

# Component 1.

## City Demonstration Projects

### 1.1. Introduction

ADPC has selected six candidate cities through an analysis conducted in South and Southeast Asia among secondary cities subjected to hydro-meteorological events in recent history. These are rapidly urbanizing areas and have the potential to be impacted severely by hydro-meteorological events in the future. City authorities of the respective target cities consider risk management as one of the priority issues among the problems faced by urban residents, and they have shown a keen interest to undertake activities under city demonstration projects. A brief profile of the cities is given below:

#### **Chittagong - Bangladesh**

Chittagong is located in the southeast part of Bangladesh with total land area of 5,282.98 km<sup>2</sup>. The total population of the city is about 5.2 million with population growth rate and density of 1.48% and 1,191 persons per sq. km, respectively and is growing at a high annual growth rate. As a port city, Chittagong has traditionally been a major centre for trade and commerce. The economic base in Chittagong is more solid and wider than that of Dhaka and has considerable scope for expansion if appropriate measures are taken. The coastal areas of Chittagong are highly prone to natural disasters such as cyclone and tidal surge. On the other hand, floods caused by heavy rainfall, tornado, and even water-logging are common disasters in the valleys and hilly areas within city administration. These affect the livelihoods of people, especially that of the poor and the vulnerable.

#### **Hyderabad - Pakistan**

Hyderabad is the 8<sup>th</sup> largest city in Pakistan and 2<sup>nd</sup> largest in Sindh with an estimated population of 1.6 million and a growth rate of 2.62%. Its importance lies in the fact that it is the District capital and the nearest town to the biggest metropolis, Karachi. The city has a lot of tourism potential due to its archaeological and historical sites and also due to the presence of river Indus and various lakes. There are three major lakes – Kalri, Keenjhar and Haleji – within a distance of 80 km from Hyderabad, heading south. The western boundary of Hyderabad runs along the left bank of river Indus. Three main canals – KB Feeder, Phuleli, and Akramwah – run across Hyderabad. Its growth potential also lies in its small-scale industries, and it is a center for handicrafts and has good educational and health facilities. Hyderabad is one of more disaster-prone cities in Pakistan and is often plagued by floods due to torrential rains. According to the city government officials, 20% of the population lives in the low-lying areas that are flood-prone. To make the situation worse, the water table is less than 1 meter below the surface at some places, which limits the capacity of the soil to absorb water. Currently the city has the maximum capacity of

draining out one inch of rainfall in 24 hours which is insufficient. As the result of sudden monsoon rains, the low lying areas of Hyderabad face the problem of drainage disposal and stagnant water causes damage to infrastructure, housing, etc, as well as becoming a source of water-borne diseases.

### **Dagupan – the Philippines**

Dagupan City has a total land area of 4,008 hectares and is a sub-regional center for trade and commerce, finance, high-level health and education services in Northern Luzon. Dagupan City is located along the seacoast on an eastern margin of the delta of Agno River and lies just a meter above sea level. Flooding in Dagupan is a common problem and the situation is further aggravated by the onset of high tide. Tidal back flow has created secondary rivers that in turn made the islets where the eastern barangays are found. There are seven river systems that traverse Dagupan, all of which drain out to the Lingayen Gulf. Most of the rivers are presently heavily silted. The silt deposits are caused primarily by upstream riverbank erosion, and proliferation of squatters along riverbanks. The shallow river beds resulting from sediment transportation and deposition, is the cause of heavy flood in the city in the past years. Typhoons are experienced often and are responsible for heavy rains in the upper catchment and subsequent flooding in the city. During the earthquake of 16 July 1990, Dagupan suffered widespread damage and have had direct impact on the flooding situation. The dynamic lateral shifting of Pantal River in the recent past gave rise to its meandering pattern and left numerous abandoned channels and created a low-lying flood-prone terrain made up of levees and back-swamps.

### **Kalutara – Sri Lanka**

Kalutara is a medium size urban coastal city in Sri Lanka with a population of over 100,000 with annual growth rate of 1.2%. Kalutara has a prominent administrative role as the district capital and has shown tremendous growth and development potential as a rapidly developing satellite town due to its proximity to the capital city Colombo, tourism and fisheries industry, as well as being the site for many export-oriented industries and related investment. The city is prone to frequent events of riverine floods, annual flash floods (most recent was in May 2003), droughts and rain-induced landslides. The coastline of Kalutara was heavily impacted by the recent tsunami of December 2004.

