			
	Conduct of flood simulation exercise	✓			✓					
	Budget for DRM	✓	x							x
	Institutionalized program or activity for raising awareness on disaster preparedness	✓								
	DRR body within the city government	✓	x		✓		✓			
	Specialized training course related to DRR	✓	✓				✓	✓		
	Vulnerability reduction projects	✓				✓	x	✓		✓

Legend:	"✓" = developed under PROMISE; "**X**" = existed before PROMISE; "**CW**" = community workshops; "**TW**" = town watching

Capacity Building

The capacity building component of PROMISE was comprised of developing two new regional trainings courses, and formalizing and institutionalizing these new courses at the national level in the six countries with city demonstration projects. More than 200 people were trained in the regional courses during the duration of the program.

In addition, capacity building programs on selected themes of disaster risk management were delivered in support of the implementation of the city demonstration projects. The main thrusts were capacity building in: 1) community-based disaster risk management (CBDRM) with 1296 people with a CBDRM curriculum, and another 618 people trained in participatory risk assessment; 2) community-based emergency response with 303 people trained through the community-based emergency response course and another 136 people trained in first response; and 3) school safety with 3,635 school children, teachers and administrators who attended disaster risk management awareness raising events or workshops.

One major outcome of this component is that ADPC has adopted one of the new regional courses as a regular regional training course, "Mainstreaming Disaster Risk Reduction into Governance" and successfully delivered the 4th course in January 2010. It was delivered in four of the six countries within the program through national training partners, who also signed Memoranda of Understanding that the course would be included within their own training programs.

A second regional course developed under the program, called "Hydro-Meteorological Risk Assessment and Community Participation", delivered in 2007 in Bangkok. The course material was eventually integrated into another ADPC course on geographic information systems (GIS) and remote sensing for disaster management.

Advocacy for Mainstreaming DRR

Mainstreaming to incorporate disaster risk reduction activities refers to bringing in the different risk reduction ideas, concepts, approaches/practices, policies and programs into ongoing planning and implementation of development programs/projects. In the early '80s and late '90s, disaster risk reduction (DRR) was seen as standing apart from development. Considering the fact that disasters quite often hamper the economic and social development, efforts are on to sensitize the actors of development to mainstream disaster risk reduction in urban development. The end objective of mainstreaming disaster risk reduction is to assist the community, actors of development, governments and institutions in adapting approaches and formulating policy framework so that the risk emanating factors can be addressed in an effective manner.

As a result of the advocacy component, guidelines for land use and construction activities were developed under some of the city demonstration projects. A strategy document was developed for Sri Lanka, and disaster risk management was integrated within the guideline for comprehensive development planning by local governments in the Philippines. A **working paper** on "Mainstreaming DRR: A Road towards Sustainable Urban Development and Creating Safer Urban Communities", and two **guidelines** on mainstreaming DRR into land use planning and housing were developed for deliberation and adoption by the Regional Consultative Committee on Disaster Management (RCC). The RCC is composed of heads of the National Disaster Management Offices of 26 countries from Asia and the Pacific region.

Disseminating the DRR Lessons

PROMISE employed an approach that focused intervention in a demonstration, and lessons learned will be disseminated to reach other city officials and stakeholders. The strategy was: 1) to identify specific elements from each of the city demonstrations that would enrich the regional knowledge base on urban disaster mitigation and preparedness facilitated by ADPC; 2) to capture the knowledge gained as documents, reports, lessons learned, urban disaster mitigation practice, urban disaster preparedness practices, IEC material, etc.; and 3) to disseminate these publications and other program outputs through the ADPC website. This has resulted in the publication of 15 new case studies under the ***Safer Cities*** series, 11 of which are from the PROMISE experience.

The four-volume ***Urban Governance and Community Resilience Guides*** published in 2010 serve as a reference for local disaster risk management. This is a major work that tries to raise awareness of local officials that urban areas may face a variety of natural and man-made hazards, and that local development programming can go a long way towards reducing the potential of these hazards converting into disasters.

Existing networks among local authorities, of disaster response organizations, and of regional partners were tapped to expand the network for urban hydro-meteorological disaster risk reduction. This resulted in the presentation of good practices in PROMISE cities at key forums such as the UNISDR Global Platform for Disaster Risk Reduction in 2009, the Asian Ministerial Conference for Disaster Risk Reduction meetings in 2008 and 2010, and the UNISDR global conference "Building a local governance alliance for DRR" in 2009.

Urban Hydro-Meteorological Disaster Mitigation Context Today

PROMISE ends in the year that the UN International Strategy for Disaster Reduction (UNISDR) began its two-year global campaign to reduce urban disaster risks. Interest in the role of cities in the reduction of disaster risk and adaptation to climate change will hopefully increase with the campaign, and that PROMISE can contribute some possible approaches and lessons for other development actors in the urban areas.

The *World Disaster Report 2010: Focus on Urban Risk* discusses compelling reasons for the focus on the urban areas and the urbanization of risk, reasons that are parallel to the rationale for PROMISE:

- More than half of the world's population is living in urban areas, with most of the largest cities found in low- and middle-income countries.
- The last few decades have had a very large increase in the number of urban dwellers living in poverty, usually in poor-quality housing and densely-packed settlements that possess little infrastructure and minimal access to urban services of water, electricity, sanitation.
- Urban poverty can increase disaster risk from a multitude of reasons such as poor access to services related to safety, health and sanitation, poor quality of the housing and little or no consideration to building codes, and the unsafe land of the city that are unattractive to those who can afford real estate in safe locations can become the settlements of the urban poor who cannot afford land or commercial housing rental rates.

The report emphasizes that urban areas do not automatically mean higher disaster risk, that urban areas can also prove safer than rural areas. Cities in high-income nations generally do not have higher disaster risks because they also possess the "comprehensive web of infrastructure and services that reduce disaster risks and disaster impacts" (p. 16) and so the urban population in such cities enjoy better access to the infrastructure and services. Urban disaster risk therefore arises from the failure of governments to adapt their institutions to urbanization.

The lessons learned from the PROMISE experience are consistent with these ideas of the role of institutions in DRR, and expand the concept of institution to include community institutions. The factors for successful disaster mitigation in the nine city demonstration projects are factors of institutional capacities for disaster risk reduction:

- Setting up of a DRR technical working group by the local authority
- Community ownership of DRR efforts
- CBDRM can promote good urban governance

- Structural and non-structural mitigation scaled down to the community-level
- A need for DRR Champions
- A need for Case Study development

The strategies for urban resilience against hydro-meteorological hazards are:

- Land use management
- Mainstreaming disaster risk reduction
- Structural mitigation, big and small
- City-level early warning and alert dissemination to the urban communities
- Urban emergency response system
- Disaster recovery programs that suit long-term needs
- Integration of urban disaster risk management into urban governance

PROMISE was not without challenges and difficulties. Short election cycles, limited local control over development or disaster risk reduction, and the ability of project partners to manage achieving the PROMISE objectives were the key obstacles to maximizing the output and impact of the program. Fortunately, opportunities were also present for promoting disaster risk reduction, for creating partnerships for DRR, and for gaining some recognition for the work. In addition, the PROMISE cities are regularly visited by floods and cyclones, and therefore there is an opportunity for a longitudinal study to measure project's impacts.

These lessons and strategies should be considered as the contribution of the cities and program partners, but also of OFDA to the discipline of disaster management. As the pioneering development agency, USAID/OFDA had the vision to place importance upon reducing urban disaster risks in Asia, beginning in 1995 with the AUDMP, and contributed to the development of ADPC's Strategy Asia 2020 for reducing urban disaster risks. The long-term contribution of USAID/OFDA continued with PROMISE, and the work of the past 15 years has attracted United Nations (UN) agencies and other disaster risk management organizations like the International Federation of Red Cross and Red Crescent Societies, and is culminating with the UNISDR 2010-2011 World Disaster Reduction Campaign on Making Cities Resilient.

Program Background

Pre-Program Disaster Mitigation Context

The Asian region suffers each year from a multitude of recurring natural hazards that threaten millions of lives and cause heavy economic, financial, infrastructural, agricultural and productivity losses. The impacts of these disasters not only reverse years of development, but also set back the efforts of achieving the UN Millennium Development Goals.

It has been observed that damage due to disasters is more serious and significant in the rapidly growing urban centers of this region, given the scale of the unplanned urban and industrial growth and also the exponential increase in population, particularly resulting from rural-urban migration. The more frequent occurrence and the widespread effects of hydro-meteorological disasters such as floods, cyclones, landslides, droughts, and even health hazards such as vector-borne diseases, have become a major development issue in the region vis-à-vis geological hazards such as earthquakes that have a higher impact in terms of damage, loss and disruption. As a higher percentage of urban population is forced to settle in marginal lands in these cities, their vulnerability to natural hazards is a serious concern that needs immediate intervention. Despite the advances made during the last ten years in reducing disaster risk through planning and implementation of mitigation measures, community-based disaster risk management and emergency management, a lot more remains to be done to reduce the potential risk posed on urban communities at risk in Asian countries.

Poor disaster management setup, fragile political will, and lack of community awareness about disaster risk reduction. City expansion is happening in an *ad hoc* or unplanned manner, and Asian cities have the tendency to increase their disaster risk. Most slum and underserved communities are found in the areas that continually expose them to floods, typhoons, storm surge and landslides.

The floods and landslides in the Philippines and Sri Lanka, the floods in Hyderabad (Pakistan) in 2010, and floods in Jakarta in 2007 and 2008 have shown the vulnerability of cities to flood disasters. Huge disaster impacts resulted from Typhoon Xangsane in Metro Manila and Da Nang in 2006, Typhoon Ketsana in Metro Manila in 2009, Cyclone Sidr in Bangladesh in 2007; and Cyclone Nargis in Myanmar in 2008 have raised real concerns for community safety and sustainable urban development along the coastline. Unfortunately, when compared with other development activities, the urgent needs for basic amenities and urban services, disaster risk management activities are given lower priority by local authorities in many cities. Therefore, it is necessary to develop systems for risk-centered urban planning.

It is also necessary to build community capacity to an enhanced level of preparedness as well as to create awareness on possible ways of minimizing their disaster risk so that they can understand the issues of disaster risk management and participate actively in DRR process. The program's approach indeed raises community resilience, especially when enough time is devoted to completely fulfilling the components of resilience namely: urban risk assessment, disaster preparedness, mainstreaming DRR in urban development activities, and community-based disaster risk management. This is best shown by Dagupan, a PROMISE city in the Philippines. The successful pre-emptive evacuations of Dagupan's high-risk communities prior to the two-times crossing of Typhoon Parma in 2009, and the orderly coordination of the relief distribution and evacuation shelter management are achievements of the city's disaster coordinating council and target urban poor communities.

PROGRAM DESIGN AND IMPLEMENTATION

The Program for Hydro-Meteorological Disaster Risk Mitigation in Secondary Cities in Asia (PROMISE) is designed to address the above concern. It aimed to promote hydro-meteorological disaster preparedness and mitigation activities in selected highly vulnerable secondary cities in South and Southeast Asia in order to reduce the eminent risks of these natural events. More specifically, the desired goal of the PROMISE was to: "Reduce vulnerability of urban communities through enhanced preparedness and mitigation of hydro-meteorological disasters in South and Southeast Asia."

PROMISE built upon the achievements of the Asian Urban Disaster Mitigation Program, implemented by ADPC with funding support of OFDA, that helped shift the Asian urban disaster management paradigm from response to mitigation. The program therefore will contribute to achieve the above goal through the following key objectives:

1) Adoption of specific hydro-meteorological disaster preparedness and mitigation measures to manage hydro-meteorological disaster risk by stakeholders in targeted cities; 2) Increased stakeholder involvement and further enhancement of strategies, tools and methodologies related to community preparedness and mitigation of hydro-meteorological disasters in urban communities; 3) Enhanced coordination with USAID Missions to promote sustainability and ensure program activities accord with USAID country and regional strategies; 4) Strengthened networks and regional linkages among relevant risk management institutions/organization for improved capacity for application and dissemination of lessons learned.

Figure 1: PROMISE Program Components

These objectives, developed into four components of PROMISE: City Demonstration Projects; Regional and National Capacity Building; Advocacy for Mainstreaming Risk Management in Urban Governance; and Regional Networking and Information Dissemination.

Initial Program Design

OFDA/USAID agreed to provide US$ 0.5 million and an additional US$ 0.5 million in support of this intervention from 2005 to 2008. The objectives, outcomes and expected results are show in Table 2:.

Under Component 1, PROMISE had five highly vulnerable cities for implementation of demonstration project activities under the APS, namely Chittagong (Bangladesh), Hyderabad (Pakistan), Dagupan (Philippines), Kalutara (Sri Lanka) and Da Nang in (Viet Nam). Activities to be undertaken at city level were: hazard, vulnerability, capacity and risk assessment; action planning workshops for disaster risk reduction at community and city levels; implementation of small-scale community projects for enhanced preparedness and mitigation of hydro-meteorological events; CBDRM training for city officials and grassroots organizations; improvement of the city-level emergency response capacity; and local public awareness campaigns.

Program extension, 2008 to 2009

OFDA/USAID agreed to provide US$ 0.855 million in additional support of this intervention from 2008 to 2009. Amendments were made as follows:

Component 1- City Demonstration projects

The program was extended to include Jakarta in Indonesia (2008 to 2009) for a period of 18 months. PROMISE Philippines in Dagupan City was extended for 12 months with additional activities for extension to give enough time to complete the activities for institutionalizing DRR in schools, and for an action planning workshop on DRR and Climate Change.

PROMISE Sri Lanka in Kalutara was extended also for 12 months with additional activities for setting-up the emergency response system, preparing a niche of drainage projects for Kalutara UC area, for setting up a resource center for DRR activities in Kalutara ULA, and for setting up disaster management cells for selected schools.

Component 3 - Advocacy for Mainstreaming risk management in urban governance

Two supplementary activities were proposed under this component. The first was to conduct the 4th and 5th meetings of the advisory panel of the Regional Consultative Committee on Disaster Risk Reduction (RCC) for mainstreaming disaster risk reduction, scheduled for March/April 2007 and July/August 2007 respectively. However, the fund for this was saved as ADPC was able to fund the activities from other sources. The money was later used to fund a regional-level experience sharing workshop, organized to share experience from PROMISE, and to discuss and develop the working paper developed for the RCC.

Program extension, 2009 to 2010

OFDA/USAID agreed to provide US$ $0.367 million in support of this intervention from 2009 to 2010. Under Component 1, the program included Jamalpur in Bangladesh, Pasig in the Philippines, and Matara in Sri Lanka.

Table 2: Program Logic Matrix in the 2005 proposal

Program Goal: Reduced vulnerability of urban communities through enhanced preparedness and mitigation of hydro-meteorological disasters in South And South East Asia.			
Program Strategy: Increased adoption of private and public sector mechanisms for community preparedness and mitigation of hydro-meteorological disaster risk in urban areas of South and Southeast Asia which will measurably alleviate human sufferings, prevent losses of life, and reduce the potential for physical and economic damages.			
Objective 1: Adoption of specific hydro-meteorological disaster preparedness and mitigation measures to manage hydro-meteorological disaster risk by stakeholders in targeted cities.	**Objective 2**: Increased stakeholder involvement and further enhancement of strategies, tools and methodologies related to community preparedness and mitigation of hydro-meteorological disasters in urban communities.	**Objective 3**: Enhanced coordination with USAID Missions to promote sustainability and ensure program activities accord with USAID country and regional strategies.	**Objective 4**: Strengthened networks and regional linkages among relevant risk management institutions / organizations for improved capacity for application and dissemination of lessons learned.
Component 1: City Demonstration Projects	**Component 2**: Regional and National Capacity Building	**Component 3**: Advocacy for Mainstreaming Risk Management in Urban Governance	**Component 4**: Regional Networking and Information Dissemination
Expected Result 1.1: Increased resilience of selected communities to hydro-meteorological disasters	**Expected Result 2.1**: Increased adoption of tools and methodologies for community preparedness and mitigation of hydro-meteorological disaster by stakeholders in the selected cities	**Expected Result 3.1**: Enhanced coordination and linkages between USAID country and regional offices and program partners at national and regional level to ensure program activities accord with USAID country and regional strategies.	**Expected Result 4.1**: Increased collaboration and partnership among stakeholders at city and national levels
Expected Result 1.2: Improved capacities of public and private sector practitioners to apply skills and technologies for community preparedness and mitigation and to manage hydro-meteorological disaster risk.	**Expected Result 2.2**: Improved practices (techniques, methodologies, tools) and strategies for hazard mitigation and community preparedness throughout the region.	**Expected Result 3.2**: Increased visibility of USAID humanitarian assistance to at risk communities in 5 target countries.	**Expected Result 4.2**: Increased collaboration and partnership with regional and international institutions for wider dissemination and enhanced capacity for adoption of tools and methodologies for community preparedness and mitigation

Target stakeholders and communities

The PROMISE cities are rapidly growing urban areas in their respective countries that have had significant impacts from hydro-meteorological disaster events during the past 10 years. The program identified that existing national frameworks for disaster risk reduction will be the key part for providing the policy for urban resilience against hydro-meteorological and other hazards, for activating all national or federal agencies whose activities intersect with local disaster preparedness and risk reduction, and for implementing the training curricula developed under PROMISE through their own national training academies for local officials and development actors such as health professionals and teachers.

Cities and other urban centers are regarded under the program as the key actor for bringing disaster risk reduction issues into mainstream local development processes. This level of local government possesses local institutions, mandates, funding and access to local resources that can sustain the disaster mitigation efforts developed herein; the impact that local government can make to reduce disaster risk rises as additions to their mandate and scope for generating financial and other resources. This is especially true in countries that have had efforts to decentralize national public services to local governments, such as the Philippines and Indonesia.

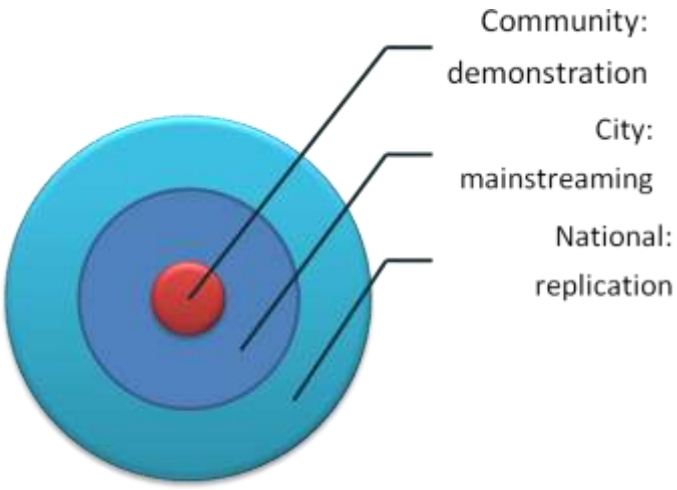


Figure 2: Targeting the community

The program therefore sought to include hydro-meteorological disaster risk reduction concepts, considerations and activities within local development instruments such as development plans and construction guidelines/by-laws, as well as develop new local institutions for disaster risk reduction such as resolutions, ordinances, offices like an Emergency Operations Center, and Standard Operating Procedures during emergencies.

Finally, the program sought to improve the immediate preparedness needs of urban communities. There should be tangible outputs in terms of risk assessments, action plans, systems, skills, equipment, and disaster mitigation.

The number of beneficiaries at ground level can be counted at those who directly benefited from the program (targeted beneficiaries who participated in activities promoting community resilience). We may also count the remainder of the population of that urban center who stand to benefit from the improvements in the disaster preparedness and/or risk reduction (end-beneficiaries). These numbers are summarized in Table 3:

Table 3: PROMISE Beneficiaries in nine cities

Country and City	Targeted Beneficiaries[1]			End Beneficiaries[2]	
	Communities	Number	Census Year	Number (millions)	Census Year
Chittagong , BANGLADESH	10 wards	218,165	2001	3.20	2001
Jamalpur, BANGLADESH	3 wards	33,403	2008	0.13	2008
Jakarta, INDONESIA	7 *rukun wargas*	15675	2008	9.58	2010
Hyderabad, PAKISTAN	4 UCs, 1 ward	114,065	1998	1.17	1998
Dagupan, PHILIPPINES	8 *barangays*	16,727	2000	0.13	2000
Pasig, PHILIPPINES	8 *barangays*	306,752	2007	0.50	2007
Kalutara, SRI LANKA	14 GN divisions	33,716	2001	0.11	2001
Matara, SRI LANKA	15 wards	76,254	2007	0.08	2007
Da Nang, VIET NAM	6 wards	68,320	2007	0.81	2007
TOTALS	**-**	**883,077**	**-**	**15.71**	**-**

[1] Data for the target beneficiaries refers to the population living in the target communities (barangays, GN divisions, rukun warga, union councils, wards) were taken by project partners for risk assessment. Figures from Jamalpur, Jakarta and Matara came from the respective local authority.

[2] Data for the end beneficiaries refers to the population of the city during the latest census year.

Overview of Objectives, Results, Activities and Outputs

The results achieved from 2005 to 2010 are shown in Tables 4 to 7:

Table 4: Objective 1 Results

Results	Targeted Activities	Outputs
Increased resilience of communities to hydro-meteorological disasters	30 small-scale community based risk mitigation projects	Chittagong = 5 projects Jamalpur = 3 projects Hyderabad = 16 projects Dagupan = 16 projects Kalutara = 4 projects Matara = 2 projects Da Nang = 6 projects **TOTALS: 52 projects** **802 People Trained in CBDRM**
	7 community-based EWS in 7 cities	EWS in Dagupan, Kalutara, Jakarta, Pasig, partial in Jamalpur, Da Nang **TOTAL: 5 EWS**
	8 community responder teams with minimum 25 trained members per team with equipment (used during training)	CBERC training conducted in 8 cities (except Pasig) with at least 25 volunteer responders trained per city except for Hyderabad that trained 24 volunteers; Pasig trained volunteer responders in basic swift water rescue **TOTALS: 8 Teams** **505 Trained Volunteer Responders**
Improved capabilities of public and private sector practitioners to apply skills & technologies for community preparedness and mitigation and to manage hydro-meteorological disaster risks	Two training courses - i. Urban governance & risk management; ii. Community preparedness and mitigation of hydro-meteorological risks 100 practitioners trained in regional & national courses	Regional Course on Governance and Disaster Risk Reduction (renamed Mainstreaming DRR into Local Governance): 206 practitioners Regional Course on Hydro-Meteorological Risk Assessment and Community Participation: 22 practitioners **TOTAL: 228 Practitioners**

Table 5: Objective 2 Results

Results	Targeted Activities	Outputs
2.1 Increased adoption of tools and methodologies for community preparedness and mitigation of hydro-meteorological disasters by stakeholders in the selected countries	9 city-level emergency response and mitigation plans	1. Chittagong SOPs and Action Plan 2. Jamalpur Action Plan, and DRR item for the municipal development plan (draft)[3] 3. Jakarta EOC SOPs 4. Hyderabad Action Plan 5. Dagupan Emergency Response Manual, Action Plan 6. Pasig DRRM Plan (draft) 7. Kalutara Land Use Planning Guidelines (draft), Action Plan 8. Matara Settlement Planning Guidelines (draft), Action Plan 9. Da Nang – Cam Le Construction Guidelines, Action Plan
	Governance and DRR course developed and linked with at least 1 national course and institutionalized	Course delivered in Sri Lanka (SLILG MoU); Pakistan (SAWFCO MoU); Philippines (CDP and DILG MoU), Manila 2x, Dagupan 1x; Dhaka (NILG MoU) **TOTAL: 5 National, 1 local course** **MoU with 5 insitutions**
2.2 Improved practices (techniques, methodologies & tools) and strategies for hazard mitigation and community preparedness throughout the region	3 new methodologies - i. Flood hazard assessment, ii. Vulnerability assessment, iii. Loss estimation	Kalutara river model handed over to DMC-K for their flood modeling; CBDRM/PRA/town watching for all sites **TOTALS: 76 Enabled Communities**
	Establish 7 EOCs and make them functional	Dagupan city + 8 barangays; Da Nang district + 6 wards; Jakarta (kelurahan level); Jamalpur (established) **TOTAL: 18 EOCs**

[3] "Draft documents are those that need to be formalized by the relevant local government agency

Table 6: Objective 3 Results

Results	Targeted Activities	Outputs
3.1 Enhanced coordination and linkages between USAID country and regional offices and program partners at national & regional level to ensure program activities accord with USAID country & regional strategies 3.2 Increased visibility of USAID humanitarian assistance at risk communities in five target countries	Two new opportunities for mainstreaming disaster risk management in other USAID-funded projects Five new collaborations with USAID dev. partners (i.e. CARE, World Vision)	CARE BD for SHOUHARDO in Chittagong and Jamalpur Da Nang with CIDA grant for housing reconstruction TAF in SL co-hosted one national seminar on DRR MOU with Pasig City for technical resource support, urban flood management proposal in the pipeline with PAGASA to be supported by the Typhoon Committee
	30 communities in selected cities in five countries benefiting from USAID support	Chittagong, BANGLADESH: 10 wards Jamalpur, BANGLADESH: 3 wards Jakarta, INDONESIA: 7 *rukun wargas* Hyderabad, PAKISTAN: 4 union councils and 1 ward Dagupan, PHILIPPINES: 8 *barangays* Pasig, PHILIPPINES: 8 *barangays* Kalutara, SRI LANKA: 14 GN divisions Matara, SRI LANKA: 15 wards Da Nang, VIET NAM: 6 wards **TOTAL: 76 Communities**

Table 7: Objective 4 Results

Results	Targeted Activities	Outputs
Increased collaboration and partnership among stakeholders at city and national levels Increased collaboration and partnership with regional and international institutions for wider dissemination and enhanced capacity for adoption of tools and methodologies for community preparedness and mitigation	New collaborations with national partner institutions	DILG (Philippines) partnership to integrate disaster risk management into the integrated local development planning process NBRO (Sri Lanka) study for Mainstreaming DRR Revision of municipal bye-laws for Matara Municipal Council by FSLGA
	10 new case studies	15 Safer Cities
	New partnerships with national, regional and international institutions	5 Cities signed up for ISDR World Campaign (Dagupan, Jamalpur, Kalutara, Matara, Pasig) Support to the development of RCC Guidelines for local government, housing and land use planning
	03 opportunities for sharing experiences and lessons learned for cities, national, regional and international institutions participating in implementing program activities	PROMISE Working Group Meetings in 2006 and 2008 ISDR Best Practices publication series featuring Dagupan and Jakarta Chapter on Dagupan in the book *Forms of Community Participation for Disaster Risk Management Practices* Oxfam GB documentation of Barangay Mangin's CBDRM work as video-documentary Spin off project with Royal Norwegian Government in Kalutara District for landslide mitigation (RECLAIM) PROMISE experience contributed to DipECHO-funded project on "Building Disaster Resilient and Safer Communities in Bangladesh" **TOTAL: 7 Opportunities**

MONITORING AND EVALUATION

Reports

Regional monitoring of a program that is simultaneously implemented in several countries was undertaken in several ways, from face-to-face meetings for planning and sharing (e.g. the 2005 Planning Meeting in Bangkok, the Working Group Meetings in 2006 and 2008, and the 2007 Coordinators Meeting), to missions by ADPC staff to project sites (see next heading), to the development of reports by project partners and regional staff.

Monthly and Quarterly Status reports were the required reports following Results Based Monitoring (RBM), to ascertain whether the expected effects and impacts have been created in the respective component activities. The project manager or coordinator was expected to report on the status of completion of scheduled activities for that month or quarter. The reports should contain both results and financial status of the respective country projects. The online monthly reports can be found here: http://www.adpc.net/v2007/Programs/UDRM/PROMISE/MONITORING%20&%20EVALUATION/Monthly%20Status%20Reports/Default-Monthly_Status%20Reports.asp. The online quarterly reports can be found here: http://www.adpc.net/v2007/Programs/UDRM/PROMISE/MONITORING%20&%20EVALUATION/Quarterly%20Status%20Reports/Default-Quarterly.asp. Financial reports were not uploaded to the PROMISE webpage.

Missions for Field Visits and Events

Missions were generally undertaken to check whether planned activities were carried out according to objectives and quality, time, etc. The regional team also sent representatives for the specific country project activities, or to national, regional and international DRR events hosted by other organizations, either using PROMISE funding or ADPC funding. The key training events and international forums with PROMISE participation are shown in the next two tables:

Table 8: Training Courses

Date	Place	Details
2 to 4 Mar 2008	Chittagong	C-BERC
17 to 25 May 2007	Sri Lanka	C-BERC
17 to 19 July 2007	Dagupan	C-BERC
24 to 28 July 2007	Hyderabad	C-BERC
10 to 12 Sept 2007	Da Nang	C-BERC
12 to 16 Nov 2007	Colombo	GDRR
26 to 29 May 2008	Hyderabad	GDRR
31Aug to 6 Sep	Manila, RP	MDRRG-3
17 to 21 Oct 2008	Jakarta	SMAN 8 Action planning
2 to 7 May 2009	Sri Lanka	DRR Training/workshop
14 to 18 Nov 2009	Sylhet, BD	CBDRM (DipECHO project)
28 Mar to 3 Apr 2010	Colombo	Training on CBDRR
9 to 14 May 2010	Jamalpur	CBERC
12 to 24 May 2010	Colombo	Mainstreaming seminars

Acronyms:

BD = Bangladesh

C-BERC = community-based emergency response course

CBDRM = community-based disaster risk management

CBDRR = community-based DRR

DipECHO = Disaster Preparedness Program of the European Commission's Humanitarian Aid department

DRR = disaster risk reduction

GDRR = governance and disaster risk reduction course

MDRRG-3 = 3rd Regional Course on Mainstreaming DRR into Governance

RP = Philippines

SMAN 8 = Sekolah Menengah Atas Negeri 8 high school in Jakarta

Table 9: Events

Date	Place	Details	Organizer
29 May-1 Jun 2007	Dagupan	Simulation Exercise	PROMISE
5-8 Sept 2006	Dagupan	WGM Study tour	PROMISE
20-22 Mar 2008	Colombo	City workshop	PROMISE
27 May 2008	Chittagong	Drill	PROMISE
14-16 July 2008	Pattaya, TH	2nd UCLG-ASPAC Congress	UCLG-ASPAC
2-4 Dec 2008	KL, Malaysia	3rd AMCDRR	UNISDR
14-20 June 2009	Geneva	Global Platform for DRR	UNISDR
21-23 July 2009	Bangkok	Flood Experts Meeting	UNESCAP
11-13 Aug 2009	Incheon, SK	Local gov DRR conference	UNISDR
18-21 Aug 2009	Incheon	World City Water Forum	Incheon Metro City
6-10 Sept 2009	Manila	Asia Pacific Housing Forum	HFHI
13-15 Sept 2009	Cebu, RP	Typhoon Committee meeting	WMO
17 Sept 2009	Phuket, TH	CBDRM Practitioners WS	ADPC
12 Nov 2009	Colombo	DRR Symposium	NBRO
23-24 Nov 2009	Bangkok	Drought Experts Meeting	UNESCAP
17-18 Feb 2010	Dhaka	CC & Extreme Cyclones	ADPC & BDPC
22-24 Feb 2010	Manila	RCC-8	ADPC
18-20 Aug 2010	Manila	DRR for DECS	PROMISE
25-29 Oct 2010	Incheon	4th AMCDRR	ADPC

Acronyms:

ADPC = Asian Disaster Preparedness Center

AMCDRR = Asian Ministerial Conference on DRR

BDPC = Bangladesh Disaster Preparedness Centre

CC = climate change

DRR = disaster risk reduction

HFHI = Habitat for Humanity International

NBRO = National Building Research Organisation

RCC = Regional Consultative Committee for DRR

SK = South Korea

TH = Thailand

UCLG-ASPAC = United Cities and Local Governments Asia-Pacific

UNESCAP = UN Economic and Social Commission for Asia and the Pacific

UNISDR = UN International Strategy for Disaster Reduction

WMO = World Meteorological Organization

PROGRAM ACHIEVEMENTS OF CITY DEMONSTRATION PROJECTS (COMPONENT 1)

ADPC selected demonstration project sites through an analysis conducted in South and Southeast Asia among cities subject to hydro-meteorological events in recent history. These are urbanized or rapidly urbanizing areas that have the potential to be severely affected by floods and/or tropical cyclones. City authorities of the respective target cities must consider the risk management of these hazards as among their priority issues.

The first set was of five secondary cities[1] - Chittagong, BANGLADESH; Hyderabad, PAKISTAN; Dagupan, PHILIPPINES; Kalutara, SRI LANKA; and Da Nang, VIET NAM (see Table 10 for the complete list of cities and implementing partners). Jakarta was later added, and is the only national capital among PROMISE cities. The selection criteria for these target cities were:

- Vulnerability to hydro-meteorological hazards of various kinds, namely floods, cyclones, storms, droughts, rain-triggered landslides, or a combination of these hazards
- Growth potential (such as tourism development, in-migration, or growing industrialization) based on current trends and increasing role of the city in the national economy.
- Readiness and willingness of the local government and key stakeholders to utilize the lessons learned as well as the linkages and partnerships developed under the Asian Urban Disaster Mitigation Program (implemented by ADPC from 1995 to 2005).

Country partners were selected for their ability to promote urban disaster risk reduction, and willingness to work with local stakeholders such as resident urban poor and local officials.

The second set of cities is: Jamalpur, BANGLADESH; Pasig, PHILIPPINES; and Matara, SRI LANKA. These are geographically dispersed (in a different region from the first PROMISE cities in their respective countries) to facilitate the replication of methods and mechanisms for urban hydro-meteorological disaster mitigation and preparedness at local, national and regional levels.

The target beneficiaries (primary beneficiaries) of the program are the at-risk communities living within the administrative boundaries of the selected secondary

[1] Secondary cities mean major cities of a country that are not the national capital city.

cities, and the local officials and local partners whose capacities were raised in order to implement their respective projects. In specific cases, the program indirectly benefitted other communities (end beneficiaries) through sharing of lessons with other communities and their local institutions, or by the participation of trained community volunteers in the disaster response of neighboring localities, or by the conduct of the national-level courses developed under PROMISE.

Table 10: City Demonstration Projects, Project Partners and Periods

COUNTRY/ City	Country Partner	Project Period
BANGLADESH/ Chittagong	Bangladesh Disaster Preparedness Centre	2006 to 2008
BANGLADESH/ Jamalpur	directly implemented by ADPC	2009 to 2010
INDONESIA/ Jakarta	Bandung Institute of Technology	2008 to 2009
PAKISTAN/ Hyderabad	Aga Khan Planning and Building Services	2006 to 2008
PHILIPPINES/ Dagupan	Center for Disaster Preparedness	2006 to 2009
PHILIPPINES/ Pasig	Center for Disaster Preparedness	2009 to 2010
SRI LANKA/ Kalutara	Sarvodaya National Building Research Organisation	2006 to 2008 2008 to 2009
SRI LANKA/ Matara	The Asia Foundation	2009 to 2010
VIET NAM/ Da Nang	Centre for International Studies & Cooperation	2006 to 2008

In general, demonstration projects proceeded along a flow of activities:

Figure 3: General flow of activities for city demonstration projects

SCOPING: Orientation meetings or seminars were conducted at city and community levels to explain the purpose, scope and expectation of the projects, and to get feedback on the mitigation needs of the respective cities and communities. Scoping included developing agreements with the local partners (local authority and NGO) for their participation in the projects.

CAPACITY BUILDING IN COMMUNITY-BASED DISASTER RISK MANAGEMENT (CBDRM). CBDRM is a process of disaster risk management in which at-risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capacities. Training of community peer trainers in CBDRM was conducted, and these peers from the community trained the others in turn. Training content included: concepts of flood and/or tropical cyclone disasters, urban disaster management, and participatory risk assessment (PRA).

PARTICIPATORY RISK ASSESSMENT. Community members would use PRA tools such as transect walks, mapping, seasonal calendars, and priority matrices to generate a common appreciation of their risks and facilitate action planning for risk management. Action planning was centered around identifying the sources of vulnerability or hazard exposure or limited capacity within each community, generating solutions from the community members, and getting them to prioritize the solutions as action items.

CAPACITY-BUILDING IN COMMUNITY-BASED EMERGENCY RESPONSE. Community volunteers would be formed into groups of responders and following their countries' existing systems for disaster response (such as ward disaster management committees in Bangladesh, or barangay disaster coordinating councils in the Philippines). These volunteers would be trained in first aid and search-and-rescue (SAR), and the training team would be a combination of ADPC staff members and volunteers from local Red Cross/Red Crescent chapters or their counterparts.

IMPLEMENTATION OF SMALL-SCALE DISASTER MITIGATION PROJECTS. An important component of community resilience is building up the capacity and confidence of the community in its own ability to reduce its own risk. Each demonstration project encouraged community participation in its own disaster mitigation, and used the action items from their action plans as the basis of selection of projects. Each project had a budget cap, and the entire fund for community-level mitigation was small. The funding limit forced each community to realize that they should actively take up responsibility for generating resources either as funds (from among themselves, their local government or local business owners) or as volunteered labor for structural mitigation. The variety of projects were implemented are listed in the next sections devoted to each city demonstration project.

MAINSTREAMING DRR. The partner agencies compiled each community's assessments, and combined these with relevant secondary data when available. The assessments were packaged into a report with recommendations, and presented to the

city authorities in workshops. These workshops were designed to create awareness of the risk, to create a level of confidence in the CBDRM process that generated the community risk assessments and action plans, and to integrate the assessments and recommendations into the official development planning processes and regular budgets of each city.

Raising Awareness of Disaster Risk Management. Many of the city demonstration projects had an awareness-raising component. This could be in the form of a dedicated day for disaster awareness, awareness-raising campaigns in public schools, promoting PROMISE activities in their local papers or radios, printing of IEC materials, or conducting emergency drills to increase the public's familiarity with the location of evacuation centers and proper evacuation procedures.

Networking and Advocacy. PROMISE cities and their communities were expected to serve as models for their local counterparts in-country and abroad. Whenever possible, the cities would host visits of officials from other cities, NGOs seeking examples of urban CBDRM, USAID country missions, delegates of international meetings on disaster risk reduction, and participants of ADPC regional courses.

Knowledge Capture and Knowledge Product Development. The knowledge generated by the cities and communities need to be passed on to successors, be they newly-elected officials, newly-hired city hall employees, or new migrants into the at-risk communities. This is a continuous activity that must be taken up by the respective local governments, communities and local stakeholders. The projects initiated processes in each city by creating opportunities for collaboration on the development of IEC materials, standard operating procedures (SOPs), guidelines for land use planning, construction guidelines, and the like. Other cities, communities and NGOs may also learn from or be inspired by the PROMISE experiences. The program developed a case study of the experience in each city, for inclusion in ADPC's *Safer Cities* series whose audience is beyond the borders and project lifetimes of the PROMISE cities. Each case study captures the individual process for each city, and identifies knowledge that can be taken up by other local governments. These may be decision flowcharts, training curricula, sample IEC materials, and lessons learned in the course of project implementation.

PROMISE BANGLADESH: CHITTAGONG

Project-at-a-Glance

Hazard Type:	Flood, cyclone, water-logging
Country Partner:	Bangladesh Disaster Preparedness Centre (BDPC)
Project Manager:	Mr. B.M.M. Mozharul Huq; Mr. Moloy Chaki
Project Period:	January **2006** to August **2008**
Project Contacts:	
Mr. Saidur Rahman *Director* Bangladesh Disaster Preparedness Centre House 52, Road No.13/C, Block E Banani, Dhaka 1213 Bangladesh Tel: + 88 02 8815074 Fax: + 88 02 8810211 E-mail: bdpc@glinktel.com	Mr. Jamshed Ahmed *Director* (Training & Consultancy) National Institute of Local Government 29 Agargaon Sher-e-Bangla Nagar, Dhaka 1207 Bangladesh Tel: +88-02-913-8451 Fax: +88-02-912-2809
Ms. Farhana Sharmin *Technical Coordinator* CARE Bangladesh 20-21 Kawran Bazar Dhaka-1215 Bangladesh Tel: +88-02-911-2315, 811-4207 Fax: +88-02-811-4183 E-mail: fsharmin@carebangladesh.org	Mr. Walter Shepherd; Mr. Golam Kabir; Ms. Shahnaz A. Zakaria USAID Bangladesh, American Embassy Madani Avenue Baridhara, Dhaka-1212 Bangladesh Tel: + 88 02 8855500 ext.2347 Fax: + 88 02 8823648 E-mail: gkabir@usaid.gov

Urban Risk Context

Chittagong is a port city located in southeast Bangladesh and has an economic base wider than that of Dhaka. The total population was about 3.2 million in 2001, with a high population growth rate at 1.48% and population density of 15,276 persons/km^2. Chittagong City Corporation (CCC), the local government body, estimated that 629,460 people lived in 300 slums that developed as illegal settlements. Most of the slum residents had migrated into the city from rural areas due to natural disasters and subsequent unemployment. The coastal areas of Chittagong are highly prone to natural hazards such as cyclone and tidal surge. The valleys and hilly areas within city limits are affected by local floods, cyclones, tidal surge, coastal and riverbank erosion, water-logging, and tsunamis.

Networking and Advocacy

The main stakeholders of PROMISE in Chittagong were:

- the Chittagong City Corporation (CCC), the local authority
- the Chittagong Development Authority (CDA), an autonomous body responsible for the implementation of all development plans of the city
- residents of the ten selected high-risk wards and their Ward Disaster Risk Management Committees
- and the Chittagong-based NGO Young Power in Social Action (YPSA) that has a cyclone and earthquake preparedness program and collaborates with CCC for early warning dissemination, evacuation and SAR.

Sites

During the workshop, the stakeholders identified ten wards as the most vulnerable wards prone to cyclones, river floods, high tide, water-logging and rain induced landslides, for intervention under PROMISE: Wards 2 (Jalalabad), 8 (Solok Bohar), 9 (Pahartoly), 11 (South Khatroli), 16 (Chawk Bazar), 26 (North Halisahar), 37 (North Middle Halisahar), 39 (South Halisahar), 40 (North Potenga), and 41 (South Potenga).

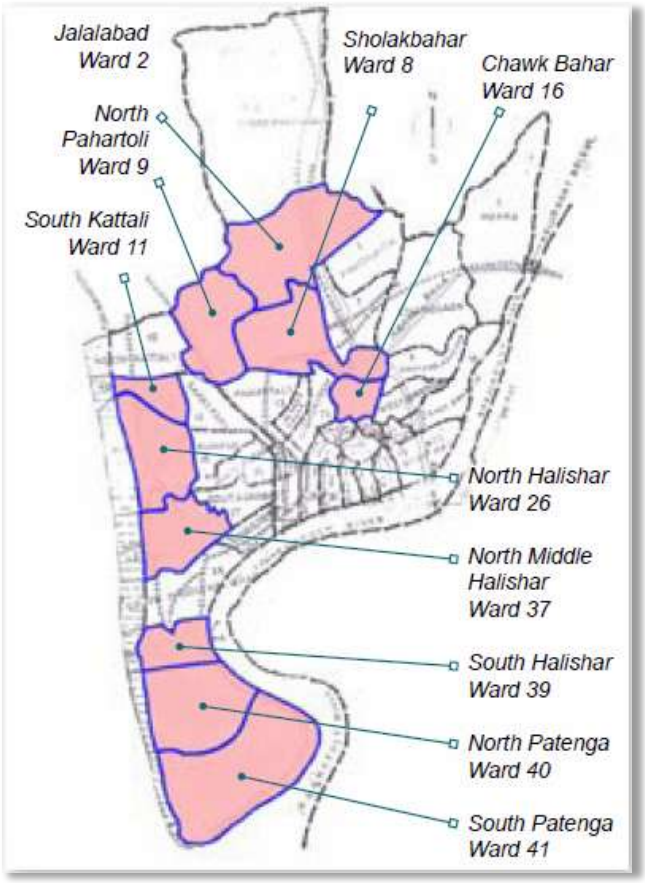


Figure 4: Location map of PROMISE wards in Chittagong (2006)

Scoping

A baseline survey of 50 randomly selected houses (total sample size was 500 households) from each ward was made to determine the benchmark information of the project area, and to know peoples' knowledge, perception regarding disaster preparedness and mitigation initiative. The household disaster risk profile is that of a poor household that probably owns its house, makes its income of not more than BDT 2500 (around USD 32 at 1 USD:69 BDT) from either small businesses or government service, receives cyclone warnings but not flood or landslide warnings, do not prepare for floods, experience interruption of basic utilities (water, sanitation, transportation, communication) during water-logging events, and are unaware of how to provide for the special needs of pregnant women, the elderly or the disabled.

The project maintained links with the key stakeholders of Chittagong City from the beginning. These stakeholders attended the introductory workshop on the PROMISE-Bangladesh project on 29 March 2006. One hundred people attended the workshop that was presided over by Mr. Imtiaz Hossain, the Chief Executive Officer of the Chittagong City Corporation.

Links were also maintained with key national-level agencies such as the Disaster Management Bureau, the National Institute for Local Government, and the Cyclone Preparedness Program.

CBDRM Activities

CBDRM PROCESS

The PROMISE partner, BDPC, and the Ward Commissioners held sensitization meetings in the ten selected wards to brief the communities about PROMISE. Ward Commissioners invited to attend the sensitization meetings the local residents (men and women), social workers, traders, government employees, teachers, students, religious leaders, and NGO workers. YPSA, the local NGO, assisted in organizing the sensitization meetings in three of the wards.

Change agents (CAs) and volunteers underwent training in CBDRM in a Training of Trainers (ToT) held in March 2007; the training was organized by BDPC with the support of YPSA. After the ToT, ten ward-level CBDRM courses were held from 6 April to 28 June 2007. The two-day course gave emphasis on concepts of disaster risk management, participatory risk assessment tools, and the development of the community risk assessment and action plan for reducing community's hazards and vulnerabilities. Twenty CAs and volunteers from each of the Wards were present as participants in the course.

Community Risk Assessments (CRAs) were made to identify hazard, vulnerability, capacity and risk of each ward. CAs, volunteers and the residents of each ward assessed the elements at risk, identified the community resources, and marked most vulnerable locations exposed to hydro-meteorological hazards. The outputs became the basis of action plans made in subsequent sessions, and of the selection of their small-scale disaster mitigation projects. The typical ward risk profile is frequent exposure to floods due to their proximity to the Bay of Bengal and Karnafuli River, prolonged exposure to flood (locally called water-logging) in the low-lying sections of the wards and clogging of natural channels (*Khal*), poor awareness of disaster preparedness, and inadequate early warning for floods. Half of the wards reported problems with contamination of the sources of drinking water during floods. However, most have cyclone shelters and/or schools and colleges used as temporary evacuation shelters.

All of the selected wards established a volunteer corps headed by the local Ward Commissioner (the elected representative to the city council). They undertook a second

CBDRM ToT ; the training content included basic disaster related information, tools and methodologies for CBDRM, and on the roles and responsibilities of CAs/Volunteers. This volunteer corps was later merged with the Ward Disaster Management Committees (WDMCs), the response structure established as an initiative of CCC.

COMMUNITY MITIGATION PROJECTS

The stakeholders present at the introductory workshop unanimously identified 10 candidate projects, but five were eventually prioritized during subsequent consultation workshops: 1) Installation of a pond sand filter or "eco-filter" to extract safe drinking water from a pond, Dakhinpara Village, Ward 41; 2) Improvement of local drainage by canal re-excavation (dredging), Hadipara, Ward 40; 3) Three latrines and two urinals at each floor of Munshipara High School, Ward 37, a four-storey temporary evacuation center; 4) Providing latrines and water pumps to slum dwellers in Guachi Bagan and Dev Pahar, Ward 16; and 5) Construction of a new drain in Kulgaon, Ward 2 to reduce the severity of water-logging and incidence of water-borne disease. The CCC Engineering Office helped prepare the technical drawings, but the community members constructed the facilities.

OFDA had a mission to Chittagong in January 2010 together with UNDP staff who had projects in some of our PROMISE wards under the Urban Partnership for Poverty Reduction Project (UPPR). They were amazed to find that the pond in Ward 41 was servicing 2000 households, a figure beyond the original 40 households in Dakhinpara Village who participated in the project in 2008. This may be a solution to a growing scarcity of clean water due to over-extraction of the city's underground water. Furthermore, UPPR had paid for 300 wells in the area reaching a depth of 700 ft that yielded saline water.

COMMUNITY DISASTER PREPAREDNESS

The WDMC is supposed to coordinate and conduct all activities at the community level at pre-disaster, during disaster and post-disaster phases. The PROMISE BD experience showed a continuous raising of the disaster preparedness capacities of the communities of the project wards and the volunteers who joined the WDMCs. Evacuation drills were conducted in all project wards from January to March 2007 to promote disaster preparedness initiatives at family and community level with cooperation of City Corporation and other relevant stakeholders.

The Community-Based Emergency Response Course (C-BERC) was held on 2 to 4 March 2008 for 28 WDMC volunteers to support the city's emergency response structure.

Mainstreaming DRR

DRM ACTION PLANNING AT CITY LEVEL

Chittagong City Mayor M. Manjur Alam inaugurated the city-level workshop on "Development of City Disaster Management Plan" on 23 April 2008 in Chittagong. Dr. Md. Jalal Ahmed, Civil Surgeon, Chittagong City Corporation, was as Special Guest wherein 71 representatives participated from key departments of CCC. The workshop began with technical sessions; resource persons presented different natural hazards for Chittagong, and the importance of a disaster management plan for the city. Resource persons came from the Cyclone Preparedness Program, the Comprehensive Disaster Management Programme, the Institute of Engineers of Bangladesh, BDPC, ADPC and the academe. The second part of the workshop had the participants narrating their own organizational responsibilities for disaster preparedness and response, then diving into workshop groups to study who are the responsible authorities for developing and implementing a disaster management plan. The participants returned to the plenary to present their comments and recommendations. At the conclusion, CCC Senior Assistant Secretary Mr. Samsudohha made comments on workshop output on behalf of the CCC.

DEVELOPMENT OF SOPS FOR EMERGENCY RESPONSE

CCC operates a command and control room for emergency response operations. PROMISE BD initiated an activity to develop a guideline for the standard operating procedures (SOPs) for emergency response. BDPC developed a framework in line with the Standing Order on Disaster Management issued by Bangladesh Disaster Management Bureau. On the basis of the framework, BDPC developed SOPs and submitted it to CCC for their review and adoption.

DEVELOPMENT OF GUIDELINES FOR LAND USE AND BUILDING REGULATIONS

The PROMISE-BD team helped CDA develop guidelines for land use and building regulation. BDPC reviewed the existing regulation and the hazard map of the city. After reviewing the existing regulations and hazard maps, BDPC developed separate guidelines for Land Use Planning and for Building Regulation. The guidelines were presented for comments to the CDA, CCC, construction contractors, planners, and other related professionals from government and the private sector. These guidelines support the building permit and construction regulation processes of CCC.

Raising Awareness of Disaster Risk Management

INFORMATION PRODUCTS

Wall calendars and pocket calendars were developed under the project, containing messages on safety during times of flood.

The PROMISE BD project in Chittagong was also featured in the item "Small-scale hydro-meteorological disaster risk reduction projects in Bangladesh" published in *ISDR Highlights*, the ISDR newsletter, August 2007 issue.

MEDIA ORIENTATION WORKSHOP

PROMISE BD held a day-long workshop on the Role of Media in Disaster Risk Management on 21 November 2007 at Hotel Pavilion, East Nasirabad, Chittagong. The workshop objective was to brief the 22 participants from electronic and print media services about CBDRM, and develop strategies for the involvement of media. Workshop sessions began with technical presentations on CBDRM, disaster risk management activities under the CCC, the hydro-meteorological hazards faced by Chittagong, and the role of media in disaster risk management and crisis reporting. Resource persons came from the media, academe, CCC and BDPC. After the presentations, the participants had a workshop to develop a media strategy that would highlight the water-logging problem and poor drainage infrastructure of Chittagong. They divided into groups to work on three parts of the strategy: 1) to draw the attention of the policy maker through advocacy and lobbying; 2) to increase transparency and accountability of service providing agencies, and strengthening their inter-agency coordination; and 3) to raise the public's awareness of their rights and of disaster preparedness. Each workshop result was presented in plenary, and the edited strategy was subsequently sent to the participants for follow up action.

SCHOOL SAFETY PROGRAMS

The PROMISE BD team helped to organize School Disaster Management Committees in 10 schools in Chittagong from April 2007 to January 2008, one in each of the wards under the project, to promote disaster preparedness initiatives and develop school disaster management plans. The committees were formed by the students, teachers, school administrators, as well as the community leaders and residents where each school was located. The following are the schools with committees: Kulgoan City Corporation High School & College, Ward 2; Pashlaish City Corporation School,Ward 8; Hazi Abdul Ali City Corporation School, Ward 9; P.H Amin Academy, Ward 11; Kapasgola City Corp. Girls High School & College, Ward 16; Halishahor Alhaj Mohabbat Ali City Corp. High School, Ward 26; Halishahor Munshipara High School, Ward 37; 8 Doklhin Halishahor High School,Ward 39; Potenga Ctiy Corp. Girls High School and College, Ward 40; and South Potenga City Corp.High School, Ward 41. In addition, evacuation drills were conducted in Munshipara High School of Ward 37 on 22 January 2008, and in Girls High School, Chawk Bazar on 27 May 2008. The drills involved the Fire Service and Civil Defense.

National course on Urban Governance and Risk Management

BDPC jointly with National Institute of Local Government (NILG) successfully replicated the training course on Urban Governance and Disaster Risk Reduction. The course was held on 30 September to 2 October 2007 at the NILG training centre in Dhaka. The main purpose of the course was to build capacities of the participants for better understanding of governance issues in relation to disaster risk reduction at local level. A total of 22 participants attended from six City Corporations, selected municipalities, utilities agencies, public health department, civil defense, fire service, and NGOs. BDPC signed a Memorandum of Understanding (MOU) with NILG on 13 February 2008 to conduct the national training course on Governance and Disaster Risk Reduction. NILG is mandated to conduct training courses for local government functionaries, both at the urban and local level.

Knowledge Capture and Knowledge Product Development

The experience in Chittagong was developed into Safer Cities case study 21, "Community Empowerment and Disaster Risk Reduction in Chittagong City," published by ADPC on June 2008. This case study was subsequently reprinted in *Urban Risk Management in South Asia* published by the South Asian Association for Regional Cooperation (SAARC) in June 2010.

Major cyclone/flood events during the Program (2005 – 2010)

The WDMCs participated in the search-and-rescue operations and recovery efforts during the heavy floods and landslides in Chittagong on 11 June 2007. The CAs and all the WDMCs formed in the ten wards under PROMISE BD joined in the SAR operation in their respective wards and rescued people from flooded areas, and arranged for draining the flood water with the assistance of the city corporation personnel and joint forces.

Cyclone Sidr hit the coastal district of Bangladesh on the night of 15 to 16 November 2007, causing deaths and extensive damage to assets including the dwelling houses and standing crops of the field. The PROMISE-BD team maintained regular contact with the Cyclone Preparedness Program (CPP) focal person and disseminated the news to the CAs who in turn cooperated with their respective Ward Commissioner offices to convince people to evacuate to cyclone shelters and distributed relief. After the cyclone the CAs and some ward disaster management committee members and CAs went to the southern part of the country and assisted in the relief efforts there.

PROMISE BANGLADESH: JAMALPUR

Project-at-a-Glance

Hazard Type:	Flood, cyclone, water-logging
Country Partner:	[ADPC Dhaka office]
Project Coordinator:	Mr. Mohammed Ahsan Ullah
Project Period:	November **2009** to August **2010**
Project Contacts:	
Ms. Padma Karunaratne *Program Manager* Asian Disaster Preparedness Center (ADPC)	Mr. Mohammed Ahsan Ullah ADPC Office. 11/5 Lane No. 11 Baridhara DOHS Dhaka Bangladesh

Urban Risk Context

Jamalpur has a population of 132,700 and the area of 53.28 km^2, where 58% of the land use is for agriculture. Bounded by the Brahmaputra River to the east and Jamuna River to the west, the city is prone to floods, cyclones, and water logging. Contributing factors to the severity of floods and water-logging include river bank erosion, a shallow water table, inadequate water retention areas, inadequate flood protection structures, poorly maintained and inadequate drainage network, and poor solid waste management. The Mayor of Jamalpur Mr. Shah Md. Wares Ali (2004 to 2011) was particularly engaged in the project.

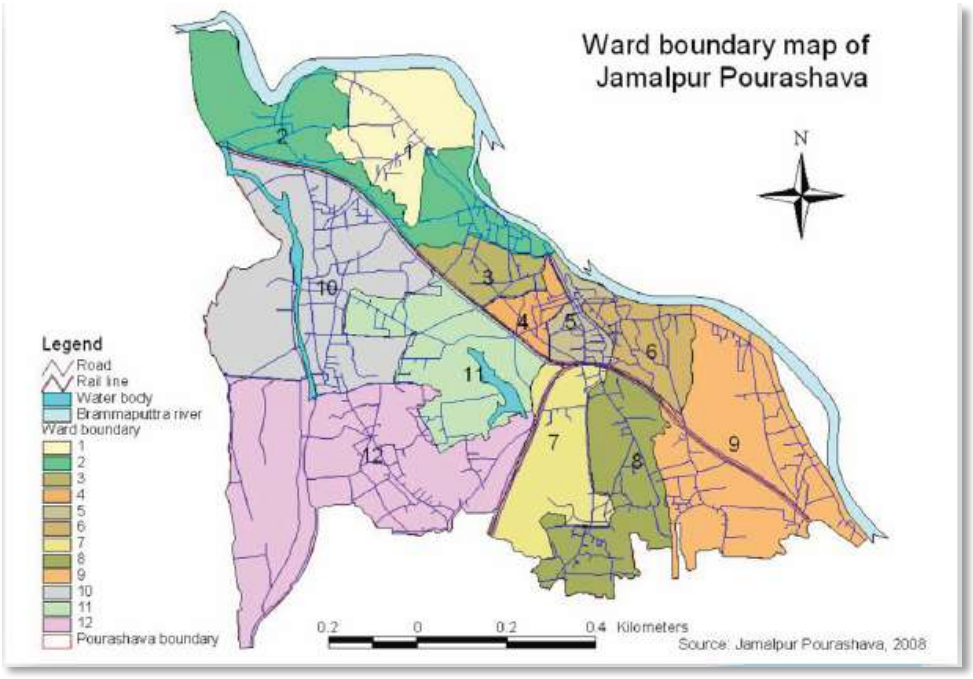
Networking and Advocacy

The main stakeholders of PROMISE in Jamalpur were:

- the Jamalpur Pouroshava, the local authority
- residents of the ten selected high-risk wards
- the Water Development Board.

Sites

Wards 1, 10 and 12 of Jamalpur



Location map of PROMISE wards in Jamalpur (2010)

Scoping

A project named Strengthening Household Ability to Respond Development Opportunities (SHOUHARDO) by CARE-Bangladesh with financial assistance by USAID was launched in 2005. One of the major objectives of the SHOUHARDO program was to build the capacity of targeted communities and institutions to prepare for, mitigate and respond to disasters. With this objective, interventions at the city and community levels were initiated by building self sustaining institutions on disaster management such as the Pouroshava Disaster Management Committee (PDMC) at the city level, volunteers and disaster committees at the community level. Technical assistance was provided by ADPC. Under the leadership of the Pouroshava chairperson, the city facilitated a multi-hazard vulnerability assessment, a floods contingency plan, and integrated a DRR budget into the annual development plan of the city. However, due to funding limitations faced by CARE, the objectives set by the city could only be partially fulfilled by SHOUHARDO. Consequently, Jamalpur became part of PROMISE to continue expanding its DRR initiatives.

PROMISE BD held its inception meeting for the Extension Program activities in Jamalpur City on 23 November 2009. The main objectives of this meeting were to obtain consensus on a proposed project work plan and to form a Technical Working Group

(TWG) in Jamalpur that will have the project activities as focus. At the end of the meeting, there was a consensus among the participants, and a 17-member TWG was created to meet once a month on the same date as the municipality's general meeting. In addition, the municipality will provide full support for the project, and space on its premises to establish an EOC.

CBDRM Activities

CBDRM PROCESS

PROMISE BD began a series of preliminary meetings in December 2009 with ward commissioners, members, community in Jamalpur's wards (specifically No. 1, 2, 3, 4, 5, 6, 7, 8, 10 and 12). The purpose of the meetings was to present the PROMISE program to the local stakeholders, provide a briefing on the participatory risk assessment methodology, and get local feedback before commencing with the detailed risk assessments in January.

On 23 to 24 February 2010, selected community volunteers attended a one-day training course on Community-Based Disaster Risk Reduction (CBDRR) to prepare them to conduct community risk mapping. It covered basic concepts of disaster management, a briefing about the PROMISE project's objectives and activities, and the approach and process of CBDRR. Community risk mapping activities were carried out in ward no. 1, 10 & 12. The maps were validated both by the communities in a transect walk, and by the Jamalpur TWG.

An attempt was also made to get community's perception on climate change and its impact related issues. Data collected were the community's perception on rainfall pattern, cropping pattern and input-output ratio, flood pattern and flood water level, earth rising pattern of houses, migration pattern due to flood, daily wage level pattern, livelihood pattern, health related problems, etc. in the last five years.

Ward-level action plans were developed through extensive fieldwork and community consultation during the month of April 2010. These will form the basis for ward-level actions to be defined under the municipal action plan. The compiled action plans will be presented at the TWG meeting on August 10.

COMMUNITY MITIGATION PROJECTS

Jamalpur Municipality signed an MOU on 7 June 2010 on the completion of several DRR or disaster mitigation interventions identified in the action plans for DRR developed by the communities of the project wards. These interventions are: approach roads constructed by a simple earth-filling method to Madrasha road and the other to Tangorpara road, four deep tube wells, and five platforms for existing tube wells to provide some protection against potential contamination and have waste pipes extended further to dispose wastewater, all to be constructed by July 2010.

COMMUNITY DISASTER PREPAREDNESS

ADPC conducted the Community Based Emergency Response Course (CBERC) training on 11 to 13 May 2010 for 27 participants from the 12 wards. The Jamalpur Town Planner & three councilors of the municipality participated as well. The training team consisted of five members from ADPC, World Vision and the Bangladesh Red Crescent Society. The training manual was prepared in the local language. The Mayor of Jamalpur inaugurated the three-day training and awarded the training completion certificate.

Jamalpur Municipality signed a Memorandum of Understanding (MOU) on June 21 for the improvement of their early warning system (EWS) through the installation of 19 flood gauges within Jamalpur. The specifications of the flood gauges were developed with the Water Development Board of Jamalpur, who will be using the flood gauges to complement their network of river water level gauges. The gauges were July following several consultations with the communities of the project wards and municipal officials. On August 17, the PROMISE BD team conducted training on the use of participatory monitoring and record keeping tools developed for 37 community CBEWS volunteers and the Jamalpur EOC volunteers.

Mainstreaming DRR

ADVOCACY FOR MAINSTREAMING RISK MANAGEMENT

Jamalpur Pouroshava's Technical Working Group (TWG) on DRR formed under PROMISE BD met on 16 August 2010 to discuss the sustainability of the Emergency Operations Center and community-based early warning system (CBEWS). The meeting came up with several suggestions that will be raised to the municipal council, including: training volunteers on the EOC operations; training groups of volunteer emergency responders; providing equipment and honoraria for volunteers responding during emergency events; quick response planning for evacuations; and tapping the local media to promote public awareness of the EOC and its evacuation procedures.

The ward-level flood mitigation action plans under the PROMISE Bangladesh project in Jamalpur Pouroshava were compiled into an action plan for Jamalpur. This plan was presented in a workshop on 2 September 2020 to stakeholders that included the pouroshava's Technical Working Group, ward representatives and other members of the communities. The action plan was validated by those present, and discussions during the workshop developed several recommendations to include a DRR section within the municipality development plan, such as: activation of the Pourashava Disaster Management Committee (PDMC) in line with DRR activities; allocation of a DRR fund for the PDMC from the municipality's annual development budget; fund-raising for DRR issues; and DRR mainstreaming through the involvement of students and educational institutional authorities, public service agencies, and NGOs.

EMERGENCY OPERATIONS CENTER (EOC) FOR JAMALPUR

The Jamalpur inaugurated their EOC on 21 March 2010, and the room was equipped through the project with a display board, bookshelf, and some light rescue gear such as tool kits, helmets, emergency lights, and safety jackets. The municipality should complete the needed equipment on its own.

Knowledge Capture and Knowledge Product Development

The experience in Jamalpur was developed into Safer Cities case study 28, "Building a Community-Centered Disaster-Resilient City: Jamalpur, Bangladesh," published by ADPC on November 2010.

PROMISE INDONESIA: JAKARTA

Project-at-a-Glance

Hazard Type:	Flood
Country Partner:	Bandung Institute of Technology – Institute for Research and Community Service (ITB-LPPM)
Project Manager:	Dr. Harkunti Rahayu
Project Period:	February **2008** to July **2009**
Project Contacts:	
	Dr. Harkunti Rahayu Institut Teknologi Bandung (ITB) Gedung Penelitian dan Pengembangan/PAU Lt. 8, Jl. Gamesa No.10 Bandung, Indonesia Tel: +62-22-250-4987 Ext. 1819 Fax: +62-22-250-8125 Email: harkunti@itb.ac.id
Ms. Tuty Kusumawati Regional Planning Board Jakarta Provincial Government Jakarta, Indonesia Tel: +62 21 384 4203 Fax: +62 21 386 0521 Email: tutykusumwati@yahoo.com	Mr. Yusak Oppusunggu *Program Specialist*, USAID American Embassy Jl. Medan Merdeka Selatan 5 Jakarta 10110 Indonesia +62-21-3435-9000 Ext. 9416 yoppusunggu@usaid.gov

Urban Risk Context

Jakarta province is the capital of the Republic of Indonesia, and its economic growth in 2006 contributed more than 17% to the national GDP. In mid 2006, the population in Jakarta was 8.96 million, with a population density between 13,000 and 15,000 people/km^2. Jakarta has a total area of 661.52 km^2, stretching across alluvial lowland. Its average elevation is seven meters, and 40% of the land falls below sea level. Its 27 water systems are comprised of 13 rivers, drains and canals that collect surface run-off exits into Jakarta Bay through Jakarta's 35-km coast, and the city is prone to flooding due to excessive rainfall and flash floods along these systems. Flooding is aggravated by several phenomena: swells of about 2 to 4 meters, land subsidence, high tide, and the conversion of some swamps into residential areas in South and East Jakarta. Prior to the start of the project, the city had the Crisis Center, a command and control center for managing incidents.

Networking and Advocacy

The main stakeholders of PROMISE in Indonesia were:

Jakarta Provincial Goverment

- Badan Perencanaan Pembangunan Daerah (BAPPEDA): *Jakarta Regional Planning and Development Agency*
- Dinas Pekerjaan Umum: *Jakarta Public Works Department*
- Dinas Sosial: *Jakarta Social Welfare Department*
- Dinas Kesehatan: *Jakarta Health Department*
- Dinas Pemadam Kebakaran dan Penanggulangan Bencana: *Jakarta Fire Brigade and Disaster Management Department*
- Satuan Koordinasi Pelaksana (SATKORLAK): *JPG Disaster Coordination Unit*
- Satuan Polisis Pamong Praja: *City Disaster Coordination Unit*
- JPG Crisis Center

Other Local Governments

- Pemerintah Kota Jakarta Selatan: *South Jakarta City Government*
- Pemerintah Kecamatan Tebet: Tebet Sub District Government
- Pemerintah Kelurahan Kebon Baru: *Kebon Baru Village Government*

National Level Government Organizations

- BMKG (Badan Meteorologi Klimatologi dan Geofisika): *Meteorology, Climatology and Geophysical Agency*
- BNPB (Badan Nasional Penanggulangan Bencana): *National Disaster Management Agency*

Non Government Organizations

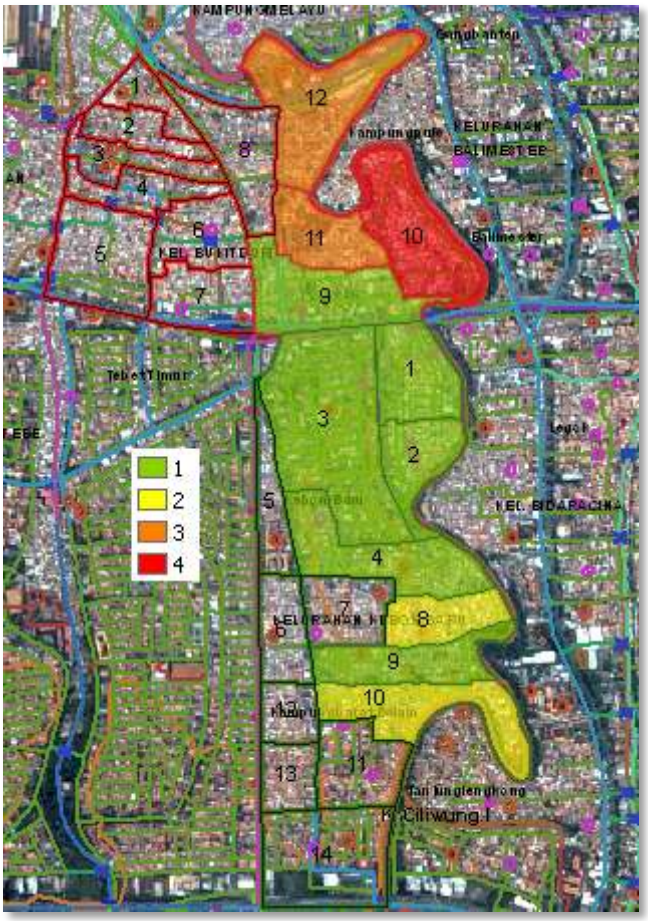
- Palang Merah Indonesia (PMI): IndonesIa Red Cross Jakarta Chapter
- Yayasan Empati Sesama (a community-based organization)

Project Beneficiaries

- Residents of the project communities and their council members
- Sekolah Menengah Atas Negeri 8 (SMAN 8): *Bukit Duri: Senior High School 8*

Sites

The project was designed to have two types of beneficiaries: residents of high-risk communities and the students and teachers of a school that is frequently exposed to severe flooding. The hazard and vulnerability assessment identified the following RWs in Kebon Baru as at high risk to flood disasters: 1, 2, 3, 4, 8, 9 and 10. These were selected to be the target communities for the project. In addition, the project had an activity for promoting school safety; Sekolah Menengah Atas Negeri 8 (SMAN 8) was selected to be the target school.



Legend:

Index 4:Extremely high risk (red)

Index 3: high risk (orange)

Index 2: moderate risk (yellow)

Index 1: low risk (green)

Risk map of Kelurahans Kebon Baru and Bukit Duri (2009)

Scoping

The project team held a kick-off workshop on 15 February 2008. It was inaugurated by the Secretary of Bapeda DKI and attended by 40 officials of JPG's agencies, stakeholders, and Mr. Oppusunggu of USAID Jakarta. The workshop was able to elicit possible non-structural mitigation initiatives that could be useful for Jakarta, such as increasing the community's emergency preparedness, identifying criteria for project site selection, and identifying four candidate project locations proposed at *kelurahan* level, i.e. Kelurahan Bukit Duri and Kelurahan Kebon Baru (Tebet Subdistrict, Eastern Jakarta), and Kelurahan Bidara Cina and Kelurahan Cipinang Muara (Jatinegara Subdistrict, Eastern Jakarta). Finally, the recommendations from the

participants was to focus only on *kelurahans* Kebon Baru and Bukit Duri as the locations for a school or high-risk communities.

Hazard, Vulnerability, Capacity and Risk Mapping

At the start of PROMISE Indonesia, JPG did not have a flood hazard map, so the ITB team developed one using DUFLOW software based on the hydrology data of the 2007 flood event and the topography map obtained from JPG, and calibrated and verified with field data. Vulnerability was assessed and mapped using socio-demographic data as inputs. Capacity was mapped based on the assessed draining capacity of the pumps and levees. The three assessments were combined and analyzed to produce an overall risk assessment of Kebon Baru and Bukit Duri. The flood hazard map generated by the project indicated that several RWs would be flooded in Kebon Baru (RW 1, 2, 3, 4, 8, 9 and 10). This was validated by community members of the RWs in Kebon Baru.

Community-level Mitigation

Town watching and community action planning

The Jakarta project employed *town watching* rather than the participatory risk assessment tools of CBDRM. Town watching for DRR is a *training* methodology for increasing community participation in development planning through experiential learning processes, and has features similar to participatory risk assessment although the purpose is different. A disaster management professional guides the community members through a series of activities to understand different elements of the land and town that are linked to disasters and environmental issues. This implies that the latter is expected to come closer to the understanding of the expert, rather than leaving the risk assessment to the community members. Town watching was introduced to develop the RW risk assessments and action plans with RW community members and SMAN 8.

The preparations for the town watching included several meetings with stakeholders, preparing a hazard profile of the selected sites, and conducting a Training of Trainers in June 2008 for 38 local stakeholders such as members of community-based organizations, community leaders from Kebon Baru and Bukit Duri; teachers of SMAN 8 school, the Indonesian Red Cross (PMI) societies from provincial to *kelurahan* level, and officials from the Jakarta Disaster Coordination Unit. The training content included sessions on integrated flood management, flood risk assessment, flood mitigation, flood disaster management planning, town watching, GPS use,

flood monitoring, and meteorological early warning in Indonesia. The ToT included a simulated training session to enable the participants to practice using the teaching materials prepared under the project. A movie was shown to demonstrate how to build an integrated early warning system.

The town watching workshops were held from August through November 2008. Participants came from the selected RWs; they were divided into four groups and guided into developing flood risk maps, designating evacuation routes and evacuation shelters, and formulating community action plans. During the workshops, representatives of the communities identified several points for action based on their primary needs, such as training in water-based SAR, emergency response equipment, evacuation shelters, and a flood height reference poles connected to the government flood early warning system. The action plans were authenticated by the chair of each RW, and presented to the representatives of the kelurahan council and community organizations during a Focus Group Discussion in October 2008 as part of the process.

COMMUNITY DISASTER PREPAREDNESS

The high-risk RWs in Kebon Baru were able to increase their readiness for flood disasters. Community workshops were organized that resulted in the definition of roles and responsibilities for disaster preparedness and emergency response, a flood reference system (colored flood gauges coupled with alert levels and corresponding responses at household level) in the waterways of Ciliwung river, SOPs for sending out alerts and preparing for evacuation, and participation in flood drills to improve response times of rescuers.

A severe flood occurred in the project sites on 12 November 2008, close to the end of the community action planning. The PROMISE team coordinated the flood monitoring by the local facilitators of RW 1 and RW 2, and by the community of RW 10. The PROMISE team also directly monitored the flood in RWs 4, 9 and 10 where the inundation depth reached 100 cm.

JPG's health department, social welfare department, and PMI helped train 35 members of "Air One", the volunteer emergency responders in the selected RWs in a course on first response for flood preparedness from 28 to 29 November 2008. Training content included public kitchen management, post-disaster public health management, wooden boat assembly, and water SAR. PROMISE Indonesia provided basic flood emergency equipment for each RW: megaphones and fax machines for warning dissemination, life vests, boots, flashlights, emergency kits with standard medicine, ropes for rescue, as well as cooking implements for relief operations.

Mainstreaming DRR

Formation of a Technical Working Group

A Technical Working Group was formed within JPG to provide advocacy for mainstreaming DRR and risk management in city governance. The group was composed of key city officials and experts who can identify actions for integrating DRR in the city development plan, inter-sector roles, develop a sector-based framework for integrating DRR in routine functions, and develop comprehensive guidelines for DRR integration into sector-based work.

City Workshops on integrating DRR in development plans

A Focus Group Discussion workshop on 20 October 2008 was conducted to discuss the role of the Jakarta Crisis Center, describe the mechanism of flood warning, and identify the existing flood preparedness initiatives in Jakarta.

The TWG held meetings in June and July 2009. The first meeting was to identify courses of action to integrate disaster risk reduction in the city development plan, and the second meeting was to evaluate the performance of the Jakarta Crisis Center and its revitalization.

End to End EWS

One of the key activities of the project was to augment Jakarta's flood countermeasures effectively by extending the existing flood early warning system (EWS) to the community level in the selected RWs. The JPG Technical Working Group had a series of workshops to develop a community-based action plan, and the emergency response SOPs for both the Jakarta Disaster Coordinating Unit and the Kebon Baru Disaster Coordinating Unit. The involvement of Kebon Baru's high-risk communities in the flood EWS increased their readiness to anticipate flood disasters, and they set out for themselves clear roles and responsibilities before, during and after floods. Community workshops were organized to plan and develop a color-coded flood reference system in the waterways of Ciliwung river, SOPs for sending out alerts and preparing for evacuation, and to plan flood drills to improve response times of rescuers.

Development of SOPs for emergency response

The JPG Technical Working Group had a series of workshops to develop a community-based action plan, and the emergency response SOPs for both the Jakarta Disaster Coordinating Unit and the Kebon Baru Disaster Coordinating Unit, and improve on the coordination by the different national and city agencies involved in flood response. The improvements were focused on: 1) integrating the flood EWS within the JPG Crisis Center and at the *kelurahan* disaster coordination unit; and 2) to increase the

capacity of the community to understand the flood warning and react accordingly. SOPs were developed to standardize the flood warning dissemination by the Crisis Center in response to a flood early warning alert received from BMKG. The SOPs were tested during the flood simulation conducted on 1 July 2009.

FLOOD DRILLS AND SIMULATIONS

Three table top simulations were organized at different stages of the development of the flood EWS: 1) on 30 September 2008 with 15 stakeholders to develop the SOPs; 2) on 30 November 2008 with 30 persons directly involved in warning dissemination to simulate the warning information flow using colored thread and 3) on 11 January 2009 with 30 persons involved in early warning and emergency response to test the SOPs.

Prior to the first simulation on 1 February 2009, the river gauges were installed, fax machines were distributed as communication equipment, and the SOPs were finalized. A rehearsal for the first simulation was conducted on 25 January 2009 for 50 people. The actual simulation on 1 February 2009 involved 700 people representing the *kelurahans*, emergency response field coordinators at RW and *kelurahan* levels, members of Jakarta provincial disaster coordination agencies, BMKG as the originator of the flood warning, and the Indonesian Red Cross to demonstrate water SAR. Additional simulation exercises were conducted in July 2009 and October 2009 (after the end of the project) to continue the improvement of the early warning and response systems.

LESSON LEARNED AND REPLICATION WORKSHOP

A Lesson Learned Workshop was conducted on 26 June 2009 with the aim to disseminate the work done by PROMISE Indonesia, to share the best and bad practices during process development and implementation of PROMISE-Indonesia activities, to get feedback from the stakeholders,and to identify the opportunity and strategy for replication to other flood prone *kelurahans* as well as other municipalities. In attendance were 50 people representing the project stakeholders and other potential focal points including Jakarta Provincial Government, Kelurahan Kebon Baru's community stakeholders and representatives from international organization.

Raising Awareness of Disaster Risk Management

School safety program

Sekolah Menengah Atas Negeri 8 (SMAN 8) was selected to be the target school because it is badly affected by floods every year. Several structural measures had already been taken to mitigate floods, such as raising up the school grounds, placing holes and pipes in the school walls to channel water to Ciliwung River, and locating laboratories and electronics facilities on the second or third storey, and ceramic tile flooring for easy cleaning after floods.

An initial town watching workshop was conducted on 16 August 2008 with only four students and two teachers to introduce the methodology and gain acceptance by the representatives of their respective sectors. Next, 32 teachers, students and administrators representing the school used the town watching methodology on 18 October 2008 to survey or observe the school's flood hazard potential, vulnerability to floods, and capacity for flood disaster risk reduction.

After the town watching session, the representatives made a risk assessment and action plan. The aspects considered in the assessment and planning are: the school layout and school structure; relevant mitigation infrastructure (condition of building damage and drainage, warning system, evacuation route, flood post coordination location, rescue Standard Operating Procedures or SOPs in the community, location of their water supply); flood hazard profile and post-flood diseases; and flood preparedness efforts and measures. The plan was subsequently adopted by the School Development Committee whose responsibilities include flood preparedness.

The priorities under the School Action Plan were the integration of the school within Jakarta's Flood Early Warning System, a School Information Board for disseminating early warning and risk reduction activities, and IEC materials for the information board such as a poster of the school's flood early warning system and education material of flood disasters and safety.

Participation in Disaster Reduction Week in Jakarta

The fifth Disaster Awareness Week was conducted on 21 to 25 October 2008. During the exhibition, PROMISE Indonesia showed the product such as: Flood risk map for Kelurahan Kebon Baru and Bukit Duri, South of Jakarta, poster of Flood disaster management and several reports of the activity that have been done, like Flood risk map and TOT on Increasing Capacity of Local Government and Community in Flood Early Warning System at DKI Jakarta.

INFORMATION PRODUCTS

Part of the output of the project are IEC materials developed as one of the project's activities. The process followed began with the collation of basic information from around the world on floods and flood preparedness, a review and selection of material relevant for teaching purposes in Jakarta, the selection of the theme, the development of prototypes, and review of prototypes by experts and subsequent modification. The resulting products are:

- Leaflets about PROMISE Indonesia
- Posters on themes such as understanding the flood hazard, emergency preparedness, flood disaster mitigation and disaster risk reduction.
- Banjir dan Upaya Penanggulanganya (*Floods and Flood Mitigation*) a training manual in Bahasa Indonesia on floods and their mitigation, freely distributed on the ITB website

Knowledge Capture and Knowledge Product Development

The experience in Jakarta was developed into Safer Cities case study 27, "Flood preparedness initiatives of high-risk communities of Jakarta," published by ADPC on June 2010. The flood EWS is also featured as a good practice by UNISDR in *Local Governments and Disaster Risk Reduction: Good Practices and Lessons Learned*, Mar 2010.

PROMISE PAKISTAN: HYDERABAD

Project-at-a-Glance

Hazard Type:	Flash floods, water-logging, windstorms, drought
Country Partner:	Aga Khan Planning and Building Services Pakistan (AKPBSP)
Project Manager:	Mr. Masood Ahmed Mahesar; Mr. Faisal Farooq Khan
Project Period:	May **2006** to July **2008**
Project Contacts:	
Mr. Asif Merchant *CEO*, AKPBSP 310-311, 3rd Floor, Kassam Court BC-9, Block 5, Clifton Karachi Pakistan Tel: +92-21-5361802 – 4 Fax: +92-21-5361807 Email: akpbsp.k@akpbsp	Suleman Abro Sindh Agricultural & Forestry Workers Coordinating Organization (SAFWCO) H # C-415/416, Phase-I Qasimabad, Hyderabad Pakistan Tel: +92-22-2650996 Fax:+ 92-22-2655860 Email: info@safwco.org
Mr. Syed Muhammad Hussain *District Coordination Officer* DCO House, GOR Colony Hyderabad Pakistan Tel: +92-321-2688684	Mr. Karim Nayani; Mr. Gholam Panjwani Focus Humanitarian Assistance Block 14, Civic Centre Sector G-6, Markaz Islamabad Pakistan Tel: +92-51-5122010-18 Ext. 111 karim.nayani@focushumanitarianpk.org

Urban Risk Context

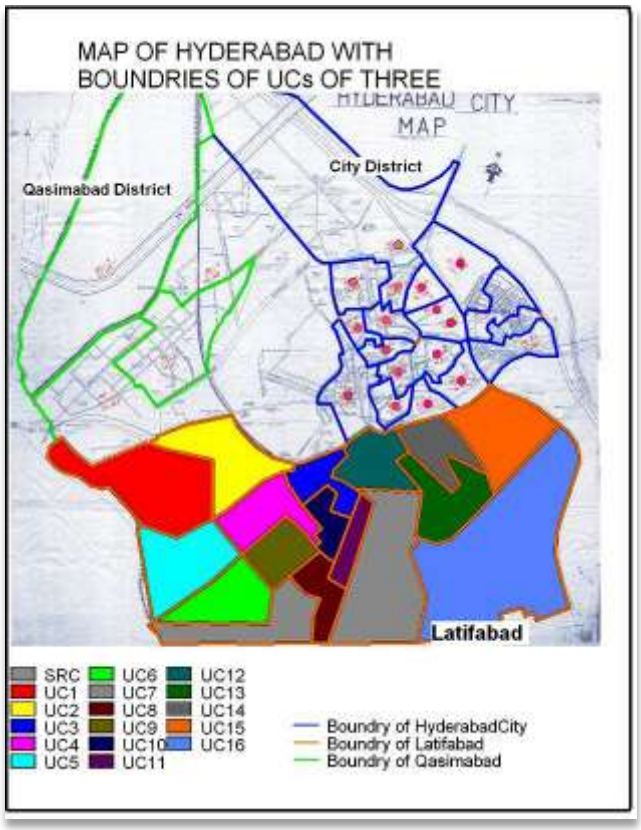
Hyderabad is the 8th largest district in Pakistan with a population of 1,166,894 and a population growth rate of 2.62% in 1998. It is subdivided into four *talukas* (sub-districts): Hyderabad City, Latifabad, Qasimabad and Hyderabad Rural. It has many tourist attractions such as historical sites and various lakes, good educational facilities, and economic growth potential from its small-scale industries. It is often plagued by floods due to torrential rains, a shallow water table (less than 1 m below the surface in some areas), a limited capacity of the drainage systems to remove flood water (only 2.5 cm of water a day). About 20% of the population live in low-lying areas and face problems due to stagnant water such as damage to buildings and

water-borne disease. The city is on the eastern bank of the Indus River, and the protective bund canal system was at times a site of breaches.

Networking and Advocacy

The main stakeholders of PROMISE in Hyderabad were:

- District Coordination Officer of Hyderabad, the local authority for Hyderabad district who controls its annual development budget
- Taluka Municipal Officer of Latifabad, whose position is the main coordination body that mobilizes and allocates resources for Latifabad
- Taluka Nazim (Administrator) and Naib Nazim (Deputy Administrator) Latifabad, the two highest elected office bearers in Latifabad who can reach out to the communities and gather support for projects
- And the residents of the selected high-risk areas.



Sites

The PROMISE partner AKPBS-P reviewed secondary data and conducted interviews with stakeholders of their experience of the floods of 2006. The process identified five Union Councils in *Taluka* Latifabad (2, 4, 12, 13, and 14) and Ali Abad ward of Union Council 16 in Hyderabad City.

Union Council map of Hyderabad District (2007)

CBDRM Activities

CBDRM PROCESS

The three inception workshops were held at Union Council level in UC 12, 13 and 14 of Taluka Latifabad at the meeting hall of one partner organization Pak Social Welfare society situated in UC 13, while one workshop was held at Ali Abad Mohalla in UC 16 of Taluka City on November 4, 7 and 10, 2006 respectively. The purpose of these workshops was to introduce the AKPBSP organization and PROMISE program, develop a strategy for hazard mapping and vulnerability assessment of each community, and get volunteers to participate in the project.

Participatory Risk Assessments (PRAs) were made to identify hazard, vulnerability, capacity and risk of each ward. Preliminary information on flood-prone areas were first collected for Hazard and Vulnerability Assessments. This includes maps of Hyderabad district and Latifabad (low-lying flood-prone area). The district government's reports and documents on pre-flood/pre-monsoon preparedness plans were also collected. Other materials include census figures as well as administrative information related to the area. Initial meetings were held with other government agencies including Sindh Irrigation and Drainage Authority for collecting information on vulnerable areas/ points along the first bank of River Indus, which crosses Hyderabad city.

Five PRA workshops were conducted in different parts of the city in December 2006. The field team used different tools and questionnaires to gather data from the respondents, specifically transect walks, community mapping, and making seasonal calendars. After transect walks, the volunteers were distributed in different groups of 8-10 members and prepared the maps and disaster calendars. The volunteers ranked the intensity of each disaster, their likely impacts on residents, identified community problems related with the disasters, then outlined recommended measures to cope with the disasters. The communities updated their hazard maps and vulnerability and capacity assessments in September 2007.

The profile of the high-risk Union Councils was that of an area that floods due to heavy monsoon rains and from breaches along its canals. Poor drainage would lead to stagnation, contamination of the drinking water supply, and water-borne diseases.

COMMUNITY MITIGATION PROJECTS

Community members in the project areas identified mitigation projects during their participatory risk assessment and action planning exercises. A dialogue was made with each of the communities for the needs analysis, project identification and getting the consensus over the community's contribution to the activity and sustainability. After project identification, the project partner conducted a detailed technical survey, and made the architectural drawings and designs. The actual work was done with community input for labor. The projects were a combination of: raising the street level through earth filling; installation of latrines; installation of covered drains; and covering streets with concrete. These projects are:

- Union Council #2, Latifabad: 850 ft of open drain with covers; streets earth filling project; two communal latrines; health and hygiene workshop
- Thakur Colony, Tando Yousif, Latifabad: approximately 1050 ft of underground drains (the target was 850 ft); streets earth filling project in Mohallah; two communal latrines; covering all streets of the colony with concrete; health and hygiene workshop; the communities were mobilized to save money for the projects
- Ghera Hindu Basti, UC 13, Latifabad: street earth filling project and four communal latrines/washrooms connected to sewerage system
- Maheshwari Colony in UC 14, Latifabad: installation of 10'-diameter sump tank (cesspool); 850 ft of drains; rehabilitation of four communal latrines
- Aliabad, UC 16, Hyderabad: streets earth filling project and installing covers for storm drains project; the communities were mobilized to maintain the projects

COMMUNITY DISASTER PREPAREDNESS

PROMISE-Pakistan organized six Disaster Management Committees in the four union councils, gave them an orientation regarding their roles and responsibilities, and two of them have been registered with the local government as a Community Citizen Board (CCB) to enable them to access local government funds in support of their community based small projects. Nineteen committee members attended a Resource Mobilization Training from 22 to 25 June 2007 organized under the project.

The Committees met regularly prior to the start of monsoon season in 2007 to assess their community's vulnerability and preparedness for flooding.

PROMISE Pakistan organized a training course on Community-Based Emergency Response from 24 to 28 July 2007 at Hyderabad. Twenty-four participants from six Disaster Management Committees attended. The resource persons were from ADPC, FOCUS Humanitarian, and from Aga Khan University.

HOUSEHOLD HEALTH AND HYGIENE

The spread of water-borne diseases was common during floods, and this related to low awareness of safe food handling practices for households. To address this vulnerability, PROMISE-Pakistan organized a Health and Hygiene Program for the women of the union councils under the project wherein resource persons highlighted the importance of different components of hygiene in six workshops from January 2007 to January 2008. The content included personal, domestic, food and environmental hygiene, as well as a demonstration on preparing oral rehydration solutions (for the treatment of diarrhea). Participants of the workshop were 191 women of the union councils under the project.

RESOURCE MOBILIZATION AND ADVOCACY

PROMISE-Pakistan in Hyderabad conducted a Resource Mobilization Training from 22 to 25 June 2007. A total of 19 members of the disaster management committees formed under the project were trained through the training.

An advocacy and mobilization seminar was organized twice in by PROMISE-Pakistan in Hyderabad, on 17 December 2007 and 23 January 2008. The second seminar was held in collaboration with SAFWCO, the local NGO partner, oriented more than 200 stakeholders about the mandate of the District Disaster Management Authority, and to share the hazard and vulnerability analysis of Hyderabad's social groups, properties and environmental resources.

Mainstreaming DRR

DISASTER MANAGEMENT COMMITTEES IN THE EXECUTIVE AND LEGISLATIVE BRANCHES

The District Coordinating Officer, as head of the district-level bureaucracy and deputy head of the District Disaster Management Authority, reactivated the Disaster Management Committee. The Naib Nazim also formed a similar committee comprising of elected members of the District Assembly.

GIS TRAINING

GIS training was held from 5 to 9 September 2006 for 13 staff of AKPBSP, in preparation for the development of a spatial database of the flood hazard

and vulnerability of the project sites. The resource persons came from ADPC. The topics covered were: Principles of Mapping; Concepts of GIS; ILWIS Software and Data Capture; Map Referencing; and Attribute Data Handling.

Raising Awareness of Disaster Risk Management

CBDRM ORIENTATION

A two-day community based 'Basic Training on Disaster Management' was held on 30 June to 1 July 2006. The training provided a key opportunity for creating linkages with the Community Based Organizations (CBOs) working in the project targeted area, individuals and district government officials. Some of the participants attending the training belong to adjoining districts of Hyderabad like Thatta and Badin (lower Sindh). This may help greatly in replication initiatives.

SCHOOL SAFETY PROGRAMS

Under the School Safety Program, PROMISE-Pakistan organized orientations on the basic causes of the disasters and their effects on human lives and livelihoods to school children in five primary and secondary schools in Hyderabad: High School Hali Road Hyderabad, Amir Public School, Aminabad High School; Iqra Boys High School, Government High School Qasimabad, and Government High School GOR Colony.

NATIONAL COURSE ON GOVERNANCE AND DISASTER RISK REDUCTION

The Sindh Agricultural and Forestry Workers Coordinating Organization (SAFWCO) signed an MOU with AKPBSP to be Training Partner for PROMISE. SAFWCO has a proven track record of disaster management and mitigation.

Under PROMISE-Pakistan, AKPBSP and ADPC conducted a workshop on Governance and Disaster Risk Reduction in Hyderabad from 26 to 29 May 2008. The workshop was attended by 25 participants from District Administration, Aga Khan planning and building services, NGOs, public representatives and government officers.

District Councilor Rana Ansar convinced City Nazim of Hyderabad Mr. Shabbar Chisty and Town Municipal Officer Mr. Fakhir Siddiqui to organize a Technical Orientation Session for the engineers and technicians working with the Works Department, Hyderabad Development Authority, Hyderabad Building Control, and Fire Department for Safe Construction in disaster prone areas. AKPBSP experts delivered a half-day session attended by 40 professionals in November 2008.

Knowledge Capture and Knowledge Product Development

The experience in Hyderabad was developed into Safer Cities case study 24, "Learning to Act Together: Disaster Mitigation in Hyderabad Pakistan through Collaborative Initiatives," published by ADPC on March 2009. This case study was subsequently reprinted in *Urban Risk Management in South Asia* published by the South Asian Association for Regional Cooperation (SAARC) in June 2010.

Major cyclone/flood events during the Program (2005 – 2010)

Hyderabad was able to withstand the August 2010 flood that began from Khyber Pakhtunkhwa and traveled southwest to the Arabian Sea along the Indus River. That flood event was already billed as Pakistan's worst in 80. News reports have accounts that the district engineers reinforced the barrages along the river, and 150000 people were evacuated by end July. However, the city was affected by the October 2010 flood although we have no data regarding the impact on the project site, and whether PROMISE had been helpful in mitigating the flood impacts. The flood occurred two years after the project ended, and so enough time has elapsed for maturity of any of the project's initiatives.

It would be very useful to conduct a project impact evaluation of the sites, especially since Sindh Province is the country's wheat basket and is still retaining a lot flood waters as of time of writing of this report. Another useful point to analyze is whether the tiny amount spent for this project was a good investment that decreased the deaths, damages and economic loss in its area, and then compare this to the amount of OFDA Assistance to Pakistan (USD 115 million in 2010, and another USD 71 million for 2011).

PROMISE PHILIPPINES: DAGUPAN

Project-at-a-Glance

Hazard Type:	Flood, typhoon, storm surge
Country Partner:	Center for Disaster Preparedness
Project Coordinator:	Ms. Mayfourth Luneta
Project Period:	March **2006** to July **2009**
Project Contacts:	
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Urban Risk Context

Dagupan is a sub-regional center for trade and commerce, finance, health services, and education services in Northern Luzon. Located on a river delta, the city is the endpoint of seven river systems draining into Lingayen Gulf. The city had a registered population of 130,328 and the highest population density in its region at 3,501 persons/km^2 in 2000. Floods are due to heavy rains in the upper catchment, heavy siltation of the rivers, and the city's low average elevation at one meter above mean sea level. Dagupan was one of three major cities close to the epicenter of the massive Northern Luzon earthquake of 16 July 1990 that caused liquefaction in its central business district and much damage and death in the city. The earthquake also created a dynamic lateral shifting of Pantal River that left numerous abandoned channels, levees and back-swamps.

The country had a Disaster Coordinating Council structure from national government level to regional, provincial, city/municipal and barangay levels. The CDCC / BDCC structure was activated only during times of emergencies. The BDCCs of the eight pilot *barangays* were inactive at the start of PROMISE.

Dagupan city mayors were particularly engaged in this project. The project began with Mayor Benjamin S. Lim (2004 to 2007), and continued and ended with Mayor Al S. Fernandez (2007 to 2010) while Mr. Lim became Governor of Pangasinan Province in that period. In 2010, Mr. Lim again won as Mayor of Dagupan (for 2010 to 2013), and continued the work began under PROMISE.

Networking and Advocacy

The main stakeholders of PROMISE in Dagupan were:

- the City Government of Dagupan, the local authority
- residents of the eight selected high-risk *barangays*
- the Barangay Disaster Coordinating Councils[2] of the pilot *barangays*.

[2] Now renamed to Barangay Disaster Risk Reduction and Management Council, with new mandates for DRR.

City Flood Hazard Map (2006)

Sites

Eight high-risk barangays: Bacayao Norte, Bacayao Sur, Lasip Chico, Lasip Grande, Manguin, Pogo Grande, Salisay and Tebeng.

Scoping

A Project Orientation Workshop was held on 7 March 2006 with over 100 representatives of Dagupan's barangays, city officials, civic organizations, and the local media. The workshop began with a formal launching of PROMISE in Dagupan, followed by presentations by the city government and the project manager Ms. Lorna Victoria on the PROMISE concept, an open forum to answer questions from all present, and then a division of the participants into workshop groups to deliberate on the factors that could facilitate or hinder the smooth implementation of the Project and the roles of each stakeholder. After the workshop results presentation, each one was tasked to identify eight communities which they perceived as the most vulnerable to flooding.

A general strategy was adopted under the project with the following features:

- Enhance the capacities of the existing local political and administrative units that were responsible for emergency and disaster response at the time: the city disaster coordinating council (CDCC) and barangay DCCs (BDCCs), and of barangay leaders in DRM.
- Apply CBDRM to ensure community participation and to rely on indigenous knowledge.
- Solicit the support of all sectors, to spread the awareness and support for PROMISE to all city residents.
- Institutionalize DRR mechanisms into SOPs, the local government's structure, development work related to reducing disaster vulnerability, local policy, and into the local culture by promoting activities for school children in particular and the city residents in general.

CBDRM Activities

CBDRM PROCESS

The PROMISE RP team focused on enabling local leaders (TWG and BDCC members) to become trainers in the field of Disaster Risk Management. This pool of local trainers were mentored by CDP to ensure that they were equipped with all the necessary knowledge, skills, and attitudes. The 24 members of the TWG and 16 representatives of the project barangays underwent a workshop on CBDRM and PRA on 27 to 31 March 2006 to deepen their understanding of and experience on disaster risk reduction process and mechanisms, as well as a two-day Facilitators' Workshop for the TWG in May 2006 to further hone their skills.

In 2007 and 2008, the TWG underwent refresher courses on CBDRM, serving simultaneously as an orientation course for new TWG members; there were 28 and 50 participants respectively. The skills of the TWG as CBDRM trainers were recognized by their inclusion among the members of the Training Learning Circle (TLC) – Philippines during the Circle's launch on 14 December 2007.[3]

The CBDRM capacity building for 157 residents and officials of eight pilot barangays was implemented in May 2006. The communities underwent a workshop on barangay disaster risk management to learn the concepts of risk due to flood and typhoons, the risk management of these hazards, and PRA tools. This was followed by an action planning workshop where the same participants conducted a participatory risk assessment of their respective communities and developed action plans to reduce their risks. The capacity building activities resulted in the development of Barangay Risk Maps, Early Warning System (EWS), and Barangay Emergency Response and Evacuation Plans for the eight target communities. The exhaustive training report may be downloaded from the PROMISE website.

Follow-up capacity building activities included a study tour in January 28 to Guagua municipality and Minalin municipality in Pampanga province. The tour was undertaken to enable the PROMISE delegation to learn from others' DRM and community-based disaster response experiences.

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[3] TLC is a on Community Based Disaster Risk Management is a support network for trainers and learners. This was initiated by CDP in the Philippines and the All-India Disaster Mitigation Institute (AIDMI) with support of the Special Unit for South-South Cooperation (SU/SSC) UNDP Regional Center Bangkok, ProVention Consortium, and the Asian Disaster Preparedness Center (ADPC). The TLC aims at enhancing the capacity of trainers in community based disaster risk reduction and the use of participatory and learner-centered tools and methodologies.

CBDRM capacity building was extended to the remaining 23 barangays, as representatives of these barangays were included as participants of the 2008 refresher course.

COMMUNITY MITIGATION PROJECTS

In 2006, PROMISE RP saw the implementation of small-scale structural and economic disaster mitigation projects. The barangays submitted proposals for the procurement of emergency equipment, conduct structural mitigation activities, and implement economic projects that would fund BDCC efforts. The equipment and economic projects varied from one community to another, depending on their needs and context. The selection was based on criteria that had been discussed and set by the PROMISE team (the TWG and CDP). Each community provided their counterpart such as labor for building markers and road guides, procurement of batteries for the flashlights, and storage facility for the equipment. The communities also developed guidelines in using, safe-keeping, and maintaining the equipment or the economic activity.

Small-scale economic mitigation projects included: setting up of micro-loan facilities as seed money for alternative livelihood projects, operation of a pedicab (a small bicycle-drawn passenger sidecar), a barangay solid-waste recycling facility, community retail stores and a community pharmacy. The income from the loans and sidecar rental was used to fund the DRR activities of the respective communities. The community retail kept the relief goods fresh by replacing food and medicine that are about to expire with new stock, and selling the old stock through the community stores. Structural mitigation activities consisted of the construction/improvement of evacuation centers, elevation of toilets and foot bridges, dredging of rivers, mangrove reforestation, planting of trees along river banks, sand-bagging, and clean-up drive.

Another set of structural mitigation activities were implemented in 2007, and were again selected based on criteria developed by the PROMISE Team. The projects are: 1) improvement of Emergency Operation Centers of Barangay Pogo Grande, Barangay Bacayao Sur, Barangay Tebeng and Barangay Lasip; 2) improvement of toilets for the barangay primary school in Barangay Lasip Grande, and the construction of elevated toilets for the barangay primary school in Barangay Salisay (these schools serve as the barangays' evacuation centers); 3) raising the ground of the covered basketball court of Mangin Elementary School to serve as the temporary Evacuation Center for Barangay Mangin; 4) Barangay Dike in Barangay Bacayao Norte. Part of the labor in building or improving the structures was the community's counterpart contribution.

COMMUNITY DISASTER PREPAREDNESS

Each target barangay was trained in Community-Based Emergency Response (C-BERC) that had modules for First Aid and water SAR in March 2007. The training was conducted by the local trainers/facilitators for the BDCC members and community leaders. The training was followed by hands-on exercises and workshops on hazard mapping and vulnerability assessment, early warning and evacuation, and community disaster preparedness planning. After the skills training, each BDCC received rescue equipment and had to develop guidelines on the use and maintenance of the equipment.

Mainstreaming DRR

DRM ACTION PLANNING AT CITY LEVEL

The CDCC decided to form a Technical Working Group (TWG) that will focus on disaster mitigation and risk reduction. The membership of the TWG was drawn from the existing members of the CDCC. The TWG created tasks related to disaster risk reduction and disaster mitigation: planning, documentation, training (design, planning and implementation), water quality monitoring, barangay-level waste management, flood canal maintenance, and tree pruning.

The TWG was in operation from 2006 to 2007, and while it existed it served the city by continually addressing disaster risk and mitigation. It formulated a CBDRM plan to serve as the framework for the barangay CBDRM action plans. Its plans and activities were implemented through its members' own roles as offcials of the City Government. These plans and activities were: (1) monitor their evacuation centers' readiness for disasters, (2) survey each barangay for information on vulnerability to foods, (3) promote capacity building in disaster risk reduction, and (4) coordinate its disaster risk reduction activities with other interested parties. Furthermore, the TWG held a planning workshop from 19 to 20 September 2007 to develop a strategy for the sustaining CBDRM in the city.

END-TO-END FLOOD EARLY WARNING SYSTEM

In 2006, the PROMISE team undertook a project to develop an end-to-end flood early warning system (EWS). Under the project, a workshop was held on 16 June 2006 to review the PRA results, discuss the importance of an EWS, and determine how to set up a system. Community members and city officials were present during the workshop, and they discussed how to set up indigenous flood markers within the communities, and to monitor the

flood levels during the (then) current flood/typhoon season in order to have a database on how fast the flood rises and how long each flood lasted.

In the same month, the TWG visited the PAGASA Agno River Flood Control Office where the head, Mr. Ladislao, and staff gave a briefing on the flood situation in the region, how it affects the city, how they were monitoring flooding, how timely warnings can be given to Dagupan and other areas, and extreme scenarios such as dam breaks.

A Early Warning and Evacuation Workshop was designed and conducted from 29 to 31 August 2006 for 60 participants from the eight pilot barangays and city government. Resource persons were drawn from the PAGASA headquarters in Manila and from the Agno River Flood Control Office. After the lectures, the participants underwent planning workshops for early warning, facilitated by Ms. Luneta, and on Evacuation, facilitated by Ms. Palencia. A city-level workshop on Early Warning and Evacuation was conducted from 12 to 14 September 2006 for 35 participants composed of city department heads and members of the CDCC. They reviewed the CDCC structure and functions to clarify the roles and responsibilities in early warning and evacuation, and the output was the outline of an early warning and evacuation plan for Dagupan City. The resource persons were Ms. Luneta, Ms. Palencia and Mr. Maximo from the Philippine Institute for Volcanology and Seismology. The plan was finalized during a writeshop in November 2006.

CDCC Operations Manual

In November 2006, the CDCC held an Early Warning and Evacuation Planning Writeshop. They developed an operations manual for use in times of emergency based on the plans developed during the aforementioned workshop. The manual was reviewed in April 2007 prior to the conduct of the flood simulation exercise for the city and for Barangay Mangin in May 2007.

Flood disaster simulation exercises

The series of training activities and workshops culminated in the conduct of city- and barangay-wide warning and evacuation simulation exercises on 31 May 2007 aimed at testing the emergency SOPs and guidelines developed by the barangays, and how well they could interoperate with the city's procedures. In preparation for the simulation, the PROMISE team worked with Ms. Mariser Palencia, an Early Warning and Evacuation specialist, to review the CDCC's Operation Manual and develop a script for the simulation. The actual event was staged at two levels – city-wide and at Barangay Mangin, and involved over 300 participants. It was well-covered by the local media, and the experience in Barangay was later documented as

a good practice by Oxfam GB. More importantly, representatives of the Regional Disaster Coordination Office and other national disaster response organizations were present during the simulation and debriefing on 1 June 2007, and contributed to analyzing the problems and points of improvement.

In addition to the flood simulation exercise, Dagupan City held a flood response communication simulation on 6 June 2007 to test the flow of communication during emergencies between the CDCC and the pilot barangays. The equipment used was the two-way radio, and the simulation revealed points for improving that included familiarity with codes, assigning unique frequencies per barangay, and the use of the radio itself, checking battery power.

City officials also underwent Advanced C-BERC training on 17 to 19 July 2007 for 29 participants from the City Disaster Coordinating Council, facilitated by ADPC and the Pangasinan Red Cross. The training content included Basic Life Support, First Aid and Mass Casualty Scenarios.

Emergency Operation Center (EOC) for Dagupan City

The Dagupan City Council passed City Ordinance No. 1908-2007 to establish a permanent Emergency Operation Center (EOC) in the city. The ordinance was authored by City Councilor Farah G. Decano, Head of the Local and International Affairs Committee, and was passed by a newly-elected Sangguniang Panlungsod on 10 December 2007. The ordinance also expanded the city's concept on hazards to include natural hazards such as tsunami, earthquake, and drought, as well as man-made hazards. The operates 24 hours a day, seven days a week, responding not only to emergencies but also ensuring public order and safety in the whole city. Its activities include the provision of assistance to public commuters, information drives, and capacity building on DRM. The EOC team is made to be part of the CDCC structure.

Raising Awareness of Disaster Risk Management

Institutionalized Celebration of Disaster Preparedness Day

The CDP and TWG lobbied the City Council to declare a disaster preparedness day, and thus City Resolution No. 5469-2006 was passed to observe July 16 of every year as Disaster Safety Day. Annual observance of the day saw the participation of schools, line agencies, civic organizations, and NGOs in the yearly Disaster Preparedness Month activities. These activities included evacuation and earthquake drills participated in by over

55,000 students in public and private schools in the City, "Academic Olympics" to promote awareness of disaster preparedness concepts, and mangrove re-planting.

IEC Materials

PROMISE in Dagupan developed IEC materials for distribution to school children. In 2006, the Disaster Preparedness Day activity included an art competition and slogan competition. The winning poster and slogan were used for a 2007 calendar; additional features were tips on what to do before, during and after a flood, as well as important phone numbers of city officials involved in emergencies. The team also developed a disaster preparedness bookmark, a 2008 calendar containing the community early warning alert levels for the eight high-risk barangays and the corresponding actions per level, and a video-documentary on PROMISE in Dagupan.

Disaster Management Orientation Seminars

The PROMISE team held orientation seminars for different city stakeholders to raise awareness about disaster management. The team reached out to the local media, school administrators and teachers, for community leaders and residents of Dagupan's other barangays (only 8 of the 31 barangays are PROMISE sites).

Study Tours to Dagupan

The city demonstration project was able to deliver outputs much faster that the other demonstration sites and the communities and city officials were able to showcase their efforts by as early as October 2006, where some participants of the 2006 PROMISE Working Group Meeting visited the city government and observed some of the work at the project sites. The study tour groups was composed of representatives from BDPC, AKPBS Pakistan, CECI, ADPC, and Mr. Robert Barton of USAID/OFDA in Bangkok. Other study tours to Dagupan included the CARE-Bangladesh staff and partners (September 2007), Oxfam Hong Kong regional staff (January 2008) and senior Bangladesh government officials (April 2009).

Networking Activities

Dagupan Mayor Al S. Fernandez reached out to the Mayors, Vice Mayors, local officials, officials from national government agencies, and NGOs in the other cities and municipalities of Pangasinan province. Continuous advocacy for DRR culminated in a signing of a covenant among 42 representatives from different municipalities, cities and provinces of Region 1 on 10 April 2008. This ceremony was the start of a partnership to promote and mainstream disaster risk reduction into their plans and programs. Signatories included the mayors, heads of the local disaster coordinating

councils, staff of the various LGU departments, officials from the DILG and Office of Civil Defense regional offices, non-government organizations and civil society.

The PROMISE team from both CDP and Dagupan's TWG were very active in networking, and participated in many networking efforts in the Philippines and abroad. The events they attended to present their PROMISE experience included: ProVention Consortium Forum research presentation in Tanzania in February 2007, the 3rd Ministerial Meeting for HFA Monitoring in Kuala Lumpur on December 2008, and the Maldives training on Mainstreaming DRR in the Education Sector on March 2009.

Knowledge Capture and Knowledge Product Development

Safer Cities Case Studies

The experience in Dagupan was developed into Safer Cities case study 16, "Cooperation between Local Authority and Communities" published by ADPC on April 2007, and Safer Cities case study 20, "Community Based Early Warning System and Evacuation: Planning, Development and Testing," published by ADPC on March 2008.

Publications of good practices

External organizations have also documented PROMISE in Dagupan, or published articles on it portraying the experiences as best practice or good practice. The complete list follows:

- Video-documentary: *The Barangay as Building Block*, Oxfam GB, 2008.
- "Combining Indigenous and Scientific Knowledge in the Dagupan City Flood Warning System," Lorna Victoria, Indigenous Knowledge for Disaster Risk Reduction: *Good Practices and Lessons Learned from Experiences in the Asia-Pacific Region*. European Union, Kyoto University and UNISDR Asia Pacific: Bangkok: July 2008, pp. 52 to 54.
- "Community Preparedness Against Perennial Flooding: The Barangay as Building Block," Mayfourth Luneta and Jesusa Grace Molina, *Good Practices in Disaster Risk Management in the Philippines*. Philippines: Oxfam GB, 2008, pp. 28 to 41.
- "Community-based disaster risk management can lead to good urban governance," Gabrielle Iglesias, in *Forms of Community Participation in Disaster Risk Management Practices*, R. Osti and K. Miyake ed. New York: Nova Publishers, 2011 (in press).

- "Local Knowledge and Practices for Disaster Preparedness and Mitigation," Lorna Victoria, *Tropical Coasts*, 14 (2), Dec. 2007, pp. 56 to 61
- "Mainstreaming Community-Based Mitigation in City Governance," Center for Disaster Preparedness, *Building Disaster Resilient Communities: Good Practices and Lessons Learned*. UNISDR and UNDP: Geneva, June 2007, pp. 46 to 48.

Disaster Management Training Manual for Communities

In 2009, CDP developed a training manual on disaster management for communities entitled *Kahandaan, Katatagan at Kaunlaran ng Komunidad* (Preparedness, Resilience and Welfare of the Community). The original training material had been developed by CDP in 2003, and enriched with case studies and examples from PROMISE in Dagupan. This manual was updated with material from PROMISE in Pasig, and incorporated the changes in the local DRR institutions (DRMMM council and office).

1st LGU Course on Governance and DRR

The PROMISE team organized the First LGU Course on Governance and Disaster Risk Reduction in Dagupan City, April 2008. The course was designed as an interactive learning event, and drew from the experiences in PROMISE in Dagupan. The training consisted of interactive lectures, study visits to the high-risk barangays, and action planning. Resource persons came from the TWG, CDP, Guagua Municipal Disaster Coordinating Council, and DILG Region 1. Thirteen participants came from neighboring cities and municipalities; they received copies of Safer Cities Case Studies 16 and 20 about Dagupan.

Major typhoon/flood events during the PROGRAM (2005 – 2010)

Typhoon Halong (local name Cosme) hit Dagupan City on 17 May 2008, and resulting in severe damage to 3,349 houses and partial damage to 15,034 houses, affecting 24,973 families. Damage to public infrastructure was pegged at USD 0.69 million, and included school buildings, day care centers, health centers, barangay and city offices, and public lighting. There was no rain in Dagupan, but the city had some flooding due to dam water release and high tide. Estimated losses for the city's local fishing industry were at USD 13 million.

The city and all 31 barangay disaster coordinating councils were activated, and the flood EWS was monitored non-stop and there were no deaths from

the eight pilot barangays. Barangay Mangin, with the highest flood risk, evacuated its residents, distributed its own relief goods in addition to the relief goods from the City, and ensured that all its residents were reached. The city's relief work and the Dagupan Red Cross began immediately after the typhoon passed, as well as recovery efforts to purify water, clear roads and restore water and electrical services. The city acknowledged that PROMISE helped it prepare against disaster.

TYPHOON PARMA (local name Pepeng) triggered the worst flooding in Northern Luzon history on 8 October 2009, about a month after the PROMISE Philippines project ended. The floods that submerged Dagupan City came were due to a combination of rain and emergency dam water release. The eight high-risk barangays had undergone two pre-emptive evacuations triggered by the flood EWS. Dagupan City government was therefore able to concentrate on the medium- and low-risk barangays, since the week-long flood managed to cover the entire city at one point. The BDCCs that were under PROMISE were able to prevent death and major damage while waiting for other rescuers to reach their areas during the crucial hours. They gave thanks to their SOPs developed and skills raised under PROMISE that they were prepared for the disaster. The city's EOC had to manage 18 evacuation centers sheltering 155,000 people, and some high-rise buildings that became temporary shelters for 30,000 people. The evacuation centers, in turn, in the eight barangays were prepared with supplies, and they continued to monitor survivors' relief needs and convey the data to the city government for them to put out an appeal for additional relief. For this flood event, the city registered zero casualties.

SUPERTYPHOON MEGI (local name Juan) passed through the Philippines on October 2010, but it did not bring much rain to Dagupan, although it did bring strong gusts of winds. Evacuation to emergency shelters commenced on 18 October 2010 despite the minimal rainfall in the city and absence of a flood, as the communities took their cues from the river gauges and community flood early warning system developed under PROMISE. The city government was continuously monitoring river levels and the movement of people to the shelters. The flood began in three barangays (Mangin, Tebeng at Salisay) on October 19 as the supertyphoon was leaving the Philippines; the immediate cause of the flood was the collapse of a dike located in the neighboring Calasiao municipality. Later the flood spread to areas the other high-risk barangays, and seven of the medium-risk barangays. The flood drained slowly because the arrival of the water coincided with neap tide in the gulf.

The shelters had held a maximum of 830 families during the flood, and the local authorities at city and barangay level managed the situation until the

families returned home on 25 October 2010. In fact, Dagupan is the only city within Pangasinan province that did not declare a state of calamity because of the desire to prepare for the typhoon was strong, families evacuated willingly, and the city government had prepared and stocked the evacuation shelters. Dagupan City still acknowledged the PROMISE project's DRR capacity building efforts directed at the city and barangay officials and local government institutions.

Awards

The Philippine government annually awards the *Gawad Kalasag* local governments, civic organizations and individuals in recognition excellence in disaster risk management. The award is made at the regional and national levels, with regional winners becoming the candidates for the national award. This project has been acknowledged by the people connected to PROMISE in Dagupan every time they received this award:

- 2009: Dagupan City Coordinating Council, National Kalasag Award for excellence in DRM by a component city, awarded by Philippine President Gloria Macapagal-Arroyo
- 2008: Barangay Mangin, Kalasag Award for excellence in DRM by a rural barangay, awarded by the Region 1 Disaster Coordinating Council
- 2008: Center for Disaster Preparedness for Best Performing NGO for 2008, awarded by the Region 1 Disaster Coordinating Council
- 2007: Barangay Mangin, Kalasag Award for excellence in DRM by a rural barangay, awarded by the Region 1 Disaster Coordinating Council, and one of three Finalists for the national-level award
- 2007: Dagupan City, Kalasag Award for excellence in DRM by a city, awarded by the Region 1 Disaster Coordinating Council

PROMISE PHILIPPINES: PASIG

Project-at-a-Glance

Hazard Type:	Flood, typhoons
Country Partner:	Center for Disaster Preparedness
Project Coordinator:	Ms. Mayfourth Luneta
Project Period:	December **2009** to October **2010**
Project Contacts:	
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Urban Risk Context

Pasig is part of Metro Manila in the Philippines, with a registered population of 617,301 in the 2007 census. It is a primarily residential and industrial city but has Ortigas Center, one of the top business districts in the. Pasig City is affected by riverine flooding from Pasig River, and local flooding from typhoons. Pasig City has an award-winning emergency preparedness program.

During the project period, the Philippine government enacted Republic Act 10121, the "Philippine Disaster Risk Reduction and Management Act of 2010". Its provisions dissolve all local Disaster Coordinating Councils, and replaces these with Local DRR Management Councils (LDRRMCs) for DRRM plan formulation and oversight and Local DRR Management Offices (LDRRMOs) for implementation and disaster preparedness and response. The counterpart of these are the Barangay Development Council and the Barangay DRRM Committee.

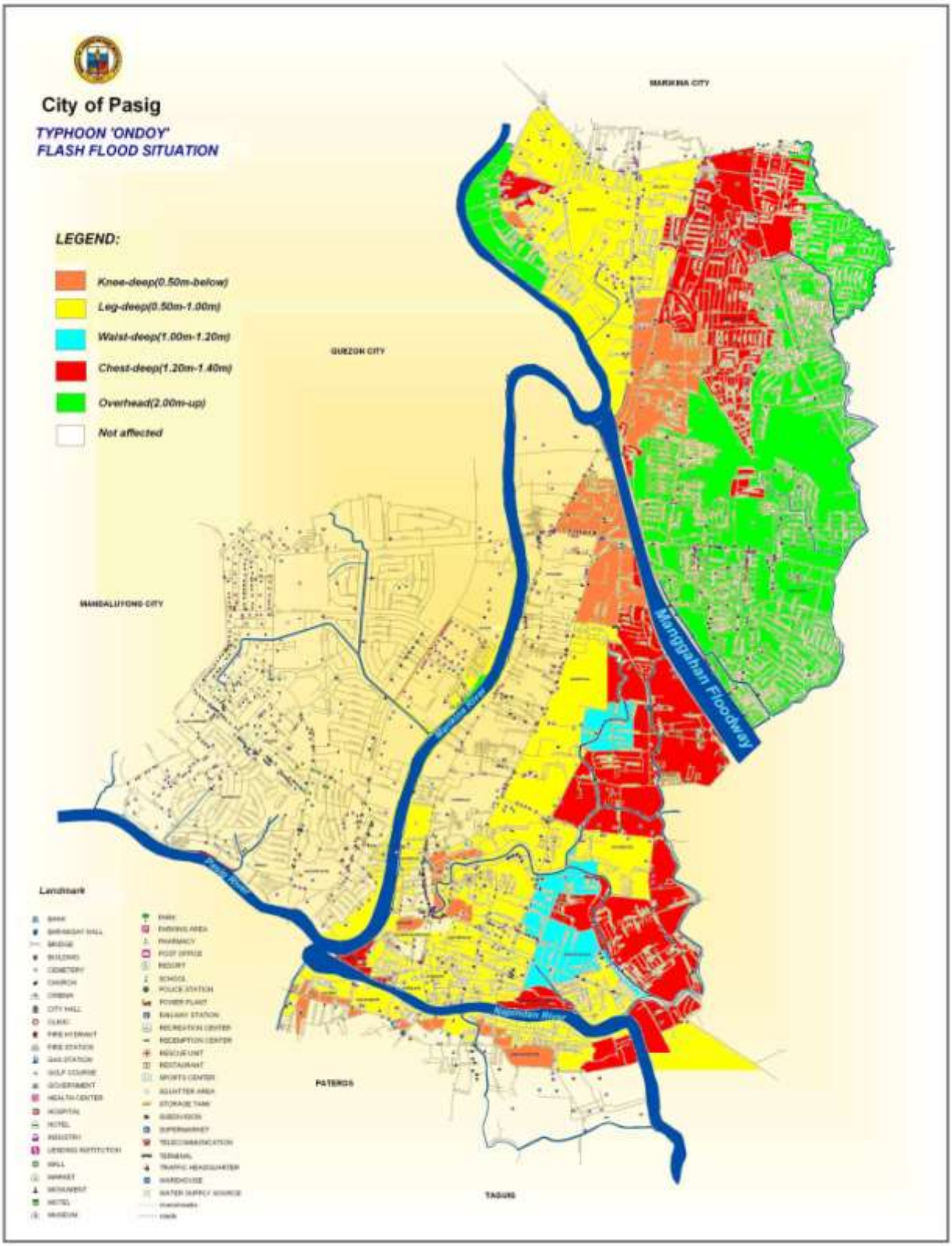
Networking and Advocacy

The main stakeholders of PROMISE in Pasig were:

- the city government of Pasig
- the residents of the eight pilot *barangays*.

Sites

Eight pilot *barangays* in Pasig City: Bamban, Kalawaan, Manggahan, Maybunga, Pinagbuhatan, Rosario, Santa Lucia, and Santolan



City Flood Hazard Map from Typhoon Ketsana (Ondoy), 2009

Scoping

The PROMISE team held a project orientation meeting on 27 November 2009 to brief key city officials on on the objectives, framework, and key stakeholders of PROMISE. The orientation was attended by 170 city officials, members of the Technical Working Group (TWG) and barangay captains. Ms. Padma Karunaratne gave an overview of the regional program, Ms. Adelina Sevilla Alvarez CDP's president shared the achievement of the PROMISE Dagupan experience, and Ms Luneta briefed the audience on the upcoming activities for PROMISE Pasig. The highlight of the event was the signing of a covenant for DRR by Mayor Eusebio.

CBDRM Activities

CBDRM PROCESS

PROMISE RP held a Training of Trainers on community-based disaster risk reduction and management (CBDRRM) from 15 to 17 February 2010. The 52 participants came from different departments of Pasig City Government. Resource persons included speakers from the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and the Philippine Institute for Volcanology and Seismology (PhiVOLCS). The training included a practicum for delivering training sessions, planning workshops for implementing PROMISE in eight pilot barangays, and development of public awareness campaign ideas.

Barangay Santolan in Pasig City was the first pilot community to receive the CBDRRM training from 18 to 19 March 2010. There were 40 participants representing the BDCC members and different sectors of the community. attended the training. The participants were able to make simple hazard maps and action plans, and appreciated the training.

The preparations for the national and local elections held in May 2010 interrupted the CBDRRM training for the remaining *barangays*, partly due to the uncertainty over who will be elected into positions at the *barangay* level. The team focused on curriculum development in May 2010. The material was revised in June following the enactment of Republic Act 10121 ("*An Act strengthening the Philippine disaster risk reduction and management system, providing for the national disaster risk reduction and management framework and institutionalizing the national disaster risk reduction and management plan*"). Because of the possibilities created by the mandates of the new structures, the training team conducted a review workshop for 9 July 2010, and invited as resource person Attorney Eunice Agsaoay-Sano, legal adviser of the Disaster Risk Reduction Network of the

Philippines. The training material was later incorporated into the 2010 edition of the training manual, *Kahandaan, Katatagan at Kaunlaran ng Komunidad*.

The PROMISE Philippines team held the CBDRRM training workshops for the other project barangays in July. The TWG divided the remaining seven pilot barangays into four teams: Team Avatar: Barangay Manggahan; Team Bantam: Barangay Kalawaan and Barangay Bamban; Team Fujiwara: Barangay Pinagbuhatan and Barangay Santa Lucia; and Team Balibagan: Barangay Rosario and Barangay Maybunga. The high-risk communities of Pasig City received training on the basic concepts of disaster risk management, underwent participatory risk mapping and action planning exercises to help them recognize their risks, their current abilities to cope with floods and typhoons, and to plan for their own risk reduction. About 50 participants per community attended, representing the different sectors in their areas: the Barangay Disaster Coordinating Council, women, youth and senior citizens.

COMMUNITY DISASTER PREPAREDNESS

Volunteer rescuers from PROMISE RP pilot sites participated in a basic swift water rescue orientation organized by Pasig City Rescue, the city's rescue unit. The training need to enhance skills of local rescuers was recognized from the city's experience with swift water during Typhoon Ketsana in 2009 that occurred especially in the river and floodway. The orientation was held on 1 October 2010 for one rescuer from 22 barangays at medium- or low-risk to flood disasters, while the eight high-risk barangays under PROMISE Pasig were allowed to send two each. Mr. Rommel Antinero from the Pasig City Rescue was the resource person of the training. The training content included the following skills: how to conduct a swift water rescue; use of different gadgets for swift water rescue (like throw bags); and tips on how to handle the rescue. The training included a video presentation on SWR. At the end of the training, the PROMISE team distributed one throw bag with 30 meters of rope for use in swift water emergencies to each of the eight pilot barangays.

Mainstreaming DRR

DRR Orientation Workshop

The DRR Orientation Workshop for the City of Pasig was held on 11 to 13 November 2009 in Tagaytay City, Cavite to familiarize the by 63 city officials and staff members on the terms, concepts, frameworks, and activities in Disaster Risk Reduction/Management. Mayor Robert Eusebio was present and participated throughout the workshop. The participants were also the people who actively participated during the emergency response for Ketsana, and the orientation enabled them to assess the city's emergency response when the typhoon occurred, and agree on the structure of the Pasig City Disaster Coordinating Council (CDCC).

DRRM Plan

The newly-constituted Disaster Risk Reduction and Management Office and the Disaster Risk Reduction and Management Council came together and developed the Pasig City Disaster Risk Reduction and Management Plan (DRRM Plan). The purpose of the City's DRRM plan is to provide guidelines and information that will assist decision makers to guarantee commitment to integrated Disaster Risk Reduction priority programs based on a strong and systematic foundation. The development of the plan was an activity under PROMISE and facilitated by the PROMISE team. The goals and specific objectives include:

- identification of hazards, vulnerabilities and risks to be managed
- DRRM approaches and strategies to be applied in managing said hazards and risks;
- department roles, responsibilities and lines of authority; and
- vertical and horizontal coordination of DRRM in the pre-disaster and post-disaster phases.

Community Early Warning System

Pasig City CBDRRM TWG held a series of Community Early Warning System Orientation meetings from August 16 to 19 in the eight PROMISE barangays in Pasig City. The objective of the orientation was to improve on the Community Risk Assessment with disaster preparedness tools. A "Guide for EWS Development" was developed for the orientation and distributed to the participants.

The topics discussed included Community-based Disaster Risk Reduction Planning, Community-Based Contingency Planning, Community Early Warning Systems, and Evacuation Planning. Each community submitted a

CBDRRM plan, contingency plan for flood disasters, and a project proposal. The communities received early warning flood markers and emergency equipment sets worth PhP 10,000 (around US$ 227) once the proposal is approved by the Pasig City CBDRRM TWG. Mr. NMSI Arambepola, Director of ADPC for Urban Disaster Risk Management, observed some of the orientation meetings.

Raising Awareness of Disaster Risk Management

CBDRRM Graduation

Pasig City and PROMISE held a graduation ceremony for community members from the eight pilot *barangays* who attended the Community-Based Disaster Risk Reduction and Management training. More than 400 graduates gathered together for the ceremonies on 13 August 2010. Each community had a presentation to showcase their new expertise (DRR Mini Play, environmental songs, and a short musical on flood disaster preparedness).

School Safety Program

PROMISE RP sponsored a DRR Orientation in the Education Sector for DRR coordinators/teachers of primary and secondary schools under the Pasig City Division of the Department of Education, Culture and Sports (DECS). The orientation on 20 August 2010 was facilitated by Ms. Luneta and Ms. Candy De Juan (DECS DRR point person). The orientation topics included Overview of DRR in Schools, Child Centered DRR, the new law on disaster risk reduction (R.A. 10121), and Evacuation Center Management.

The discussions were intense among the 47 participants, and most disagreed with the use schools as evacuation shelters because of their experience during 2009 Typhoon Ketsana disaster when the evacuation was disorganized and school facilities damaged by survivors. Ms. De Juan clarified that the DECS policy is to allow the use of schools as temporary evacuation shelters if there are none available in the school's facility and the period of use will be short. There was agreement on developing Memoranda of Agreement between each school and the local government on the terms of use of schools as temporary evacuation shelters.

On September 16, the PROMISE RP team organized a DRR Orientation and Training for the Metro Manila regional office of DECS. Three participants from each of the 16 divisions of Metro Manila came to the training. The facilitators were Ms. Mayfourth Luneta of the Center for Disaster Preparedness (CDP), the PROMISE implementing partner for the Philippines,

Mrs. Candy De Juan of DECS-Pasig City, and DECS-NCR point person Ms. Genia Santos.

VIDEO DOCUMENTARY

A video-documentary was developed in 2010 showing the process underwent by the target high-risk barangays of Pasig and of the city officials involved in disaster risk management.

NATIONWIDE EARTHQUAKE DRILL

The National Disaster Coordinating Council (NDCC) spearheaded a nationwide drill on 18 June 2010. Baguio, Olongapo, Makati City (school) and Pasig City (business district) participated in the said event. The Pasig City Rescue Team actively participated in the business district drill in Ortigas Center. The team was headed by Ritchie Van Angeles, a member of the Pasig CBDRRM Team.

DISASTER MANAGEMENT ORIENTATION SEMINARS

The PROMISE team held orientation seminars for different city stakeholders to raise awareness about disaster management. The team reached out to teachers of Rizal High School (having one of the highest number of students in Pasig), the Adventist Community Service, and the Pasig Pathfinder Club, and to officials of the Municipality of San Mateo in Bulacan Province.

NETWORKING ACTIVITIES

Even though the project was only for a year, the PROMISE team was very active in networking among external organizations, especially during the months of April and May in 2010 when most of the government was focused on the elections. Networking reached Child Fund Philippines, the Education Cluster, LEAD Camp of the Seventh Day Adventist Church, the Philippine Society of Youth Science Clubs, Partnership of Philippine Support Service Agencies, and the Philippines against Child Trafficking network. Pasig City was also able to attend the Philippine consultation on the ASEAN Agreement on Disaster Management and Emergency Response on 2 March 2010.

Knowledge Capture and Knowledge Product Development

The draft of Safer Cities 30, “Flood preparedness for mega-cities: The case of Pasig City, Philippines” has been prepared and will be published in January 2011.

PROMISE SRI LANKA: KALUTARA

Project-at-a-Glance

Hazard Type:	Flash floods, riverine floods, rain-induced landslides
Country Partner:	Sarvodaya
Project Coordinator:	Achala Navarathne; Priyanka Mudalige
Project Period:	1 March **2006** to 31 July **2008**
Project Contacts:	
Al-Haj M.S.M. Mubarak *Mayor* Kalutara Urban Council Tel: +94-342-222-277 Fax: +94-34-222-6276 E-mail: mubarakuck@yahoo.com	Dr. Vinya Ariyaratne *Executive Director* Sarvodaya Headquarters 98, Rawatawatta Road Moratuwa Sri Lanka Tel: +84-511-822-500 Fax: +84-511-822-750 E-mail: vinya.ariyaratne@gmail.com
Mr. Kishan Sugathapala, Mr. G.A.P.Ganepola, and Mr. WBJ Fernando National Building Research Organization Tel: +94-112-588-946 Fax: +94-112-502-611 Email: nbro@sltnet.lk	Mr. RMAK Ratnayake Sri Lanka Institute of Local Governance 17, Malalasekara Mawatha Colombo-07, Sri Lanka Tel: +94-112-581-982 Fax: +94-112-580-316 Email: slilg@sltnet.lk

Urban Risk Context

Kalutara is a medium-sized coastal city in Sri Lanka that is rapidly developing satellite town due to its proximity to Colombo, tourism and fisheries industry, as well as being the site for many export-oriented industries and related investment. In the 2001 census, its population was over 37,000 with an annual growth rate of 1.12%. The city is prone to frequent events of riverine floods, annual flash floods, droughts and rain-induced landslides. It is recovering from the 2004 Indian Ocean tsunami that damaged Kalutara's sanitation facilities, some schools and health centers, polluted open wells, and 6500 houses.

Networking and Advocacy

The main stakeholders of PROMISE in Kalutara were:

- the Kalutara Urban Council, the local authority
- residents of the 16 selected high-risk wards
- the Disaster Management Centre, Kalutara District Office.

Sites

GN Divisions: 717 Kalutara North, 717A Deshathraya, 717B Thotupala, 717C Vidyasara, 717D Deshathraya West, 725 Kalutara South, 725A Kalutara South, 725B Welapura, 727 Mahawatta , 727B Kuda Heenetiyangala, 729 Nagoda South, 729B Nagoda West, 730A Kalapuwa, 730B Katukurunda.

Updated map of flood boundaries in Kalutara (2009)

Scoping

In February 2006, an initial selection was made by Sarvodaya, the country project partner, of 30 urban communities was made. This was pared down to 14 GN Divisions have already been selected for the community mitigation/preparedness projects, and within these villages three community-based projects have already been identified: drainage system development, road infrastructure development, and improving the canal system.

Two municipal-level orientation workshops were held for municipal councilors and government officials (District and Divisional secretaries, city administrators, planners, engineers, village headmen/Grama Niladari) working in the city area. Kalutara Urban council is a newly formed council after the elections held in March 2006. Among the participants of city level workshops were representatives of local residents covering the municipality ward including CBOs, social workers, general traders, service holders, teachers, religious leaders, NGO workers etc. UDRM representative and Mr. Saidur Rahman of BDPC (the Bangladesh partner of PROMISE) attended the workshop along with other partners of PROMISE-Sri Lanka project, National Building Research Organization (NBRO) and Sri Lanka Institute of Local Governance (SLILG).

The project scope and period was extended in 2009 to include activities for setting-up an emergency response system, drainage projects, setting up disaster management cells in selected schools, setting up a DRR resource center, and training and capacity building for the health sector. The country project partner for the extension was the NBRO.

CBDRM Activities

CBDRM PROCESS

A CBDRM training workshop was held from 13 to 17 March for 41 participants (Sarvodaya staff members and representatives of partner organizations such as the Disaster Management Center, the Sri Lanka Red Cross Society, the Green Movement, and UNDP-Sri Lanka) to provide them with a framework for Hazard, Vulnerability and Risk (HVR) assessment in the target city Kalutara, and to enhance the organization's knowledge and skills in disaster preparedness and management. The participation of other organizations was to create awareness of each other's role and foster future coordination and partnership in DM work. Training team was composed of Mr. NMSI Arambepola and Ms. Emily De Vera of ADPC, and Ms. Nguyen Hoa of CECI VN and program coordinator of PROMISE Vietnam.

Participatory risk assessment (using seasonal calendars, hazard ranking, and and hazard and vulnerability mapping) were conducted in the 14 wards from July to November 2006. GN Officers were also given a questionnaire to fill out that would collect data related to vulnerability in terms of geographic location, infrastructure and livelihood. The assessments were combined into a report (unpublished).

COMMUNITY MITIGATION PROJECTS

Stakeholders of Kalutara (the Mayor, Deputy Mayor, elected members and ward community) identified a list of small-scale demonstration projects in a series of meetings. Due to unplanned urbanization and increasing population in slum areas in Kalutara, most of the projects were for improving drainage: drainage improvements to the drainage of Dhaham Mawatha and Akkarawatte roads, and improving the canal flowing through Bindunu Ela. In the same Bindunu Ela area, the community added a project for solid waste management by material recovery and recycling, and composting biodegradable waste for use in home gardening.

Sarvodaya, through PROMISE, instituted a trust fund "Micro-Credit Scheme of PROMISE" with an initial deposit of SLR 500,000. The fund is a revolving fund for livelihood creation, development and rehabilitation of vulnerable persons in disaster-prone areas in Kalutara District. The process of awarding credit includes needs assessment and personal planning, briefings on livelihoods and credit management planning, and certifying personal data of the applicant through local leaders (Grama Nilidaris). Priority was given to single parent families, large families, and persons with prospects of further improvement plans. The first round benefited 10 families.

COMMUNITY DISASTER PREPAREDNESS

Three Community-Based Emergency Response Courses (C-BERC) were conducted from 1 to 5 October 2007. The five-day program was conducted with Medical Teams International. A total of 60 persons from Kalutara were trained as medical first responders. They signed an agreement with Sarvodaya's Disaster Management Centre to join EOC Kalutara and come to the field in a disaster when there is a need.

Mainstreaming DRR

DRM ACTION PLANNING AT CITY LEVEL

PROMISE-SL conducted a workshop on City Level Risk Reduction Plan Development was conducted on 20 March 2007, with the support of Hon. Minister Mahinda Samarasinghe, Minister of Disaster Management and Human Rights, Kalutara City Mayor Mr. Al-Haj Mubarak, and Deputy Mayor Mr. Jauffer. Forty representatives from stakeholder organizations attended the event, and the output was the comprehensive Disaster Management Plan for Kalutara.

FLOOD FORECASTING AND EARLY WARNING SYSTEM

A Kalu Ganga River Flood Forecasting and Warning System was developed under PROMISE-Sri Lanka. Dr. Nandalal of the University of Peradeniya developed the Kalu Ganga River hydraulic model used by the system using HEC-RAS hydrodynamic modeling software. The model used data taken at 100 cross-sections of the river, boundary conditions, hydraulic properties (rainfall, flood records, catchment characteristics), and river flow levels for 30 years.

The flood model was prepared by NBRO for the flood EWS using measured flood levels of 30 years. GPS Locations were taken in flood affected areas of Kalutara in November 2007 the support of NBRO and the Irrigation office of Kalutara. In April and May 2008, the communities were trained on how to disseminate the warning and were made evacuation plans. Flood gauges were installed in 10 locations over a 20-km stretch, and the system was tested during the June 2008 floods. The model was handed over to Kalutara District Disaster Management Center for further use.

FLOOD RISK MAPPING

After the flood hazard zonation conducted by NBRO in 2009, NBRO developed a flood risk map needed for Kalutara's emergency response plan. The risk map was subsequently displayed at the Mayor's office, DMC Kalutara building, the Kalutara District Administration building (Kachcheri), police station, Urban Development Authority office, the railway station, and at bus stands.

PROMOTING SAFER CONSTRUCTION

A training program for craftsmen and contractors on construction rules in flood-prone areas was conducted by PROMISE-Sri Lanka in Kalutara on 27 November, 2007. A total of 25 contractors who work in Kalutara District including disaster prone areas participated in the training. The training program mainly focused on introducing guidelines for construction in flood-prone areas and new technology on safe construction.

Raising Awareness of Disaster Risk Management

Disaster Preparedness Day

Disaster Safety Day was organized on 26 December 2006 at Kalutara, to coincide with the National Disaster Safety Day. PROMISE-Sri Lanka participated and presented its flood preparedness activities.

School Safety Program

As the first step of the School Safety Program, the first awareness program was conducted in February 2008 for 440 students from three selected schools in Kalutara, with 200 selected students from each school. In March 2008, disaster management committees were formed in the schools. First Aid training was conducted for three days in May; technical inputs were provided by Medical Teams International.

The work continued in this activity during the extension phase in Kalutara. In 2009, the project partner NBRO worked with the DMC of Kalutara District to organize training on First Aid and disaster preparedness, and establish disaster management cells for following schools: Kalutara Muslim Central College, Gnanodaya Maha Vidyalaya, Kalutara Balika Maha Vidyalaya, Kalutara Muslim Balika Maha Vidyalaya, and Sugatha Vidyalaya. Rain gauges were purchased for installation in these schools, and students and school officials were trained to monitor and record rainfall levels.

National Health and Sanitation Workshops

Workshops for health and sanitation sector officials of the National Institute of Health (NIH) were held on 13 and 20 July 2009 for health officials, public health inspectors, and technical officers. The training curriculum covered not only DRR but also current health issues were explained, as dengue fever was also on increase and is related to floods.

Knowledge Capture and Knowledge Product Development

Safer Cities Case Studies

The experience in Kalutara was developed into Safer Cities case study 23, "Urban Flood Risk Mitigation in Kalutara City, Sri Lanka" published by ADPC on November 2008.

Land Use Planning Guidelines

In 2009, NBRO reviewed developed flood zone maps at 1:5000 scale for Kalutara using remote sensing and field verification. The maps were used to assess the current land use, and develop an analysis of flood exposure of the city's 11 wards. The result of the assessment was a zoning of nine wards as high, moderate or low risk.

Translation of the CBDRM Field Practitioner's Handbook

The *Community Based Disaster Risk Management Field Practitioner's Handbook* published by ADPC in 2004 was translated into Sinhala language using the ADPC training materials to guide field practitioners during fieldwork. The project printed 500 copies of the publication and distributed it to village societies, community leaders, local government officials and other NGOs working towards disaster risk reduction.

Major flood events during the PROGRAM (2005 – 2010)

The 2008 flood in Kalutara produced an estimated damage of approximately SLR 23 million. After receiving the alert of incoming floods from the DMC, Al-Haj M. S. M. Mubarak, the Mayor of Kalutara Urban Council, immediately activated the Emergency Contingency Response plan. This plan mobilized food for the flood victims through religious organizations while arranging transfer of people from flood affected areas to safe shelters. It was the Urban Council that went first to assist people when floods surrounded their homes, with central government agencies reaching the area much later, according to Mr. Mubarak. The mayor reported that the residents' confidence in their Urban Council increased with the quick response from the Urban Council, and he attributed their improved response to PROMISE.

PROMISE Sri Lanka: Matara

Project-at-a-Glance

Hazard Type:	Flood, cyclone, water-logging
Country Partner:	The Asia Foundation
Project Coordinator:	Mr. P Jayakody
Project Period:	November **2009** to August **2010**
Project Contacts:	The Asia Foundation No, 3/1 A Rajakeeya Mawatha Colombo 7, Sri Lanka Tel: + 94 (11) 269-8356
Mr. G A P Ganepola Project Manager for TAF No, 3/1 A Rajakeeya Mawatha Colombo 7, Sri Lanka Tel: + 94 (11) 269-8356	Ms. Hemanthi Gunasekara Secretary for Federation of Sri Lankan Local Govt. Authorities 15. Victoria Place, Elvitigala Mawatha Colombo 5, Sri Lanka

Urban Risk Context

Matara is located on the southern coast of Sri Lanka within a rapidly developing urban commercial center. The city had a population of 76,000 in 2007, and experienced rapid urbanization and high in-migration. Nilwala River flows through the city to the Indian Ocean. During monsoon season, it carries flood waters from the hills to the flatlands, often causing severe damage to crops, agricultural lands and infrastructure. Some flood structural mitigation measures built in 1979 were breached during the flood in 2003. The eastern part of the city has elevated areas where minor landslides occur during heavy rainfall. The 2004 Indian Ocean Tsunami was the worst disaster to occur in the city.

Networking and Advocacy

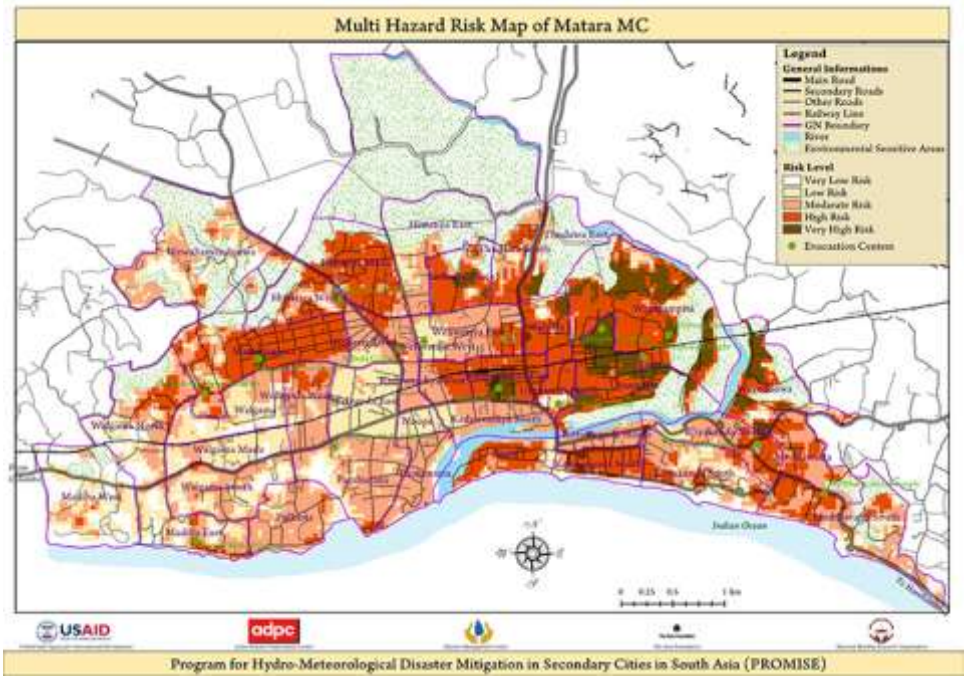
The main stakeholders of PROMISE in Matara were:

- the Matara Municipal Council, the local authority
- residents of the municipality.

Sites

All 15 wards of Matara Municipal Council

Multi-Hazard Risk Map of Matara (2010)



Scoping

A project inception meeting was held on 13 November 2009 to explain the project plan and to obtain consensus among the stakeholders. The workshop had presentations on the Disaster Management Centre; the PROMISE regional experience and in Kalutara; an introduction of the Matara project; an overview of storm water drainage study; and discussion and agreement on the project activities.

CBDRM Activities

Community Risk Assessment

A study was conducted to collect the secondary information relating to hazard history. Outputs expected in this community workshop was; verification of the secondary information relating to hazard history, hazard vulnerability assessment, analysis of futuristic risks and identification of vulnerable communities and capacity assessment of the community.

The PROMISE SL team conducted community workshops to develop ward based hazard maps and action plans. The workshops were held in December 2009 and January 2010. Each had 30 participants representing the members from citizen committees, ward officers and other

representative from the respective wards. Pre-printed ward maps based on the collated hazard history were used to mark vulnerable locations and areas in group work to prepare hazard maps. Each ward's representatives presented their outputs by using the pre-printed maps during final discussion in concluding session.

COMMUNITY MITIGATION PROJECTS

Two flood mitigation projects were identified as priority projects jointly by the city officials with communities for implementation by the Matara Municipal Council (MMC) for mitigation of flash floods caused in highly populated areas within Matara City with community participation. An MOU between the Municipal Council and the Asia Foundation was established for the implementation of these. The projects are the improvement of the Piladuwa Ganga Mawatha 1st cross canal for an approximate length of 100 m, and improvement of the canal from Vellawatta to Nawimana Road 2nd culvert for an approximate length of 600 m.

COMMUNITY DISASTER PREPAREDNESS

First responders were trained under the Fire and Emergency Training Program held in May and August 2010 at the Colombo Municipal Council Fire Department Training Centre. The participants include operational crew of both Matara City, the District Disaster Management Unit, and members of the vulnerable communities. The participants were selected for their ability to train others in their communities, and potential to take leadership in an emergency. After successful completion of this training, participants received certificates from the Fire Department of Colombo Municipal Council. The two-day residential program included theory and practice on fire and first aid.

Mainstreaming DRR

DRM ACTION PLANNING AT CITY LEVEL

NBRO carried out a comprehensive desktop study using GIS technology to analyze the information collected through the series of ward-level workshops on participatory hazard mapping and action planning. Additional data collected for the analysis included the secondary information relating to hazard history and hazard vulnerability assessment, analysis of futuristic risks, identification of vulnerable communities, capacity assessment of the community and other remote sensing data have been incorporated into a City Hazard Map for the city. Detailed ward based multi-hazard maps were prepared after analyzing the data collected and the maps will serve as a guiding tool for ward-based development activities.

PROMISE SL held a workshop on 2 March 2010 to present the City Hazard Map and a draft Action Plan that was compiled based on the series of community workshops recently conducted for all 15 wards of Matara City. Matara city officials headed by the Mayor, community leaders, and chairs of the citizen committees who participated in the ward-level hazard mapping attended the workshop in order to review the hazard map and action plan, and set the priority actions for DRR and mitigation activities for implementation. Community members and city officials actively participated in reviewing and verifying hazard levels and ranks of their respective wards.

GUIDELINES FOR LAND USE PLANNING

NBRO, the technical consultant to the project, conducted an analysis of the land use in Matara with respect to dealing with disaster risk and the preparation of land use plan maps. The outcome was a guideline for planning for the city administration to keep development within DRR objectives. The feedback obtained during community workshops held in the previous quarter with community representatives of 15 Municipal Wards were incorporated in the land use planning recommendations. The implementation of the recommendations with community participation was taken up as the theme of the training program on participatory planning.

REFORM OF MATARA MUNICIPAL BY-LAWS AND RECOMMENDATIONS FOR REFORMS

The Federation of Sri Lankan Local Government Authorities (FSLGA), the consultant for the review of existing local authority by-laws to incorporate DRR dimensions to Matara municipal by-laws relevant to development regulations, completed the draft recommendations for this assignment. The findings of the study and the draft by-laws proposed under this assignment were presented to stakeholders at two workshops held on 20 and 30 April 2010 at the Matara Municipal Council Auditorium. The final draft was submitted to the Provincial Council for a formal approval. This is the first project of its kind in Sri Lanka.

TRAINING ON PARTICIPATORY PLANNING

A two-day workshop was conducted on 30 to 31 August 2010 in Matara for city officers and elected members to enhance their participatory planning capacities focusing on land use plan recommendations proposed under this project. A planning tool introduced under this project was extremely useful for the city administration in regulating development in keeping with the Disaster Risk Reduction (DRR) objectives.

Raising Awareness of Disaster Risk Management

SL Seminar on Urban Governance and Disaster Risk Reduction (DRR) for city officials

In May 2010, FSLGA organized a series of seminars on mainstreaming DRR into local governance, with the support of Office of the Commissioner of Local Government (OCLG), TAF, NBRO and DMC. The seminars were intended to create awareness among policy makers and local officials on the importance of incorporating disaster risk management in local planning and their role in disaster risk reduction. TAF organized this seminar with the support of the program titled Creation of Opportunities for Economic Revival and Development (CORD). The topics of the technical sessions were: General vulnerability conditions of provinces; Expected role of local governments (LGs) within the DRM system of Sri Lanka; Legal provisions under the LG ordinance and relevant acts; and Options for mainstreaming DRR into the local government system.

School safety program

PROMISE SL organized a one-day training course on hydro-meteorological DRR measures for 45 school children from three major schools in the Matara Municipal Area – Janadhipathi Vidyalaya, St. Servatius' College and St Thomas College. The training, held on 4 August 2010 at St. Servatius' College, included lectures on monitoring of weather for prediction of disasters, response mechanisms at school level, and simulation exercises.

Knowledge Capture and Knowledge Product Development

The experience in Kalutara was developed into Safer Cities case study 29, "Experiencing Good Governance with People's Participation: A Synergetic Approach of Matara – Sri Lanka," published by ADPC on December 2010. The multi-hazard risk mapping methodology was also presented as a technical paper by Mr. Kishan Sugathapala for the NBRO 2010 symposium, where he received the best paper award.

PROMISE VIET NAM: DA NANG

Project-at-a-Glance

Hazard Type:	Flood, typhoon, drought
Country Partner:	Centre for International Studies & Cooperation Vietnam (CECI VN)
Project Manager:	Ms. Gaby Breton; Ms. Nguyen Thi Oanh; Ms. Kathleen McLaughlin
Project Period:	March **2006** to May **2008**
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Urban Risk Context

Da Nang is a dynamic city of the Key Economic Zone in central Vietnam. It is an important transportation hub of the central region with its international airport, deep-water seaports and north-south land routes and railways. Located on the World Heritage Route, it has tourism development potential in addition to the potential for economic development. Da Nang has a population of about 816,831 and population density of 599 persons/km^2 in 2007. About 73% of the population is classified as urban dwellers. Annual rainfall reaches 1747.5 mm. Severe storms with strong wind often occur together with heavy rain, causing river water level rise and flooding.

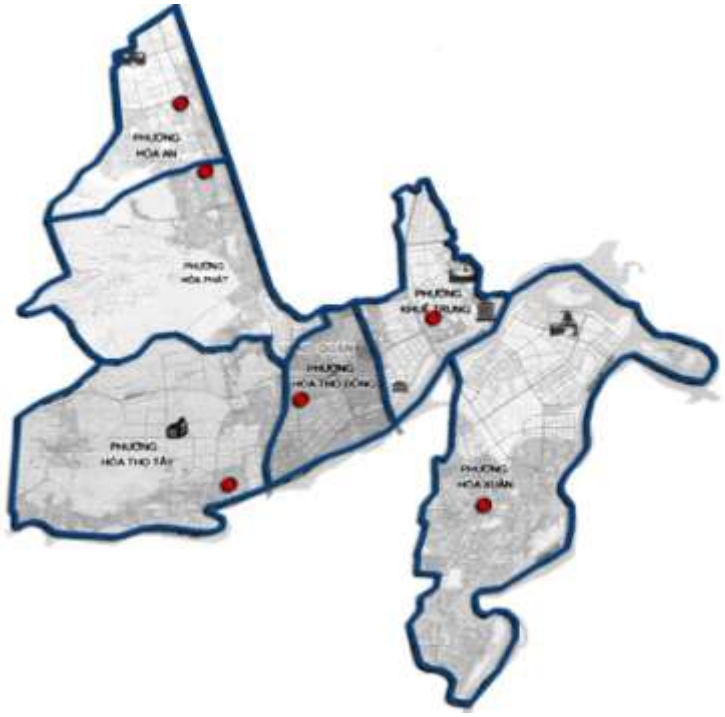
Networking and Advocacy

CECI VN developed partnerships with different committees, all of whom had different contributions to the success of the project at different points:

- People's Committee of Cam Le District, the relevant local authority
- Da Nang City Committee for Flood and Storm Control
- Da Nang City Red Cross Chapter
- City Construction Department (regulates construction activities in the city)
- Construction Planning Institute (in charge of the city's urban planning)

Sites

The project site is Cam Le district, the newest of the six districts of Da Nang where urbanization was happening in an unplanned manner as agricultural land was being converted for housing. In 2006, it had 16,612 registered households. The project covered all six wards of Cam Le: Hoa Xuan, Hoa Tho Dong, Hoa Tho Tay, Khue Trung, Hoa Phat, and Hoa An.



Ward Map of Cam Le District, Da Nang City (2006)

Scoping

Vulnerability Assessment and Baseline Survey

The vulnerability assessment and baseline survey is the first major output for the project. The vulnerability assessment was conducted to assess the impacts of typhoons, floods and inundation, and drought on the wards, get some indication of vulnerability, and assess the capacity of the wards for disaster preparedness. The methodology for the vulnerability study of Cam Le consisted of: collation of secondary data for a historical profile of flooding and typhoon events; Focus Group Discussions with the District Committee for Flood and Strom Control members and with the commune-level committees to clarify the flood historical profile data and develop a problem tree of flooding; and in-depth interviews with some key informants.

The baseline survey was conducted to assess the district's vulnerability and create a risk profile. The project team sampled 2% of the households in Cam Le district, and used a pre-tested questionnaire to gather data such as access to potable water, physical conditions of their housing, morbidity, and disaster preparedness knowledge and behavior. The baseline survey validated the risk profile and identified priorities for action. The results were also presented at an Inception Workshop in June 2006 to representatives from the local authorities at province, district and ward level, as well local stakeholders.

The risk profile of the district and its wards is of one affected by storms and typhoons annually, and the rainfall brings local flooding that can remain for several days. The impacts are often on the loss of farmland, lowered soil quality, destruction of rice crops, damage to roads and interruption of transport services, damage to houses, saline intrusion into the ground water, and prevalence of water-borne disease. Minimal infrastructure is present to mitigate these impacts. The dry season usually brings a reduction in the availability of drinkable water, and most of the district is prone to drought when the onset of the wet season is delayed from May to as late as July. The impact is a shortage of water for household consumption and agricultural use. The wards all have disaster management committees, but are generally poorly prepared in terms of plans, evacuation shelters, and rescue and communication equipment. The identified needs were infrastructure to improve drainage, additional rescue equipment and improved facilities, and training on disaster preparedness.

Inception Workshop

The PROMISE VN team held an Inception Workshop on June 2006 to give an orientation to local partners and local stakeholders about project objectives activities and the overall concept of PROMISE. The result of the vulnerability

analysis was presented at the workshop for comments and feedback from the audience. Present in the workshop were the relevant local authorities from the province, district and ward level, as well as a representative from ADPC. Key city officials responded to the presentation: Mr. Tran Anh Duc (Vice-Chairman of the People's Committee of Cam Le district), Mr. Huynh Van Thang (Vice-Director for the Agriculture, Forestry and Aquaculture department), and Mr. Nguyen Van Chung (Urban Planning Institute) all agreed with the vulnerability analysis and suggested that for next steps the project should look at strategic urban development to reduce vulnerability, improving early warning for floods and storms, and considering other hazards such as landslides and pollution.

CBDRM Activities

CBDRM PROCESS

The country partner CECI-VN developed a CBDRM training manual to be used for the wards of the project. Three-day training sessions were subsequently conducted from April to July 2007 for all six wards of the project, with the objective to raise local capacity for disaster preparedness and resilience by improving the communities' understanding of their risks and through the participatory development of disaster preparedness plans. The training was made in collaboration with Cam Le District Red Cross Society. The plans were integrated into the formal disaster preparedness planning of the ward. Close to 210 people attended these training sessions.

In Vietnam, the mass organizations (women's association, youth association, farmer's association, Red Cross volunteers, etc) have a strong role to play in community development activities. The PROMISE VN team identified change agents from the leaders of mass organizations at community level. These organizations included women's groups, youth associations, farmers association, and Red Cross volunteers. Leaders of these organizations were assessed for potential as CBDRM trainers, and thirteen people were eventually selected for a CBDRM ToT. This group underwent a two-day course from 27 to 28 September 2007; the training content included capacity building as trainers, CBDRM content and disaster preparedness planning. The Change Agents were then divided into three groups and conducted community meetings at the three wards to disseminate information on CBDRM and validate the disaster preparedness plan. A refresher course on lesson planning and practicum was held in December 2007 for 14 Change Agents.

COMMUNITY MITIGATION PROJECTS

Agreements were signed between PROMISE Vietnam, the People's Committees in the concerned wards, and the district steering committee for commitments on investment, local contribution and definition of responsibilities. Project supervision boards were set up composed of ward authorities, district engineers, ward engineers, Community Development Groups and an engineering consultant of PROMISE Vietnam. A training program on construction monitoring techniques with field visit was conducted for 18 members of four Community Development Groups to facilitate sustainability. The projects are: 1) dyke upgrading for Hoa Tho Tay ward wherein the project supported the construction of a total length of 272 m in three sections, and the balance was constructed by the community itself; 2) improvement of culverts of roads that are part of the evacuation routes at Hoa Tho Dong ward and Hoa Xuan ward, to make their construction permanent and steady with a five-ton carrying capacity; and 3) the establishment of an EOC in Cam Le District and the six wards with equipment and SOPs on alerting, evacuating, checking and emergency response etc.

COMMUNITY DISASTER PREPAREDNESS

The Community-Based Emergency Response Course (C-BERC) training was implemented from 10 to 12 September 2007. The training was conducted by ADPC and Da Nang City Red Cross for 27 participants from the city's Red Cross chapters in seven districts. Later, three classes of the Community-Based Emergency Response Course were conducted in October for three-person emergency response teams for 62 people. Da Nang City Red Cross trainers, who had acted as Assistants for ADPC trainers, delivered these.

Disaster preparedness plans (DPPs) of the most vulnerable sections or section clusters developed during the CBDRM training were integrated into the DPPs of ward and district based on similarity of topography and disaster impacts. The plan includes (1) general information on socio economic situation, (2) risk analysis (evaluation of hazards; the existing resources and capacity to prepare for and mitigate disaster, vulnerability of people, infrastructures, homes, environment and livelihoods to mentioned hazards (3) disaster preparedness plan actions in the first year and (4) priority actions to reduce risks.

The DPP developed by officials was in turn validated by the community through community meetings from 23 to 25 October 2007. A total of 150 persons including chief of the sections, community based organizations and residents attended the one-day training and meeting delivered by the Change Agents who attended the CBDRM TOT in the previous month. Based

on the comments in the community meetings, the plans were revised to cover and reflect the whole situation as well as the community needs.

PROMISE-Vietnam provided some emergency equipment such as life jackets, life buoys, helmets, handheld loudspeakers and ropes to the emergency rescue team of wards and sections, based on the needs identified in their DPPs. PROMISE-Vietnam and the Da Nang City Red Cross gave training on proper use for 30 members of emergency response teams of three wards. These were done before the historic flood on 12 November 2007, the second biggest flood in Central Vietnam, and the equipment and training was immediately utilized in this event that flooded 3600 houses and necessitated the evacuation of around 1,600 families.

Mainstreaming DRR

PROMOTING SAFER CONSTRUCTION PRACTICE

On 30 November to 1 December 2006, PROMISE VN and Da Nang City held a Workshop on Land Use Planning for Disaster Risk Management that reviewed urban land use planning, impact of climate changes, and the city's building codes. Sixty participants came from departments related to urban planning and building construction, and from the city's international and local construction consultants. The outputs of the workshop were later fed into a series of training workshops on safer construction techniques for local builders, district and ward engineers, and beneficiaries of housing reconstruction grants.

This workshop was followed by a training session on construction techniques resistant to natural disasters for local builders and construction cadres of wards and districts. The activity was undertaken to demonstrate the risk-based physical planning approach to minimize the impact of hydro-meteorological disaster events, and to promote hazard resistant construction practices.

MODEL SAFE HOUSES

Letters of agreement were signed with the PC to assign a construction professional to regularly check on the quality of post-Xangsane housing construction and help the family in monitoring local builders. A house construction monitoring form was developed in consultation with the district and ward engineers. This form was distributed to ward engineers for their use in verifying construction progress and the techniques applied. District engineers were involved in house construction monitoring by providing technical support relating to the design and joining with CECI staff in overall verification. Any changes to the design had to be approved by the

district engineers to ensure safe construction techniques. The CECI team also made visits throughout the construction period to ensure that the construction is progressing on time and that the designs are being followed.

GUIDELINES ON SAFE CONSTRUCTION TECHNIQUES

The *Guidelines on Safe Construction Techniques* were finalized in February 2008. The guidelines were developed in collaboration with the Construction department of Da Nang city and the Construction Consulting Company of the Architects Union. The guidelines are in the Vietnamese language and disseminated in the community.

Raising Awareness of Disaster Risk Management

A poster on safe housing construction principles was developed. One hundred copies of the poster on safe construction principles were printed and delivered to beneficiaries of the safe house reconstruction program, head of sections and people's committee of six wards under PROMISE-Vietnam.

PROMISE-Vietnam developed picture books under the School Safety Program. Illustration for the books came from the good entries to the drawing competition on Disaster Preparedness and Living Environment Protection held for 410 pupils from 4th and 5th grade pupils of primary schools. These books were distributed to the schools to serve as a study tool for the intended integration of disaster preparedness and environment protection into the school curriculum. The paintings contained in the book were entries for an art competition on disaster preparedness, for schools in three project wards.

Knowledge Capture and Knowledge Product Development

The experience in Da Nang was developed into Safer Cities case study 19, “Promoting Safer Housing Construction through CBDRM: Community-designed Safe Housing in Post-Xangsane Da Nang City” published by ADPC on November 2007.

Major typhoon/flood events during the PROGRAM (2005 – 2010)

Close to after the Inception Workshop was held, Da Nang was directly hit by Typhoon Xangsane when entered Viet Nam on 27 September 2006. The typhoon had strong winds measured at over 137 km/h and was the strongest typhoon to hit Da Nang City in 40 years. Over 100,000 homes had roofs that were ripped off, and around 14,000 houses collapsed. The project responded to the Typhoon Xangsane disaster by combining three related activities into the activity for promoting safer construction practice in Da Nang (the three original activities were: “Risk based urban land use planning training”, "Familiarization with guideline on risk management and governance", and “Workshop on impact of climate change and urban risk management at the community level and priority actions at national level to support community based adaptation strategy”.)

PROGRAM ACHIEVEMENTS OF REGIONAL COMPONENTS

REGIONAL AND NATIONAL CAPACITY BUILDING (COMPONENT 2)

As an effort to achieve the goal of reducing vulnerability of urban communities, the PROMISE has designed a capacity building program, which progresses from the regional level to national and community levels. It is expected that enhancement of capacities of state and local government entities and other key related governmental units, NGOs and private sector institutions is achieved to ensure that practitioners and decision makers possess the tools and methodologies needed to prepare for, respond to, and develop plans for long and short-term mitigation of hydro-meteorological disasters. In addition, PROMISE partners are to impart the knowledge gained in the capacity building programs to the partners as well as to the community they work with, thus making them better able to prepare for and/or to withstand the occurrences of hydro-meteorological disasters in the region.

The capacity building program of PROMISE project comprises of developing two regional trainings courses, and institutionalizing these new courses at the national-level within training programs in the six implementing county projects, namely Bangladesh, Indonesia, Pakistan, Philippines, Sri Lanka and Vietnam. It is intended that at the regional level, the regional courses will be integrated into ADPC's regular training program as fee-based courses. The two regional trainings courses were developed and conducted during the project period are:

- Governance and Disaster Risk Reduction; and
- Hydro-Meteorological Risk Assessment and Community Preparedness

Regional Course on Governance and Disaster Risk Reduction

The overall objective of the course on Governance and Disaster Risk Reduction (GDRR) is to develop a cadre of local government professionals sensitive to issues presented by the recurrent hazards. The course intends to increase their knowledge on urban governance and disaster risk management to be responsive to the needs of vulnerability reduction, and to create opportunities for mainstreaming risk reduction as a component of urban governance. Specifically, the course aims at building capacities of local government officials, NGOs working in urban areas and other stakeholders for more understanding of governance issues in relation to disaster risk reduction at local level.

The secondary objective of the training was to build the capacity of national training partner institutions, which will make an attempt to institutionalize the capacity building program on this theme at national level. It will also help communities at risk and NGOs to support the governance and participate in creating safer urban communities and sustainable development through DRR.

Course Curriculum Development

A curriculum development workshop on Urban Governance and Risk Management was held at AIT Conference Center, Bangkok from 2-3 March 2006 in order to initiate the development of course. The aim of the workshop was to set up a framework, which at the end will have a master plan for the course itself.

The participants in the workshop represented the local partners and experts from the PROMISE target countries and others in the region. The workshop resulted in a draft curriculum of Regional Training Course on Urban Governance and Risk Management, including identification of key stakeholders who will assist in expeditious processing of institutionalizing hydro-meteorological disaster risk management into the government.

In order to correctly address the aspects of governance and disaster risk management, the course targeted at representatives of local government ministries/departments, urban emergency services and planning functions related to risk reduction from PROMISE cities, local government training institutions who can implement the course at a national level, NGOs involved in urban community development initiatives, existing city networks, and private sectors.

The 1st Regional Course on GDRR

The 1st Regional Course on Governance and Disaster Risk Reduction was conducted from 25 to 30 September 2006 in Manila, the Philippines. There were 11 male participants and 5 female participants mainly from the organizations affiliated with the PROMISE program in Bangladesh, Philippines, Sri Lanka and Viet Nam. The target group consisted of key institutions: partner NGOs who are implementing PROMISE, representatives of urban emergency services and city planning functions related to risk reduction from PROMISE cities, and representatives of local government training institutions who will implement the course at a national level.

The 2nd Regional Course on GDRR

The 2nd Regional Course on Governance and Disaster Risk Reduction took place in Bangkok, Thailand from 17 to 21 September 2007. A total 22 participants from Bangladesh, Pakistan, Philippines, Sri Lanka, Vietnam, Indonesia and Cambodia participated in the training course. The participants included the representatives of partner NGOs who are implementing PROMISE, representatives of urban emergency services and planning functions related to risk reduction from PROMISE cities, and

representatives of local government training institutions who will implement the course at a national level.

THE 3RD REGIONAL COURSE ON MDRRG

The 3rd Regional Course on Mainstreaming Disaster Risk Reduction in Local Government (renamed) was conducted from 1 to 5 September 2008 in Manila, the Philippines. Total 19 participants from 3 PROMISE countries (13 from Indonesia, 5 from Philippines and 1 from Pakistan) participated in the training course. These participants included the representatives of local government departments, urban emergency services and planning functions related to risk reduction from PROMISE cities, local government training institutions who can implement the course at a national level, NGOs involved in urban community development initiatives, existing city networks and private sectors.

4TH REGIONAL COURSE ON MDRRG

The 4th Regional Course on Mainstreaming Disaster Risk Reduction in Local Government took place in Manila, the Philippines from 25-29 January 2010. Total 22 participants from 6 countries (4 from Bangladesh, 9 from Philippines, 5 from Sri Lanka, 2 from Indonesia, 1 from Kenya, and 1 from Papua New Guinea) at representatives of local government departments, urban emergency services and planning functions related to risk reduction, local government training institutions, donor agencies, NGOs involved in urban community development initiatives, and private sectors participated in the training course.

NATIONAL DELIVERY AND INSTITUTIONALIZATION OF THE COURSE

PROMISE-Bangladesh in Chittagong conducted a national training course on Urban Governance and Disaster Risk Reduction jointly with the National Institute of Local Government (NILG) from 30 September to 2 October 2007. NILG is mandated to conduct training courses for local government functionaries, both at the urban and local level. The main purpose of the course was to build capacities of local government officials for better understanding of governance issues in relation to disaster risk reduction at local level. A total of 22 local government officials participated in the training. The PROMISE-Bangladesh team prepared the course outline in line with the regional course curriculum and in consultation with NILG faculty. BDPC signed a Memorandum of Understanding (MOU) with the NILG on 13 February 2008 so that the NILG will adopt and continue to conduct the course.

PROMISE-Pakistan in Hyderabad in collaboration with District Administration organized a workshop on Governance and Disaster Risk Reduction in Hyderabad from 26 to 29 May 2008. The workshop was attended by 25 participants from District Administration, Aga Khan Planning and Building Services, NGOs, public representatives and government officials. The objective of the four days workshop was to introduce the concept of disaster management planning and governance in the district of Hyderabad.

To mainstream disaster risk reduction into the initiatives of local government units (LGUs) and to share the experiences of the Dagupan City under PROMISE, a three-day learning event dubbed as the "LGU Course on Governance and Disaster Risk Reduction" was organized by PROMISE-Philippines in Dagupan in April 2008. The event aimed to promote the culture of disaster preparedness and resilience putting forward the element of good governance among individuals and groups involved in local government; 13 representatives from 8 neighboring municipalities, cities and province of Dagupan attended the course.

The National Course on GDRR was conducted by the PROMISE-Philippines in Dagupan in Quezon City having 28 participants from different local, national and international NGOs, and government officials from 3 to 6 June 2008. The training team was headed by the Center for Disaster Preparedness, in coordination with national government agencies like the Department of the Interior and Local Government (DILG). Resource persons came from the PROMISE team from CDP, Dagupan City government, and other experts from government and NGOs. The training was supported by a one-day study tour to national and local government agencies involved in disaster risk management.

The Training Programme on Governance and Disaster Risk Reduction was held from 12 to 16 November 2007 under the agreement between the Sri Lanka Institute of Local Government (SLILG) and Sarvodaya Community Disaster Management Centre under PROMISE-Sri Lanka in Kalutara. A total of 26 participants from Local Government Institutions of Kalutara, SLILG, Sarvodaya and the National Building Research Organization (NBRO) participated in the training.

In May 2010, PROMISE-Sri Lanka in Kalutara organized a series of seminars for city officials on mainstreaming DRR into local governance, with the support of Office of the Commissioner of Local Government, The Asia Foundation, NBRO and the Disaster Management Centre. The seminars were intended to create awareness among policy makers and local officials on the importance of incorporating disaster risk management in local planning and their role in disaster risk reduction.

PROMISE-Sri Lanka in Matara organized a one-day training workshop on mainstreaming DRR in urban governance on 15 July 2010. Total 30 participants from officials of the local authorities in Matara participated in the training workshop. This workshop has been organized as a follow up activity with the intention of demonstrating the ways of integrating DRR in local government system and thereby advocating implementing DRR as a part of mandated role of local government under sustainable development and environmental management.

Regional Course on Hydro-Meteorological Risk Assessment and Community Preparedness

The main objective of the training is to build the capacity of national training partner institutions of PROMISE project in utilizing techniques and methodologies for hydro-meteorological disaster risk assessment, including geo-spatial tools (GIS and Remote Sensing), which is nowadays being effective tool for hazard and risk assessment. The training partner institutions will execute the training program at national-level, which will strengthen the capacity of state and local government entities, NGOs and private sector institutions to ensure that practitioners and decision-makers possess the tools and methodologies needed to prepare for, respond to and develop plans for long and short-term mitigation of hydro-meteorological disasters.

1st Regional Training Course on HRACP

The pilot Regional Course on "Hydro-Meteorological Risk Assessment and Community Preparedness" took place from 26 March to 6 April 2007 in Bangkok, Thailand. The training was conducted in collaboration with the International Institute for Geo-Information Science and Earth Observations (ITC), The Netherlands. ITC is an associated institution of the United Nations University (UNU) for developing and carrying out a joint program on capacity building in disaster management and in land administration. A total of 22 participants from the six PROMISE countries participated in the training course. The participants were mainly from partner training institutes, and the country partners with the objective to institutionalize the course at national level.

Integration of the course into "GIS and Remote Sensing for Disaster Risk Management" courses

The course material has been integrated into the presentations and exercises of the basic course and advanced course on GIS and remote sensing applications for disaster risk management. These two courses are jointly offered by ADPC with the International Institute for Geo-information Science and Earth Observations – University of Twente (ITC) and the Asian Institute of Technology. The courses have been offered three times since, with the latest in August and November 2010.

Regional Course on Flood Disaster Risk Management

The PROMISE experiences in the city demonstration projects were converted into training material for the 11th International Training Course on Flood Disaster Risk Management in Changing Climates. Presentations and exercises were prepared for one of the course modules on the topic of CBDRM.

Capacity Building Program at National Level

A number of courses on specifically-selected themes on disaster management were delivered by the different country projects. The capacity building program had three types:

- Capacity-building courses to enhance the capacity of local partners to help implementation of program activities for community-based disaster risk management and community-based emergency response
- Institutionalization of capacity building programs undertaken at regional level at national level through identification of national-level partner training institutions
- School safety to promote a disaster preparedness among schoolchildren

The national trainings programs conducted by PROMISE are to update and to build the capacity of partners who will be contributing their inputs in the implementation stage of the PROMISE. Several national trainings had been conducted in the PROMISE country projects. ADPC staff served as resource persons for some courses.

The national training programs were intended to serve two categories of target beneficiaries:

- PROMISE partners
- The partners to other parties, e.g. city officials, partnering NGO in implementation of PROMISE, etc.

The following subsections contain the highlights of the capacity building for community-based disaster risk management (CBDRM) or of similar participatory assessment methodologies, and the conduct of the community-based emergency response course (C-BERC) by ADPC staff together with key response organizations or any first response training given by other organizations. The lists are organized by course and country, and do not include specialized training organized within each country project.

COMMUNITY-BASED DISASTER RISK MANAGEMENT

BANGLADESH

Chittagong

- Training of Trainers (TOT) on Community-Based Disaster Risk Management (CBDRM) from 14 to 16 March 2007 for 30 selected Change Agents.
- CBDRM training for ten communities/wards from 6 April to 28 June 2007 for 170 volunteers (17 in each ward).
- Jamalpur
- One-day training on CBDRR for 20 selected community volunteers on 23 February 2010 for municipal councilors, officers and community volunteers.
- PROMISE- conducted community risk assessment workshops in March – April 2010 in 12 wards, in 3 workshops for 30 participants in each .

INDONESIA (JAKARTA)

- TOT on Capacity Enhancement of Local Government and Community in Flood Early Warning System from 8 to 11 June 2008 for 38 local government officials, community residents and SMAN 8 school representatives.
- Two training workshop on town watching conducted from August to November 2008 for 40 participants representing all RW (Rukun Warga).
- ITB developed *Banjir dan Upaya Penanggulanganya* (*Floods and Flood Mitigation*) a training manual in Bahasa Indonesia on floods and their mitigation, freely distributed on the ITB website

PAKISTAN (HYDERABAD)

- PRA training workshops were conducted in the project sites in December 2006. The 37 representatives of the project communities developed hazard maps, vulnerability and capacity assessments, and action plans. These were updated in September 2007.
- A two-day training workshop on CBDRR was conducted from 7 to 8 September 2007 for 18 NGO representatives and officials of Latifabad Taluka Municipal Administration.

PHILIPPINES

Dagupan

- CBDRM capacity building for 157 community members and officials of eight pilot barangays was implemented in May 2006.
- Follow-up capacity building activities included a study tour in January 28 to Guagua municipality and Minalin municipality in Pampanga province.
- The 16 members of the TWG underwent a ToT workshop on CBDRM and PRA on 27 to 31 March 2006 and a two-day Facilitators' Workshop for the TWG in May 2006 to further hone their skills. Twenty-four community peer trainers attended the ToT as well.
- In 2007 and 2008, the TWG underwent refresher courses on CBDRM, serving simultaneously as an orientation course for new TWG members; there were 28 and 50 participants respectively.
- The skills of the TWG as CBDRM trainers were recognized by their inclusion among the members of the Training Learning Circle (TLC) – Philippines during the Circle's launch on 14 December 2007.
- Advance training (TOT) for Technical Working Group (TWG) members on CBDRM was conducted by PROMISE-Philippines in Dagupan in Baguio City from 5 to 6 November 2008 for the development of the skills of the old and new TWG. Sixteen participants attended the training.

Pasig

- TOT on CBDRM from 15 to 17 February 2010 for 52 participants from different departments of Pasig City Government.
- CBDRM training for Barangay Santolan in Pasig from 18 to 19 March 2010, and the other seven project barangays in July 2010, for 400 participants representing the different sectors of the community.
- Due to the interruptions posed by local elections in May 2010 (that created uncertainty over who will be elected into positions at the *barangay* level) and with the enactment of R.A. 10121 and the possibilities created by the mandates of new local disaster risk management offices, the training team conducted a CBDRRM curriculum review workshop in July 2010 and the revised material was used for the July 2010 CBDRRM training.
- In 2009, CDP developed a training manual on disaster management for communities entitled *Kahandaan, Katatagan at Kaunlaran ng Komunidad*, which is based on CDP's original work, enriched with case studies and examples from PROMISE in Dagupan, and updated with material from PROMISE in Pasig in December 2010.

SRI LANKA

- PROMISE-Sri Lanka in Kalutara conducted a five-day training course on CBDRM from 13 to 17 March 2006 for 41 participants from Sarvodaya and partner agencies.
- PROMISE-Sri Lanka in Matara conducted community workshops in December 2009 to January 2010 in 15 wards, for 30 participants per ward.
- 3-day ToT on CBDRR for Officers working in Disaster RR 30 Participants from Govt and NGO sectors 15 to 19 March 2010

VIET NAM (DA NANG)

- The country partner CECI-VN developed a CBDRM training manual to be used for the wards of the project.
- Three-day CBDRM training for the seven most vulnerable wards in Da Nang City from April to July 2007, in collaboration with Cam Le District Red Cross Society, for 210 representatives of the communities and community-based organizations.
- A Training of Trainers (TOT) on CBDRM from 27 to 28 September 2007 for 13 Change Agents from the six wards.
- A refresher course on lesson planning and practicum was held in December 2007 for 14 Change Agents.

COMMUNITY-BASED EMERGENCY RESPONSE

BANGLADESH

- C-BERC in Chittagong from 2 to 4 March 2008 for 28 community volunteers with support from the Bangladesh Red Crescent and ADPC to support emergency response structure at city level and skill enhancement.
- C-BERC in Jamalpur from 11 to 13 May 2010 for 31 participants from the 12 wards (including the Town Planner and three councilors of the municipality) were trained. The training manual was prepared in the local language.

INDONESIA (JAKARTA)

Training for 35 first responders from 29 to 30 November 2008. The training program consist of theory and practice on mass cooking management, post-disaster health response, and water rescue.

PAKISTAN (HYDERABAD)

- C-BERC from 24 to 28 July 2007 for 24 participants from six Disaster Management Committees.

PHILIPPINES

Dagupan

- Two C-BERC training courses in March 2007 with support from the Philippines Red Cross and ADPC for 30 community volunteers from the project sites.
- Advanced C-BERC from 17 to 19 July 2007 for 29 participants from the City Disaster Coordinating Council, facilitated by ADPC and the Pangasinan Red Cross. The training content included Basic Life Support, First Aid and Mass Casualty Scenarios.

Pasig

- Swift water rescue basic orientation for 16 community volunteers from PROMISE-Philippines in Pasig in October 2010.

SRI LANKA

- Kalutara
- C-BERC from 21 to 25 May 2007 for 25 participants, conducted jointly by ADPC and the community health unit of Sarvodaya.
- A community-based disaster response course conducted by Medical Teams International (MTI) from 1 to 5 October 2007 for 25 participants.
- Matara
- Training on fire safety and emergency response in May and August 2010 for 60 male volunteer responders selected from vulnerable locations in Matara City who could eventually train others within their communities take leadership in an emergency situation with support from the St. Johns Ambulance service and Colombo Municipal Council Fire Services and ADPC.

VIETNAM (DA NANG)

C-BERC from 10 to 12 September 2007 conducted jointly by ADPC and Da Nang City Red Cross FOR 27 participants from Red Cross societies from seven districts.

SCHOOL SAFETY PROGRAMS

BANGLADESH (Chittagong): School Safety Programs in 11 schools from April 2007 to January 2008 for 2550 students and teachers, as well as community leaders and residents.

INDONESIA: Town watching in a selected school, SMAN 8, for risk assessment and action planning, conducted in two steps: first, as a workshop for a small group of four students and two teachers on 16 August 2008, and again on 18 October 2008 for 32 students, teachers and administrators.

PAKISTAN: Orientation programs on the basic causes of the disasters and their effects on human lives and livelihoods were organized between August 2007 and January 2008 for 147 school children and teachers from five primary and secondary schools in Hyderabad.

PHILIPPINES

Dagupan:

- Two Disaster Management Orientations in July 2009 for the school teachers and administrators in Pangasinan province that reinforced the School Safety Program of the different schools. The first orientation on 19 July had 90 participants while the second batch on 20 July had 60 participants. The orientation included basic information on Disaster Risk Management and different DRM activities for schools and children.
- Another workshop on DRR for public school teachers was conducted on 23 July 2009 for 109 principals, teachers, and disaster point persons from the primary and secondary schools of Dagupan.

Pasig

- DRR Orientation in the Education Sector for 47 DRR coordinators/teachers of primary and secondary schools under the Pasig City Division of the Department of Education, Culture and Sports (DECS) on 20 August 2010.
- DRR Orientation and training on 16 September 2010 for the Metro Manila regional office of DECS. Three participants from each of the 16 divisions of Metro Manila came to the training.

SRI LANKA

- Kalutara: School Safety awareness program in February 2008 for three selected schools in, with 200 selected students from each school. In March 2008, disaster management committees were formed in the schools. First Aid training for the committees held in May 2008.
- Matara: School Safety awareness program on 4 August 2010 for 45 students from three major schools at Matara Municipal Area.

VIET NAM: Drawing competitions on Disaster Preparedness and Living Environment Protection for 410 students in December 2008. Picture books were developed from the entries and distributed to schools in Da Nang as a study tool for the intended integration of disaster preparedness in the school curriculum.

Achievements Summary

ACTIVITY 1 TARGET: 100 practitioners from the PROMISE implementing countries are trained

To achieve the above target, the program comprised the development of two regional training courses namely Governance and Disaster Risk Reduction (GDRR) and Hydro-Meteorological Risk Assessment and Community Preparedness (HRACP). During the PROMISE implementation period, the GDRR course has been conducted four times in 2006, 2007, 2008 and 2010, while the HRACP course has been conducted only once in 2007. Eighty-three disaster management practitioners have been trained through these regional training courses (see Table 11:). The participants included the representatives of partner NGOs who are implementing PROMISE, representatives of urban emergency services and planning functions related to risk reduction from PROMISE cities, and representatives of local government training institutions who will implement the course at a national level.

Table 11: Number of practitioners trained in regional and national courses

Training Level	Course	Number of Participants							Total
		Bangla-desh	Indonesia	Pakistan	Philip-pines	Sri Lanka	Viet Nam	Others	
Regional	GDRR	13	16	3	14	6	8	1	61
	HRACP	4	--	3	4	5	5	1	22
National	GDRR	22	--	25	42	56	--		145
Total		39	16	31	60	67	13	2	228

To institutionalize the capacity building programs undertaken at regional level, the identified national training partner institutions of each PROMISE implementing countries except Indonesia and Vietnam have conducted several training workshop on the same at national level. The capacities of total 145 national and local government officials have been enhanced through the trainings to put forward the element of good governance in their bureaucratic work (see Table 11:). National-level seminars on GDRR have also been organized in different countries. The partner NGOs for implementing PROMISE activities have been signed Mutual of Understanding (MoU) with the national training partner institutions of respective

countries so that they will continue the capacity building programs for the local government functionaries.

ACTIVITY 2: 9 community responder team with minimum 25 trained members per team with equipments are developed

Several community-level training events have been conducted in country projects during PROMISE implementation. These are CBDRM, CBERC, school safety program, etc. The first step of the CBDRM includes TOT to build the capacity of partners who will be contributing their inputs in the implementation stage of PROMISE. Next, the master trainers conducted the same at community level for selected volunteers to prepare them with clear understanding of the approach and process of CBDRM and community mapping. More than 1800 participants from PROMISE implementing countries have been trained through these trainings (see Table 12:).

Seven emergency response teams in PROMISE implementing cities have also been developed with enhanced capacities and skills through C-BERC training. The C-BERC includes the training on basic life support, medical first response, and first aid. At times, the different communities received training in specific topics including health and hygiene, water-based search-and-rescue, etc. have been enhanced.

As a part of capacity building program, series of school safety awareness programs have been organized. The activity includes setting up the School Disaster Management Committee, developing school disaster management plan, emergency simulation exercise, awareness building campaign, etc. About 3,700 students have been participated in these activities under the school safety program.

Table 12: Number of participants trained in city/community level courses

Training	Number of Participants									Total
	Chittagong	Jamalpur	Jakarta	Hyderabad	Dagupan	Pasig	Kalutara	Matara	Da Nang	
CBDRM	200	20	--	55	291	452	41	--	237	1296
Community risk assessment		90	78					450		618
CBERC	28	31		24	168	--	25		27	303
First response training			35			16	25	60		136
School Safety	2550	--	38	147	150	95	200	45	410	3635
Total	2778	141	151	226	609	563	291	555	674	5988

ADVOCACY FOR MAINSTREAMING RISK MANAGEMENT IN URBAN GOVERNANCE (COMPONENT 3)

Local leaders and city officials in Asia generally do not understand the core elements of vulnerability, their relationship with the local governance structure, and their ability to propose a change to reduce disaster risk. Unfortunately, most of the local governments are not involved in disaster risk management directly, or are indirectly dealing with such aspects through the integration of various risk minimization interventions within their responsibilities. The main areas of concern related to the issue of vulnerability are:

- Institutional set up
- Legal provisions
- Control mechanisms in place(such as building code)
- Planning solutions (such as land use planning)
- Health and sanitation aspects
- Conservation of the environment
- Recreation, welfare and safety of the population.

PROMISE tackled the issue by attempting to modify the national policy framework to promote mainstreaming disaster risk reduction (DRR) in local governance, and by contributing to the development of mainstreaming guidelines for the Regional Consultative Committee on Disaster Management (RCC).

Demonstration Projects on Mainstreaming DRR

Local decision makers play the major role in mainstreaming the risk management in local governance and they were a primary target for advocacy initiatives. However, advocacy initiatives are also connected with policy changes or improvements created at the national level. PROMISE has two demonstration projects in order to push the national advocacy for mainstreaming DRR, one in the Philippines and the other in Sri Lanka, two countries with very different local governance processes.

PHILIPPINES

The Comprehensive Development Plan (CDP) is the principal document from which proceeds local development investment programming. The document seeks to address the multi-sectoral concerns (social, economic, infrastructure, environment and institutional, including their respective sub–sectors) and embodies the local government's vision, policies and strategies for development, programs, projects and legislative measures to ensure their implementation. The CDP establishes relationships between and among the various development sectors and sub-sectors to bring about effective horizontal linkages, including those between the city/municipality and the province, and among the other component local governments of a province. The objectives of the Philippine demonstration project were:

- Provision of participatory approaches to DRM within the framework of the Rationalized Planning System and the Joint Memorandum Circular No. 001 series of 2007 (Synchronizing and Harmonizing Local Planning, Investment Programming, Revenue Administration, and Budgeting and Expenditure Management);
- Identification of opportunities for interface and strengthening of linkages between the LGUs and national government agencies concerned with DRM;
- Identification of potential Interventions, roles, responsibilities of LGUs in terms of long term disaster risk management and development of a road map for operationalization of the process.
- Identification of opportunities and complementation of efforts on DRM between the LGUs and the Province and among the component LGUs of a province.

Project implementing partner: the Department of the Interior and Local Government (DILG).

Outputs:

- Guide to the Comprehensive Development Plan Preparation, 2008
- Terminal Report: "Consultation on Integrating Disaster Risk Management into the Local Planning System: Focus on the Comprehensive Planning Process," conducted by the DILG, December 2007

SRI LANKA

Local authorities are responsible for land use planning, issue of building permits, city expansion etc, but they cannot execute control in such interventions or advice on improving the quality due to limited capacity. In most cases is that the buildings which were subject to destruction had no engineering inputs during the design or construction process. The objectives of the Sri Lankan demonstration project were:

1) Setting up a Joint Committee for Mainstreaming DRM in Local Government sector involving senior members representing both ministries and relevant institutions in order to:
   - Remove any misunderstanding between the ministries handling the subject of disaster management and the ministries handling the subject of Local government,
   - Create a better understanding of functional responsibilities of different organizations in the mainstreaming process and
   - Develop necessary policy guidelines and action plan for implementation
2) Setting up Technical Advisory Committees for specialized areas such as:
   - Risk-based land use planning
   - safer building and construction
   - setting up institutional arrangements within local authorities
3) Identification of capacity-building needs of the stakeholders involved in the mainstreaming process, specifically of the elected bodies and the local government officials. These needs can be integrated in the capacity-building programs of the Sri Lanka Institute of Local Governance, and in the special training programs of the Disaster Management Centre. Regional institutions such as UN-ISDR and ADPC can provide technical assistance and capacity building.

Project implementing partner: National Building Research Organisation

Output:

- Final Report
- Steering committee comprising representatives of LA, Senior Official of Local Government, and Planning Institutions

Mainstreaming DRR in Local Governance

The Regional Consultative Committee on Disaster Management (RCC) of heads of the National Disaster Management Offices of 26 countries from Asia and the Pacific region. Since 2004, the RCC have been implementing the multi-phase, multi-donor supported Program on Mainstreaming Disaster Risk Reduction into Development (RCC MDRD). ADPC acts as secretariat to the RCC and the program on Mainstreaming Disaster Risk Reduction into Development Policy, Planning and Implementation. The program strategy includes development of tools and guidelines specifically aimed at government officials from RCC member countries on mainstreaming DRR into development.

The Program has five components namely:

1) Undertaking Priority Implementation Partnership on Mainstreaming DRR into National Development Planning Processes

2) Undertaking Priority Implementation Partnerships on Mainstreaming DRR into Sector Development Planning Processes

3) Advocacy for building awareness and political support for Mainstreaming DRR into Development

4) Knowledge Management Platform for Mainstreaming DRR into Development; Showcasing good practice and lessons learned

5) Capacity development for mainstreaming DRR into development

The Program has identified five key sectors to initiate the process of mainstreaming namely, agriculture, education, health, housing and infrastructure. At the same time, the program attempts at mainstreaming DRR in development planning processes at both national and local level. In this context with the increasing importance of reducing risk in urban areas due to improper land use planning, regulations and involvement of local authorities, the PROMISE program (with all the six PROMISE countries being members of the RCC) supported the following components of the RCC MDRD Program.

One of the approaches identified under the RCC MDRD program is to develop RCC Guidelines on Mainstreaming DRR into national and per-sector development planning process. The primary objective of the Guidelines is to provide guidance to the RCC members and the concerned ministries/agencies on possible approaches for mainstreaming DRR in the concerned sector. The Guidelines are based on the experiences of the RCC member countries undertaking Priority Implementation Partnership (PIPs) under the RCC MDRD Program as well as their experiences with other partners on similar topic.

The implementation mechanism of the RCC Mainstreaming program includes the close guidance from the Advisory Panel of the RCC Mainstreaming program and

guidance from technical experts from the region. To support the process of finalization of these guidelines (Land use planning and local government), initiate the process of development of the guideline on housing sector, and review the working paper on mainstreaming DRR in local governance, PROMISE supported a technical workshop on 11 and 12 October 2010. The workshop was attended by 13 representatives from government agencies, NGOs and development partners. They reviewed the guidelines and provide critique and suggestions on improvement.

RCC GUIDELINE ON INCORPORATING DISASTER RISK INFORMATION IN LAND USE PLANNING

This guideline aims at highlighting the importance of taking a hazard based approach to land use planning, at all scales (national, sub-national and local) and both in urban and rural areas where settlement planning and production activities needs to be balanced with the continued protection and sustainability of natural resources and the physical environment. Targeted primarily at the government officials in RCC member countries working in national and local government agencies involved in development, revision and enforcement of land use plans, the guideline specifically looks into the following:

- Importance of incorporating hazard risk information in land use planning
- How to incorporate hazard risk information in land use planning
- Identifying enabling factors for incorporating hazard risk information
- Examples from RCC member countries
- Provide a basis for interested RCC member countries to develop similar guidelines in their country context and use it for facilitating dialogue with external development partners on the need to incorporate hazard risk information in land use planning

RCC GUIDELINE ON MAINSTREAMING DISASTER RISK REDUCTION INTO HOUSING SECTOR

This guideline targeted at government officials from RCC member countries working in housing related agencies (settlement planning, design, construction, approval) aims to focus on the following:

- Linkages between disasters and housing and the rationale for mainstream DRR into housing
- Provide possible approaches
- Provide examples from various RCC member countries

- Provide guidance to develop country-specific guidelines on mainstreaming DRR in housing
- Facilitate donors and other developmental agencies to develop programs which are sensitive to DRR
- Provide list of existing technical documents/guidelines from RCC member countries which provides guidance on mainstreaming DRR in housing related issues such as settlement planning, housing design, layout and construction.

RCC Working Paper on Mainstreaming DRR into Local Governance: A Road Towards Sustainable Urban Development and Creating Safer Urban Communities

This working paper is premised on the importance of the role of local governments in controlling and managing their disaster risks while providing services for its citizens and leading the local development processes. Targeted primarily at the local government officials in RCC member countries working in local executive branches, the paper aims to empower local governments to undertake effective measures to reduce disaster risks within the existing legal framework by formulating and implementing appropriate strategies, action plans and programs to reduce disaster risks. It also aims to enhance and strengthen the mandate / scope of local governments for reducing disaster risks. The paper draws from the experience in PROMISE countries and identifies local services wherein DRR may be integrates with specific suggestions for how this may be done. The paper looks into:

- How to mainstream DRR into general functions of local governments (emergency services; waste management; health, sanitation and hygiene; land use planning and control; shelter and infrastructure development; road transport; information and communication; urban services)
- That to mainstream DRR may require expanding mandates of local governments to include local budgeting, local taxation, local policy-making to improve land use and building control, and improving welfare services
- Approaches for mainstreaming DRR into local governance

Supporting the Advisory Panel Meetings of the RCC MDRD Program

In order to guide the development and implementation of the RCC Program the MDRD Advisory Panel was formed in February 2005, comprising RCC Members from 11 countries; Bangladesh, China, Cambodia, India, Indonesia, Lao PDR, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam. The objectives of the Advisory Panel are:

- To serve the RCC and ADPC as an advisory panel and a technical support group on Mainstreaming DRR into Development Policy, Planning and Implementation in Asia
- To guide development and implementation of the RCC program of Mainstreaming DRR in development policy, planning and implementation in Asia, including the mobilization of resources
- To support pilot projects and development of technical tools
- To report back to the annual RCC Meetings

FOURTH MEETING OF ADVISORY PANEL OF THE RCC MDRD PROGRAM

The 4th meeting of RCC MDRD Advisory Panel was held on 14th and 15th May, 2007 in Bangkok. The meeting was supported by USAID/OFDA and UNISDR and attended by RCC member from Bangladesh, Cambodia, China, India, Lao PDR, Pakistan, Philippines, Sri Lanka and Thailand. The meeting on the second day was also attended by representative from RCC MDRD program partners like UNDP, UN/ISDR, FAO and donors like USAID/OFDA.

The objective of the meeting was to review the progress of the RCC MDRD Program since the 6th RCC Meeting in November 2006, report on the outcomes of the two day consultative meeting of donors, partners and technical experts, on the RCC MDRD Program Development, held in February 2007, Bangkok, Thailand, as well as review the approach for the Phase II of the program to be implemented over 2008-2010**.** The two days meeting of the RCC MDRD Advisory Panel came out with a clearer direction on the need to develop the program framework for the phase II (2008-2012) of the RCC MDRD Program which would provide strategy for operationalizing the Hanoi RCC 5 Statement on Mainstreaming Disaster Risk Reduction into Development, which was adopted by the RCC at the fifth meeting in Hanoi in 2005. The RCC members identified the following possible role for themselves in supporting the Program and in the spirit of South South Cooperation and which included sharing of good practices through case studies, undertaking Priority Implementation Partnerships (PIPs), providing national guidelines for adaptation at regional context, reviewing RCC MDRD Guidelines, providing technical personnel on secondment to RCC Secretariat, providing technical personnel for short duration for supporting PIP implementation in other countries and contributing financial resources. The meeting

recommended the RCC Secretariat to finalize the program document for the Phase II and to present it for approval at the fifth meeting of the Advisory Panel.

FIFTH MEETING OF THE ADVISORY PANEL OF THE RCC MDRD

The fifth meeting of the Advisory Panel of the RCC MDRD Program was organized on 7th May, 2008 in Colombo, a day before the 7th Meeting of the RCC. The meeting was supported by USAID/OFDA through the PROMISE Program and AusAID. The primary objective of the meeting was to present the Program Document of the Phase II of the RCC MDRD Program: Partnerships for Safe Development and Good Governance. The meeting attended by RCC Members from nine countries namely Bangladesh, Cambodia, India, Lao PDR, Pakistan, The Philippines, Sri Lanka, Thailand and Vietnam, reviewed the said Program Document and approved it for implementation. Based on the recommendations by the Panel, the Program Document was presented at the 7th RCC meeting the following day and adopted for implementation. The Program Document detailing the program architecture and implementation mechanism has the guide for taking forward the implementation of the program.

The second half of the meeting was a special session to disseminate the outcomes of the PROMISE Program to the RCC members and comprised of presentations on the overall PROMISE Program as well as work undertaken in PROMISE member countries such as the Philippines and Sri Lanka on Mainstreaming DRR into Local Government.

UN ISDR World Disaster Reduction Campaign for Making Cities Resilient 2010-2011

During the first year of the campaign, ADPC and PROMISE have played active roles to promote urban resilience in line with the ISDR strategy. ADPC was selected by ISDR to co-sponsor the Thailand launch of the campaign in 2010. During the ceremonies, Dr. Bhichit Rattakul, ADPC's Executive Director, was named a champion along with the other past and current governors of Bangkok. ADPC also encouraged the cities that are or were under PROMISE to sign up for the campaign. As a result, Jamalpur, Dagupan, Pasig, Kalutara and Matara all signed up. Dagupan City is also competing to be named a Model City of the campaign.

REGIONAL NETWORKING AND INFORMATION DISSEMINATION (COMPONENT 4)

At the regional level, the strategy was to develop, maintain and support systems that would remain in place even after the activities supported by the PROMISE in the region discontinues. This means the institutionalization of specific networking events (such as WGM, meetings, discussions, etc.), knowledge products (such as working papers, case studies) and information-dissemination tools (electronic newsletter web-site, listserv, etc) for sharing and exchanging knowledge on urban disaster mitigation and preparedness. In the long term, this would help ADPC to further enrich its existing knowledge base on urban disaster mitigation and preparedness. It will also be of immense help to cities, municipalities and urban communities of the region by improving access to the knowledge base.

At the national level, the strategy was to identify and capture specific components and elements (documents, reports, lessons learned, successful urban disaster mitigation and preparedness practices, public awareness campaigns, etc.) from each of the city demonstrations that would enrich the regional knowledge base and strengthen the "network" on urban disaster mitigation and preparedness facilitated by ADPC. The networks built at national levels during the course of implementation of city demonstration projects were strengthened and oriented to become integral part of the regional network based at ADPC.

Safer Cities Case Studies

ADPC started the *Safer Cities* series of case studies during AUDMP with a documentation of 15 city-level practices. PROMISE continued the series to capture successful practices of urban disaster mitigation and preparedness. A new category on "Governance" was created, with its own style guide. The updated style guide is uploaded on the *Safer Cities* web page, and was circulated to program partners. Fifteen more case studies were developed:

"**Guidelines for Safer Cities**: Case Studies on Mitigating Disasters in Asia and the Pacific," October 2007

The guidelines provide basic instructions on how to develop a case study material into a publication under the Safer Cities series. It is a direct help to information specialists, editors, designers and layout artists aiming to produce learning resources that are informative, readable, organized and consistent in terms of key contents, style, format and packaging. The revised guideline included a new category that developed under PROMISE: "Governance."

Safer Cities 16: "Cooperation between Local Authority and Communities Reduces Flood Disaster Risk in Dagupan City, Philippines," April 2007

This case study of Dagupan City shows how integrating flooding risk reduction as a regular and joint activity of city governments with their communities has galvanized action, and fosters a growing sense of unity and pride in city. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Governance.

Safer Cities 17: "Good Governance and Post-Tsunami Recovery in Patong," Thailand, June 2007

The Patong municipality in Phuket province of Thailand was devastated on 26 December 2004 by the Indian Ocean Tsunami event. This case study presents how the Municipality of Patong converted the tragedy into an opportunity and stood up to the challenges posed by the event in clearing the destruction and re-launching itself in less than two years. The underlying theme of this story is the execution of good urban governance policies by the Patong Municipality. Category: Governance.

Safer Cities 18: "The Boy Who Cried, "Wolf!" or Why a Community-based Alert System is a good idea," Sri Lanka, June 2007

A community initiative to provide early warnings to a single disaster, such as a tsunami disaster, can grow into a bridge that connects the national disaster management to the coastal city that is at risk. This case study uses the fable of the boy who cried wolf to describe the components of an alerting system by analyzing the hazard, the community, and the communication mechanism. Finally, case describes one such initiative, the Community Tsunami Early-warning Centre of Peraliya, Sri Lanka. Category: Public Awareness.

Safer Cities 19: "Promoting Safer Housing Construction through CBDRM: Community-designed Safe Housing in Post-Xangsane Da Nang City," Viet Nam, November 2007

This case study of Da Nang City describes how building safer houses has to be supported by a comprehensive and integrated approach that includes creating a culture of safety through an appropriate institutional framework, community-based disaster risk management, and raising the capacity of home owners and builders. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Community-based Disaster Management.

Safer Cities 20: "Community Based Early Warning System and Evacuation: Planning, Development and Testing," Philippines, March 2008

This case study of Dagupan City illustrates the significance of setting up and operationalizing an early warning system and evacuation plan for flood to draw people together in pursuit of collective action towards building safe and resilient communities. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Public Awareness.

Safer Cities 21: "Community Empowerment and Disaster Risk Reduction in Chittagong City," Bangladesh, June 2008

The community is at the frontier of any kind of natural hazard and disaster. Empowering the community by internalizing the tools and methods of disaster risk reduction is a good way to deal with the future potential risks. This case study highlights how to build up community ownership in responding to the existing hydro-meteorological hazards in the most vulnerable wards of Chittagong City, Bangladesh. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Governance.

Safer Cities 22: "Flood Disaster Mitigation and River Rehabilitation by Marikina City, Philippines," August 2008

Urban riverine flooding can be worsened by local urban processes and activities that cause river flow obstruction and pollution. This case study presents the flood mitigation efforts by Marikina City's local authority and people, with a special focus on how the physical restoration of the riverbanks and solid waste clean-up contributed to flood disaster mitigation. Category: Governance.

Safer Cities 23: "Urban Flood Risk Mitigation in Kalutara City, Sri Lanka," November 2008

This case study based on Kalutara Urban Council in Sri Lanka illustrates the significance of actions by various stakeholders including community members. The case study presents different types of interventions for promoting flood preparedness actions in a secondary city in Sri Lanka. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Community-based Disaster Management.

Safer Cities 24: "Learning to Act Together: Disaster Mitigation in Hyderabad, Pakistan through Collaborative Initiatives," March 2009

This is a case study of Hyderabad District in Pakistan that shows that flood disaster mitigation and risk reduction can be the starting point for urban communities to act together to resolve a common problem. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Community-based Disaster Management.

Safer Cities 25: "Reducing Vulnerabilities to Climate Change Impact and Strengthening Hydro-Meteorological Disaster Risk Mitigation in Secondary Cities in Asia," December 2008

Secondary cities in developing countries are becoming the hub of livelihood opportunities which attracts rapid economic growth, high population density and thereby high disaster risks. Urban centers, industries, informal small scale businesses and urban population settlements are blooming in ad hoc manner without following proper land-use planning. Due to economic, social and political

pressures the urban poor are forced to live in hazard prone areas rendering them more vulnerable to disasters. The analysis of natural hazards in South and Southeast Asia indicates that geologically triggered hazard events such as earthquakes and tsunami are responsible for higher consequences in terms of damages losses, but are comparatively low frequency. Hydro-meteorological events are more frequent and more widespread within South and South East Asia. The knowledge captured in this case study is based on the PROMISE city demonstration projects. Category: Information and Networking.

Safer Cities 26: "Using Risk Assessments to Reduce Landslide Risk," September 2009

This case study discusses risk assessment and the subsequent methodologies and approaches for landslide risk reduction. The Baguio City landslide risk mitigation project in the Philippines focused on strengthening community capacity and enhancing local commitment. The project for Kaluthara District in Sri Lanka developed a landslide early warning system through a school-based network of rainfall monitoring stations. Finally, the project for Patong City in Phuket, Thailand relied more on instrumentation and technical risk assessment as the basis for structural mitigation measures. Category: Risk Assessment.

Safer Cities 27: "Flood preparedness initiatives of high-risk communities of Jakarta," June 2010

Disaster preparedness of a megacity is enhanced by disaster preparedness of its communities. This case study shows how flood preparedness in the high-risk communities of Jakarta can be achieved through a combination of understanding their risks, preparing for disasters, and by improving the early warning of incoming inundation. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Community-based Disaster Management.

Safer Cities 28: "Building a Community-Centered Disaster-Resilient City: Jamalpur, Bangladesh," November 2010

Jamalpur pouroshava was a site for a project on reducing food insecurity in the poor urban settlements. Later on, its urban poor communities would tackle the challenge of forming resilience to flood disasters. This case study documents the participatory process and the growing contribution of disaster risk reduction to local development planning. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Community-based Disaster Management.

Safer Cities 29: "Experiencing Good Governance with People's Participation: A Synergetic Approach for Disaster Risk Management in Matara, Sri Lanka," December 2010

This study describes the proactive approach of the city council to mainstream disaster risk reduction concerns within local governance. Good governance followed the integration of DRR roles for the community and other stakeholders, as these

promoted transparency and participation. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Governance.

Safer Cities 30: "Flood preparedness for mega-cities: The case of Pasig City, Philippines," February 2011 (in production).

Mega-cities are said to have mega-risks, and that they are predestined for disasters. This case study documents the harsh experience with Typhoon Ketsana in 2009 of Pasig City in Metro Manila, Philippines, and how the city and its residents decided to fight the waters with a comprehensive risk management approach. This case study documents the participatory process and the growing contribution of disaster risk reduction to local development planning. The knowledge captured in this case study is based on the PROMISE city demonstration project. Category: Community-based Disaster Management.

Urban Governance and Community Resilience Guides

A series of guidebooks were developed to raise awareness of the challenges local governments face in reducing disaster risks. The "Urban Governance and Community Resilience Guides" contains four volumes that offer essential tools and possible solutions to make that will help local governments to make effective decisions. The guidebooks can be used as self-study material by individual readers, as a resource for participants in a training course or program, or as a reference for government officials. Published in 2010, the books are available online, and 1000 copies were printed for distribution. The titles are:

Book 1 - *Our Hazardous Environment* examines the causes of increasing urban risks, and stresses the urgency to act now in a collaborative and integrated manner involving all sectors of society.

Book 2 - *Risk Assessment in Cities* provides guidelines in selecting appropriate assessment methodologies to evaluate risks and support decision-making processes.

Book 3 - *Planning for Disaster Risk Reduction* outlines the planning process in managing urban disaster risks, focusing on the process of transforming risk assessments into appropriate, effective and sustainable actions.

Book 4 - *Mainstreaming Disaster Risk Reduction* introduces the concept of 'mainstreaming' as the core framework for local government to reduce disaster risks. This guidebook demonstrates how to integrate the principles of disaster risk management into development goals, governance arrangements and action strategies.

E-newsletter

"Disaster Mitigation in Asia" is the monthly electronic newsletter begun under AUDMP and continued by PROMISE until the 85th issue. The product promoted the accomplishments of the PROMISE to stakeholders within and outside the region, and to inform the project partners of each other's activities. It contains:

1) Updates on the activities of PROMISE partners

2) News updates from the South and Southeast Asian region related to hydro-meteorological disasters, disaster risk reduction and development efforts

3) Calls for submission for publication in journals and calls for abstracts for conferences

4) Announcements of upcoming training programs and conferences related to disaster mitigation; and

5) Online resources related to disaster risk reduction and governance.

This is produced monthly and is distributed by email to over 2500 subscribers.

PROMISE Website

http://www.adpc.net/v2007/Programs/UDRM/PROMISE

The PROMISE website serves as one of the tools for information sharing and networking by PROMISE on urban disaster mitigation and preparedness, and for other purposes such as replication of lessons learned, practices around Asia, etc. It is used to reflect the current status of the program. The following table is the index to what it contains:

Table 13: Index to PROMISE Website

Section	Sub-section	Content
Home page	none	Introduction What's New
Overview	none	Overview Program Goals Program Objectives
City Demonstration Projects	City Profiles Country Partners HVR Assessments IEC Materials Awards	City Profiles Contact information of country partners PDF files of participatory risk assessments IEC materials developed in the country demonstration projects Disaster preparedness awards received by target cities
Capacity Building	Regional Training Programs National Training Programs	Relevant 2006 WGM presentations Regional course descriptions Training events schedule for national courses Training reports Brochures
Advocacy for Mainstreaming	Philippines demonstration project Sri Lanka demonstration project RCC Guidelines on Mainstreaming DRR	Philippines demonstration project details Workshop report Sri Lanka demonstration project details RCC Working Paper on Mainstreaming DRR in Local Governance
Regional Networking	Regional I&N Strategy National I&N Strategy	Regional I&N Strategy National I&N Strategy WGM briefing notes presentations, 2006 & 2008
Monitoring & Evaluation	Monthly Status Report Quarterly Status Report Working Group Meeting Final Reports	Monthly Status Report Quarterly Status Report Working Group Meeting documents Final reports of country demonstration projects
Information Resources	Monthly E-newsletter Guidebooks Safer Cities DRM Primer PROMISE Online	*Disaster Mitigation in Asia* e-newsletter, issues 31 to 85 *Urban Governance and Community Resilience Guides* *Safer Cities* numbers 16 to 30 Primer volumes 1 and 2 Publications on PROMISE by ADPC and other publishers

Documentation of Good Practices by External Organizations

Some of the country projects have been documented as good practices by the UN International Strategy for Disaster Reduction (UNISDR), as well as by other organizations. The following is a list of publications by city demonstration project (full listing by city demonstration project in the preceding section):

CHITTAGONG

Reprint of Safer Cities 21 in *Urban Risk Management in South Asia*, SAARC, 2010

JAKARTA

"Many partners, one system: An integrated Flood Early Warning System for Jakarta," Harkunti Rahayu and Gabrielle Iglesias, *Local Governments and Disaster Risk Reduction: Good Practices and Lessons Learned*. UNISDR: Geneva, Switzerland, Mar 2010, pp. 21-26

DAGUPAN

"Mainstreaming Community-Based Mitigation in City Governance," *Building Disaster Resilient Communities: Good Practices and Lessons Learned*. UNISDR and UNDP: Geneva, June 2007, pp. 46 to 48.

Oxfam GB video documentary on Barangay Mangin's CBDRM experience and flood simulation exercise under PROMISE-Philippines, "Strength in Numbers: The Barangay as Building Block", 2008

"Combining Indigenous and Scientific Knowledge in the Dagupan City Flood Warning System," *Indigenous Knowledge for Disaster Risk Reduction: Good Practices and Lessons Learned from Experiences in the Asia-Pacific Region*. European Union, Kyoto University and UNISDR Asia Pacific: Bangkok: , 2008.

HYDERABAD

Reprint of Safer Cities 24 in *Urban Risk Management in South Asia*, SAARC, 2010

KALUTARA

"Micro-credit scheme for better livelihood for communities living in disaster prone areas of Kalutara, Sri Lanka," Padma Karunaratne, *Private Sector Activities in Disaster Risk Reduction: Good Practices and Lessons Learned*. UNISDR: Bonn, Dec 2008, pp. 75 to 78

Figure 13: Safer Cities case studies on PROMISE city demonstration projects

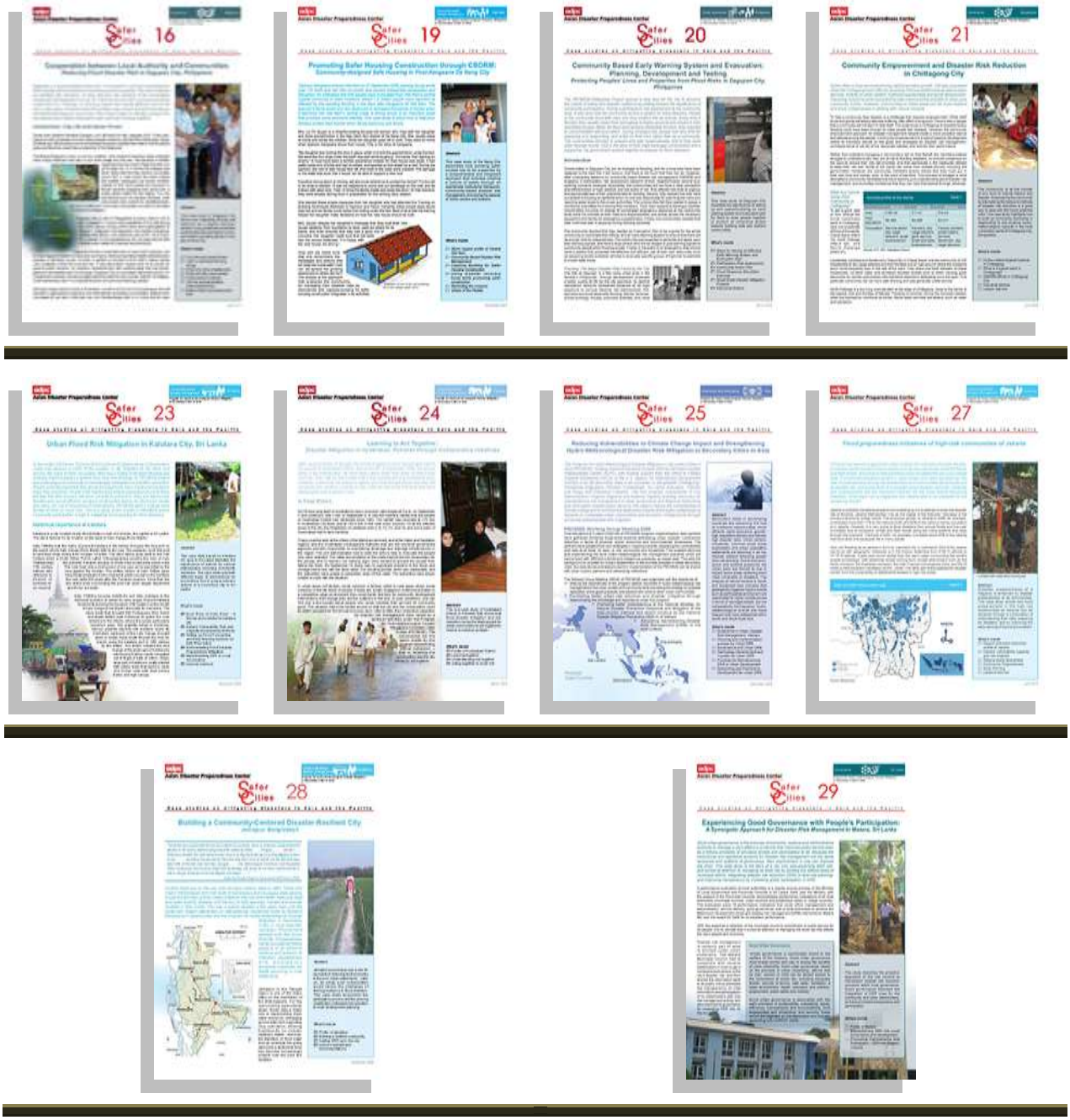


Figure 14: Urban Governance and Community Resilience Guides

Figure 15: RCC Working Paper on Mainstreaming DRR into Local Governance

Networking

The program's partners attempt to expand the existing network to other organizations that will expand the outreach of the program. For this purpose, the networking partners of the program can be classified into three groups:

- Organizations that conduct research and/or maintain datasets on hazards, vulnerability indicators, and/or monitor risk reduction activities by the public and private sector; and
- Organizations that conduct training and information dissemination activities.
- Organizations involved in humanitarian activities or post-disaster activities in urban areas supported by USAID and USAID partners

The regional-level networking partners developed under the program are:

United Nations Human Settlements Programme – Regional Office for Asia and the Pacific ACROS Fukuoka Building, 8th Floor 1-1-1 Tenjin, Chuo-ku Fukuoka 810-0001 JAPAN Tel: +81-92-724-7121 Fax: +81-92-724-7124	Habitat for Humanity, International – Asia-Pacific (HFHI-AP) Q House, 8th Floor 38 Convent Road Bangkok 10500 Thailand Tel: +66-2-632-0415	Regional Programme on Building Partnerships in Environmental Management for the Seas of East Asia DENR Compound, Visayas Avenue Diliman, Quezon City Philippines Tel: +63-2-929-2992 Fax: +63-2-926-9712

ADPC also organized several study visits during the course of the program. The purpose of the visits was to create awareness of the program, and of the outputs and outcomes from different country projects if the visits are to be in any of the PROMISE countries (see table for the list).

Table 14: Study visits

Date and Organization	Place visited	Learning experiences
2005 Oct 9-14 4 members of Colombo Municipal Council, Sri Lanka	ADPC	Overall activities
	Bangkok Flood Control Center (FCC)	Flood Control System, Solid Waste Management
	Mass Rapid Transit Authority of Thailand	Transport Management
	PHILIPPINES: Quezon City	Transport, Solid Waste Management, participatory approach
	Batangas City	Community Development Project
	Marikina City	Community participation and Good Governance
2009 Apr 10-15 10 Senior Government Officials of Bangladesh	ADPC	Overall ADPC activities, earthquake vulnerability reduction at the regional level and in Bangladesh
	Department of Mineral Resources (DMR)	earthquake risk reduction
	Dagupan, Philippines	Urban disaster preparedness
2009 Jun 24-27 8 members of Nuwara Eliya District Govt., SL & Asia Foundation	ADPC	Overall activities
	Patong Municipality	Landslide risk mitigation experience in Patong Municipality under RECLAIM II
	DMR	Overall activities, landslide risk mitigation
2010 Mar 8-11 24 members of the Federation of Sri Lankan Local Government Authorities (FSLGA)	Regional Integrated Multi-Hazard EWS	Overall project activities and EWS
	FCC	Flood Control System, Solid Waste Management
	Office of Transport, Traffic Policy and Planning (OTP)	OTP's overall activities, Intelligent Transport System (ITS)
2010 May 10-13 22 members of FSLGA	ADPC	Overall activities, Thai local government system
	Pattaya City	Overall city activities, traffic management
	FCC	Flood Control System, Solid Waste Management

LESSONS LEARNED

Overall, PROMISE had a good program concept of creating resilient urban communities by promoting, enhancing and/or institutionalizing disaster risk reduction at all relevant levels of governance (national to local). The concept combines the work of technical experts in flood and tropical cyclone disaster mitigation with that of the community tools of CBDRM, local development planning that considers risk, and attitudes toward safety and resilience from all stakeholders. Through its implementation, PROMISE was able to develop good practices and identify how current development processes could be modified to promote urban resilience against hydro-meteorological hazards.

This section presents the lessons and knowledge gained for urban disaster mitigation.

FACTORS FOR SUCCESS IN PROMISE CITIES

Setting up of a DRR Technical Working Group by the local authority

Having a DRR Technical Working Group or its equivalent sustains the effort to institutionalize hydro-meteorological disaster risk reduction into local governance processes. This is particularly visible in Dagupan City where the TWG was able to advocate for the following:

- Local resolution creating Dagupan City's Disaster Preparedness Day and annual observance
- Local ordinance creating an Dagupan City's Emergency Operations Center, with personnel, initial capital outlay and annual operating budget
- Integration of disaster preparedness plans of barangays (community-level) into the city's disaster preparedness plan
- Ongoing advocacy for DRR into other programming sectors at national and international levels

Through the TWG, the city was able to continually address disaster risk and mitigation. In addition, because the TWG staff are also members of the Dagupan City Disaster Coordinating Council, The plans and activities it formulated were implemented through its members' own roles as officials of the City Government. Dagupan City also had the most accomplishments if compared to the cities (Chittagong, Da Nang, Hyderabad, Kalutara) that worked in the same period (2006 to 2008).

Jamalpur also developed a TWG with its membership drawn from local stakeholders to include local NGOs and local offices of national agencies (such as the Water Development Board). The TWG was able to begin working towards institutionalizing key components of resilience such as the development of a chapter on integrating DRR into its development plans and advocating for its inclusion within the formal urban planning process. Jamalpur has also started setting up an Emergency Operations Center. While its achievements are less than those of Dagupan, its project period was only 12 months and could have had comparable or even greater achievements had it been given a greater project period. It was certainly able to achieve more towards institutionalization than Chittagong. Matara City also created TWG for its PROMISE project, and has a considerable achievement even though its project ran for only 12 months.

Community Ownership of DRR Efforts

The community ownership of the DRR effort is greater, more personal, and more real, whereas the city government's ownership of DRR is more abstract. The communities can experience the benefits when they engage in risk reduction, and they suffer the negative impacts when not. City officials are less personally affected by DRR, and so their engagement with it can stop at the level of recognition of its benefits. City officials therefore need to be connected with the good impacts of their DRR work.

Furthermore, we have learned from all the project beneficiaries that the level of education or social status are not limits or constraints to participating in DRR. We have witnessed the active participation of women, children, the elderly, the uneducated and the highly educated alike.

However, a crucial difference among the cities is the way in which CBDRM training and was conducted. For most cities, the project partner conducted the training directly with the community participants. However, some of the CBDRM training involved city officials as resource persons, such as in Jamalpur, Pasig, Da Nang and Dagupan. These resource persons were also present for the participatory risk assessments as observers. Their presence at the CBDRM training activities made them familiar with the nature and quality of the participatory risk assessments and action plans.

Some of the outcomes from these cities are part of the proof of concept. Dagupan and Pasig City officials are thus very comfortable with integrating the barangay action plans with their respective city action plans, and bring visitors to the project barangays to show that community-level disaster mitigation is possible. Cam Le District officials in Da Nang city developed construction guidelines out of the work done under PROMISE for developing a model of a typhoon- and flood-resilient house.

CBDRM can promote good urban governance

Good urban governance is a platform that allows urban citizens to use their talents to the full to improve their social and economic conditions, and enables citizens to access the necessities of urban life (adequate shelter, security of tenure, safe water, sanitation, a clean environment, health, education and nutrition, employment, public safety, mobility, and others). Good urban governance is associated with the eight principles of sustainability, subsidiarity, equity, efficiency, transparency and accountability, civic engagement and citizenship, and security; these norms are regarded as interdependent and mutually reinforcing. CBDRM can meet the goals of good urban governance by being consistent with some of the principles of governance, namely civic engagement and citizenship, subsidiarity, and transparency.

Because disaster risk management is not just a function of government but also should be a responsibility of the private sector within their own businesses, and even the poor and underserved can take it on their shoulders for their own safety, we found that the work under PROMISE appears to have reinforced or contributed to good urban governance: civic engagement and citizenship (through participatory action planning and small-scale disaster mitigation), subsidiarity (through community-based emergency response and engaging local authorities in early warning), and transparency (through participatory risk assessment).

Structural and Non-Structural Mitigation Scaled Down to the Community-Level

PROMISE facilitated the development and implementation of mitigation projects for and by most of the communities in the program. Communities could easily understand structural mitigation measures and uniformly expected to have big structural projects of maximum visibility. The communities under PROMISE did not immediately conceive of non-structural mitigation projects. However, because PROMISE provided limited funding for mitigation and required counterpart resource inputs from the cities and the communities themselves, the community members were forced to rethink their wish lists of projects and would refer to their community DRR action plans to see what is feasible. Communities and cities also piggy-backed the mitigation projects with other efforts already planned and budgeted for by local government agencies. Since this is what the program intended, we can recommend that future grants include a component for community mitigation projects that are based on the action items identified during participatory planning processes, and funded by a combination of donor input, local authority funds, and community resources (in cash and/or in kind).

DRR Champions

In some instances, it was difficult work to coordinate with NGOs, city councils and communities at the same time. This stems from many reasons, including the dominance of city officials over decisions within local mandates, the lack of confidence in city government by the urban communities with great disaster risks, and the understanding of NGOs of DRR concepts was usually weak. Working with city champions helps accomplish mitigation projects and activities. The mayors that supported PROMISE were both mayors of Dagupan City, Benjamin S. Lim and Al S. Fernandez, and the mayor of Jamalpur Shah Md. Wares Ali.

City champions also help replicate and promote the concepts of urban disaster risk management. Mayor Fernandez of Dagupan was instrumental in encouraging the cities and municipalities of Dagupan to focus on DRR, and helped lead the signing into the Northern Luzon DRR Network. Mayor Lim became governor of his province from 2007 to 2010, and also promoted DRR during his term. The Mayor of Kalutara M S M Mubarak has also become the chair of the Municipal Association of Sri Lanka in 2010 and therefore has the potential of spreading the message of urban DRR to other municipalities.

Case studies make for good knowledge products.

Local government mayors and their officials are at times at a loss for how to begin to reduce disaster risks, and would like to know how other cities are dealing with similar risks and challenges. The documentation of mitigation and preparedness practices and the conversion of that knowledge into case studies is an endeavor that helps spread DRR knowledge to others. Practices may be captured as how-to steps, training curricula, sample risk assessments, maps, and IEC material. This presentation of knowledge to a targeted readership composed of local officials and development workers both stimulate the imagination, raise the technical understanding of DRR, and develop a passion for reducing risk.

CHALLENGES AND DIFFICULTIES

SHORT ELECTION CYCLES. In the PROMISE countries, the term of the elected municipal / urban local authorities end from three to six years. The standard experience is that every time a new council resumes, they take some time to understand the system as a whole, then to think on the development strategies, prioritizing the means and then to implement. Elected leaders tend to be concerned with maintaining current programs and projects, and developing short-term plans that will results in short-lived gains that satisfy voters enough to ensure re-election. As a result, mitigation and preparedness are not a priority for budget allocation, especially if the benefits mature after the election cycle. The same cycle repeats with every politician, therefore convincing the decision-makers of the importance and value of disaster mitigation and risk reduction had to be done every term in every city that had a local election.

DEVELOPMENT THRUSTS AND DRR ARE STILL IN CENTRAL GOVERNMENT HANDS. In most of the Asian countries where PROMISE was present, decentralization of the control over development and disaster risk reduction has not completely taken place. This has implications over the priority that DRR may have as a small city tries to grow. With the attention of central government on major cities, secondary cities are often neglected as areas for the kind of investment in infrastructure, services, and DRR that would attract investors. In addition, the mandates for DRR lie with the central government and the ministries at central level though the elected local officials are the closest to their land and people. This means that DRR may not be considered when infrastructure and economic plans are laid from the central level, and that local officials must have the ability and desire to lobby central government to include DRR in the development plans for their respective cities.

PROMISE had to emphasize on mainstreaming DRR so that local officials could focus on the risks that they could control as they carried out the mandates they possessed. These local mandates are essential services such as land use planning, construction regulation, emergency response, solid waste management, sanitation, drainage, water and power supply, the construction of local roads and bridges, and providing information to their people.

The notable exception is the Philippines whose decentralization laws increased local autonomy, to make local governments responsible for their own development paths, gave them the right to create their own laws and annual budgets, and increased their abilities to generate and retain local revenue. Furthermore, a new law on disaster risk reduction and management was enacted in mid-2010 that shifted the emphasis from disaster preparedness to DRR for all levels of government (including the *barangay*), and created new structures for identifying and prioritizing risks (DRRM Councils) and implementing DRRM Plans (DRRM Offices).

PROJECT MANAGEMENT. Project management was greatly influenced by the project management skills of all partners (country partner and ADPC alike). Development projects such as PROMISE are always affected by in-country events (such as elections and disasters), and by the skills and calendar of activities of stakeholders.

One recommendation to improve project management is to have an activity for improving the project management skills of partners. PROMISE conducted a meeting for coordinators in 2007 that included sessions on planning and filling out report forms. Project audits always turn up discrepancies in records keeping, usually by NGO partners, so a simple seminar on funding management and financial reporting could benefit future programs.

Skills in community development are important in connecting with the community and laying the foundation of trust and confidence in country partners. Technical understanding of hydro-meteorological disaster mitigation keeps the project activities relevant. Project partners tend to possess either advocacy skills or technical understanding, rarely both, so that programs such as PROMISE may first need to address this before engaging with the city and community. Advocacy skills for relating with city government officials are also a key skill for project success. The second recommendation is thus to assess what may be collectively referred to as DRR skills for urban resilience (advocacy, community development, and disaster mitigation know-how) of project partners at the beginning of large programs such as PROMISE, and conduct capacity building to fill in capacity gaps prior to commencing with project activities at city- and/or community-level.

OPPORTUNITIES

SPACE FOR DRR. The trend of disaster occurrences and the impact of them largely changed over the years. Restricted water retention areas, inhabitation of mostly flood prone lands, and urbanization trends demand more focus on DRR by the citizens at large. Some national governments realized that relief and emergency response alone cannot solve the long-term needs of DRR and empowered local bodies to deal with disasters in due time. PROMISE took the opportunity to guide local institutions by bridging the gap between the technical capacity of local officials with community perspectives, and gave a value to participatory risk assessment and risk management. Due recognition for the community voices and participation will help to sustain the DRR objectives as well as project outputs long after PROMISE has ended.

PARTNERSHIPS. PROMISE has created several partnerships during its course:

- Other programs addressing urban resilience such as the Asian Cities Climate Change Resilience Network (ACCCRN) funded by the Rockefeller Foundation
- Global campaigns such as UNISDR World Disaster Reduction Campaign for Making Cities Resilient
- National and international local government associations such as Federation of Local Governments in Sri Lanka, Asosiasi Pemerintah Kota Seluruh Indonesia (APEKSI) in Indonesia, the Coalition of Urban Poor (CUP) in Bangladesh, and the League of Cities in the Philippines.
- Local government networks such as Local Governments for Sustainability (ICLEI) and City Net

RECOGNITION. Dagupan City, Barangay Mangin, and the Center for Disaster Preparedness have received awards from the Government of the Philippines for their contribution to DRR. In addition, some of the practices developed under PROMISE Philippines in Dagupan, PROMISE Sri Lanka in Kalutara and PROMISE Indonesia have been recognized as best practices by the UNISDR.

PROGRAM IMPACT EVALUATION. The concept proposal for PROMISE did not include a provision for program impact evaluation. However, we would like to argue here that it is a critical point for OFDA to follow up for several reasons:

- The selected cities are prone to flood disasters or tropical cyclone disasters, in addition to the annual hazard events. Within the program period, the PROMISE cities were affected by Typhoon Xangsane (Da Nang) in 2006, Typhoon Parma (Dagupan) in 2009, and the Pakistan 2010 flood that is the country's worst in 80 years.
- Disaster mitigation and disaster risk reduction activities will show proof-of-concept only when a disaster or a potentially disastrous event has occurred. In this case, Dagupan was able to have swift and systematic pre-emptive evacuations in its high-risk *barangays* for both Typhoon Parma and Supertyphoon Megi in 2010, thus averting the disaster situation that was

present for their neighboring cities and municipalities. How long can the city remain vigilant? Will their neighbors follow suit?

- Disaster risk reduction projects that address the vulnerabilities outlined by the Millennium Development Goals (MDGs) contribute to the overall improvement of the standard of living in the worst urban (slum) settlements. PROMISE has produced a few small-scale disaster mitigation projects to fill water and sanitation needs, and these could be quantified as to how they promote long-term well-being for as long as the projects are in working condition. For example, the OFDA mission to Chittagong led to a rain-fed pond of water providing for 2000 urban poor households in Ward 41 who had no access to piped water, and its simple sand filter a source of hope against a looming water crisis in the city. This was indeed an outcome that deserves notice, especially if UNDP Bangladesh pursues plans to replicate the filter to the areas covered by its Urban Partnership for Poverty Reduction project.

We recommend that OFDA develop a follow-up project to quantify the impact of the various activities of the PROMISE city demonstration projects, and to use the result to update the overall assessment of PROMISE.

ACHIEVING URBAN RESILIENCE AGAINST HYDRO-METEOROLOGICAL RISK

Achieving community resilience is not easy, but our project experience has consistently shown good strategies for effective urban disaster risk management are. The implementation of the projects in the nine cities has resulted in many approaches for urban disaster mitigation. Each country has its particular social, economic, and politico-administrative framework that resulted in many flavors of disaster mitigation. The practices are summarized into six themes for urban disaster risk management:

Land use management

Managing how society uses its land addresses disaster risk at the physical point where human activity and hazard meet. By acknowledging disaster risk, society can confine itself to appropriate uses of land, and therefore lower or even eliminate its flood risk. City planning should guide and control the development activities of the private sector to address flood risk. Spatial hazard assessments should be the basis of physical planning. Flood hazard zone mapping and risk assessment is the starting point for flood vulnerability reduction. The principles of safe construction should be followed at all times, and building codes be periodically reviewed for validity. The increase in physical vulnerability is connected with the substandard construction of buildings and infrastructure.

The outputs of risk-centered land use would be houses and buildings that can withstand tropical cyclones and floods, structural mitigation measures such as drainage systems and retaining walls, land-related preparedness measures such as evacuation routes and shelters, safe locations for critical infrastructure, and minimal disruption of economic and social activity.

- Identification of risks
- Conducting hazard, vulnerability, capacity and risk assessments
- Developing / reviewing land use plans based on results of risk assessment
- Site selection, design and construction of public and private structures considering risks due to natural hazards
- Monitoring and enforcement of land use policies, building by-laws, standards and codes
- Establishing policies and systems for quality assurance of post-disaster reconstruction

Mainstreaming disaster risk reduction

Decentralizing the disaster risk management mandate to the local government level can facilitate building safer communities, raise community preparedness, and ultimately reduce the impacts of disasters. With mainstreaming, the local institutions including the city/municipal authorities, non-governmental organizations and community based organizations interface with each other and facilitate the disaster risk management at local level. This collaboration assists in sector and spatial planning of the urban cities which further leads to reduce the impact of hazards. Mainsteaming DRR may be done through:

- Incorporating DRR in community development plans and urban sector policies in promoting short-term and long-term urban DRR practices
- Integrating DRR in urban local governance (government services, building codes, land-use planning)
- Ensuring access to basic services before, during and after disasters, with shared responsibility by community and city level institutions
- Regular allocations from city budget for financial, technical and human resources development
- Incorporating hazard, vulnerability, risk and capacity assessments into local-level economic development plans
- Promoting sustainable and diverse livelihoods
- Availing technical and financial resources to reduce vulnerability promoting post-disaster recovery programs to sustain urban livelihoods
- Establishing social and cultural networks and support efforts in traditional coping strategies promoting indigenous methods

The local functions that can mainstream DRR are:

- Education
- Social welfare
- Public health
- Transport
- Environment and sanitation
- Emergency services
- Public safety
- Economic promotion
- Urban design
- Land use, development and zoning
- Development Planning
- Local taxation
- Market and slaughterhouse regulation

Structural mitigation, big and small

One of the essential aspects of urban disaster reduction is ensuring safer housing and shelter, as most of the casualties from disasters are associated with collapsing buildings. Few countries in Asia have appropriate construction regulations for specific potential hazards that occur within the city. More often, buildings are built by owners themselves who do not use appropriate construction materials and

techniques and prefer to take on the perceived smaller cost of larger but flimsier buildings.

Non-engineering structures in cities are the most vulnerable and failures of such buildings are the main factor attributing heavy losses in cities. Under PROMISE project, a number of masons and carpenters were trained on disaster resistant construction techniques at low cost. Another aspect of DRR in PROMISE was school safety programs and community awareness-building to ensure houses are not built on high-risk sites.

Structural mitigation through dykes, drains, and water and sanitation projects need not be massive or expensive to have an impact. PROMISE has consistently encouraged the urban communities to plan and implement small-scale projects, and to put into these their own resources and effort.

- Setting up policies to incorporate building code compliance and safer construction guidelines for building construction and infrastructure development process
- Technical support for design, investigation, planning and integration of hazard-resistance features in identified high hazard zones
- Improving city infrastructure to withstand extreme flood events
- Development of technical guidelines and information in simple and easily understandable language
- Training masons, bar binders, carpenters on safer construction techniques
- Encouraging community to undertake community level initiatives to have flood risk management

City-level early warning and alert dissemination to the urban communities

A participatory approach that involves communities at risk, community-based, non-government, and government organizations, is superior to one-way system of alerting. Since the local community is where disaster risk reduction would have the greatest impact, involving them in planning their own alerting and rescue would promote trust in the warning messages. This is the *end-to-end* concept of early warning, and can be achieved by:

- Developing a city-level early warning system to receive warnings and provide evacuation orders by a designated city level authority, and then decode, code and disseminate to urban communities
- Identifying evacuation routes and conducting regular simulations and drills
- Making community aware of procedures, actions, to act fast in responding to warnings and evacuation orders
- Obtaining technical support from the relevant national agency for flood and/or tropical cyclone warning, and integrating the city's system into the national system.

Urban emergency response system

If possible, cities should set up their own EOCs, develop emergency response plans, designate evacuation centers, and develop their own inventory of rescue equipment, communication equipment, and relief goods. This would cut down the time to evacuate or rescue people.

- Establishing an Emergency Operations Center (EOC)
- Improving community first responder capacity
- Establishing a system to provide emergency relief, health care, psycho-social care and basic amenities
- Training, education, information exchange

Disaster recovery programs that suit long-term needs

This was a harsh lesson that Dagupan realized after Typhoon Parma had flooded the entire city in 2009. While the city did not lose a single person, their economic activity was stalled while the flood waters were still in the city. Disaster recovery programming is critical, but it sometimes is considered only after a disaster had occurred. Disaster recovery should be planned, because the effort, financing and investment made during reconstruction and recovery sometimes end up as the only investment made to assist stricken communities. Involving all stakeholders will also make the implementation smoother. This can be achieved through:

- Establishing a participatory process for designing and implementing disaster recovery programs
- Developing a long-term disaster recovery plans preserving natural resources and habitat
- Participatory monitoring and evaluating of disaster recovery process

CONCLUSION

Did PROMISE make a difference? First let us look at the main outputs:

- CBDRM training for 1296 people in seven countries
- Community risk assessments in 76 sites
- 303 volunteer responders trained in C-BERC
- 3635 students and teachers reached in the school safety program
- 52 small-scale disaster mitigation projects
- Response and/or mitigation plans in nine cities
- Flood early warning systems that reach high-risk communities in five cities
- Demonstrations of hydro-meteorological disaster mitigation and disaster risk reduction in nine cities
- City demonstration projects directly benefited 883,077, and indirectly help the 15.71 million people who stand to gain from improvements in urban systems and planning
- 228 practitioners trained in regional courses
- Two new regional courses developed
- Governance and Disaster Risk Reduction course offered in 5 countries by national training partners
- One working paper on mainstreaming DRR into local governance, two draft guidelines on land use planning and housing developed for the Regional Consultative Committee on Disaster Risk Reduction
- Two national documents (from the Philippines and Sri Lanka) on mainstreaming DRR into local government
- Four-volume Urban Governance and Community Resilience Guides published
- 10 Safer Cities case studies on the PROMISE cities with 2 reprinted by SAARC, 5 more on the disaster risk management work by other cities

From the program outputs alone, one may appreciate that the program partners certainly did significant work to reduce hydro-meteorological disaster risks in the cities where they worked. They also still have the potential to continue working for urban disaster risk reduction.

PROMISE may also be judged as a success based on the program's outcomes. While working in extremely challenging circumstances due to the poor governance capabilities of cities, development challenges associated with poor economies, and severe and/or frequent hazards UNISDR published four case studies documenting good practices by PROMISE cities.

The people and city officials of Dagupan, Chittagong and Pasig publicly acknowledge PROMISE as having raised their capacities.

Dagupan City survived three major flooding crises because of their flood early warning system and improved disaster preparedness system, and the city and its barangay Mangin have been awarded for disaster preparedness. And yet, the local government of Dagupan still feels that they could do more by themselves to improve.

One of their first moves was to replant their mangroves as protection from storm surge and coastal erosion, and this was undertaken yearly since 2006. The second step was to regulate the milkfish industry that places fish pens and other structures in the rivers in Dagupan. Third, despite the fact that the city is famous for the milkfish it produces, the city government has placed a moratorium on licenses for fish pens for 2010, and has started the systematic relocation of these structures from the river to designated areas. After these are relocated, the city government plans to dredge the river bottom that has become shallow from leftover fish feed and other solid wastes, and then to regulate the number of fish pens that will be established in the river. This is a city government that undertakes risk reduction on its own, and is the best outcome and proof that the PROMISE approach works.

FUTURE DIRECTIONS

ADPC's work for Asian cities and urbanizing centers has evolved from promoting disaster mitigation planning and practice towards promoting urban risk assessment and risk reduction. In a sense, this reflects the maturation of the work under AUDMP and PROMISE. Both national and local governments are now ready for scientific assessments of risks, and ADPC must be poised to undertake these with a view to sustainable development.

Climate change adaptation and resilience of Asian cities is a fertile area for future work, especially with the expected increases in the frequency and severity of tropical storms, floods and rain-triggered landslides.

As the risks are rising do to the rapid urbanization of Asia and exacerbation of climate-related risks by global warming, ADPC will continue to follow Strategy Asia 2020 for urban disaster mitigation. Formulated under the AUDMP, it commits ADPC to continue reaching to as many cities as possible, and PROMISE has facilitated this by increasing our experience in nine cities.

The experience in PROMISE contributed to ADPC's technical capacity for urban risk assessment, and the Center is now confident in its ability to provide this technical service to the Asia-Pacific region.

The development of knowledge products such as case studies is still a key to improving the body of knowledge of urban disaster risk management, as well as expanding the community of DRR practitioners in Asia. ADPC will therefore continue the Safer Cities series, using project funds that are to come.

Finally, ADPC is pleased to have completed the work under PROMISE, and is happy to continue working with USAID/OFDA in future programs for disaster mitigation and preparedness.