### **Da Nang – Viet Nam**

Da Nang, with a population of about 816,831 and population density of 599 persons per sq. km, is a dynamic city of the Key Economic Zone in central Vietnam. Da Nang is an important communications hub of the central region, with its international airport, deep-water seaports and north-south land routes and railways completely and conveniently developed. Being located on the World Heritage Route, it also has tremendous tourism development potential in addition to the potential for economic development. Da Nang is frequently subjected to flood and storm disaster events. Severe storms with strong wind often occur together with heavy rain, causing river water level rise and flooding. Drought, which occurs almost every year, is another major threat to the local agriculture.

## Jakarta – Indonesia

Jakarta Metropolitan City is the capital of the Republic Indonesia, and corresponds to DKI Jakarta Province. It is administered by a provincial government, five municipalities (Southern Jakarta, Eastern Jakarta, Central Jakarta, Western Jakarta, and Northern Jakarta) and the thousand islands Regency. The economic growth of DKI Jakarta in 2006 contributed more than 17% to the national GDP, and 60% of the nation's money circulation is in Jakarta. In mid 2006, the numbers of population in DKI Jakarta Province is 8.96 million, with approximately 2,041,466 households. The population density is between 13,000 to 15,000 people/km<sup>2</sup>, and densities can reach 20,000 people/km<sup>2</sup> in some areas. Modern-day Jakarta has 661.52 km<sup>2</sup> land area that stretches across alluvial lowland of a mean elevation is 7 m above mean sea level, and 40% of the land area is below MSL. It is very prone to any type of perennial and five-year inundation due to excessive rainfall and flash floods along the rivers systems that pass through the mainland. The water system of rivers, drains and canals exits in the northern coastal area that extends 35 km from West to East. Inundation are often aggravated by the onset of swell (a long wave influenced by storms during monsoon) that could reach up to 2 to 4 m, and by inundation due to the combination of sea level rise, land subsidence, and/or high tide during full moon (locally called *rob*). The South and East consist of some lake and swamp land with a total area of 121.49 hectares in 2006, which are used as a water reserves region but also for new residential areas due to its fresher climate. Vulnerability comes from the settlement of some of the catchment areas, and from continuing land subsidence due to a decreasing water table.

## 1.2. Planned Activities for Phases I and II

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 five program countries. Then they have formulated project proposals for implementation of city demonstration projects in selected cities.

Phase I activities of city demonstration projects have been mainly focusing on hazard, vulnerability and risk assessment. The partner agencies have carried out the assessment using various tools and project partners and they are now in the process of compiling the reports on the assessments. ADPC has provided necessary technical guidance and in certain cases ADPC has conducted national level training on selected themes to enhance the capacity of local partners. Phase I activities will also include action planning work shops at various levels.

Phase II activities have been for improving response and mitigation systems through establishing response and mitigation plans, appropriate skills building, school safety programs, city workshops for presenting risk assessments and responses, and small-scale disaster mitigation projects.

## 1.3. Status Report of City Demonstration Projects

### 1.3.1. BANGLADESH

Selected City: Chittagong

Lead Institution: Bangladesh Disaster Preparedness Center (BDPC)

- PROMISE-Bangladesh developed a corps of volunteers and Change Agents. Ten training sessions for this corps were completed in December 2007 on basic disaster related information, tools and methodologies for CBDRM, and on the roles and responsibilities of CAs/Volunteers. These volunteer corps was later formalized as Ward Disaster Management Committees (WDMCs) under the response structure of the Chittagong City Corporation.
- Community Risk Assessments (CRAs) were made to identify hazard, vulnerability, capacity and risk of the project's communities. CAs/Volunteers along with the community people 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.
- 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.
- PROMISE-Bangladesh organized CBDRM courses in 2007. The first was a TOT held in March, and then ten Ward-level Community Based Disaster Risk Management courses were held from 6 April to 28 June 2007. The two-day course gave emphasis on communities' risk assessment and the development of community action plan for reducing community's hazards and vulnerabilities. Seventeen CAs from each of the Wards were present as participants in the course. Ten action plans were developed as course outputs.
- The School Safety Program organized School Disaster Management Committees in 11 schools from April 2007 to January 2008, to promote disaster preparedness initiatives and develop school disaster management plans. Active stakeholders are the students and teachers, as well as community leaders and residents. School emergency simulation exercises involving the Fire Service and Civil Defense were conducted in Munshipara High School of Ward 37 on January 22, and in Girls High School, Chawk Bazar on 27 May 2008.
- Chittagong had heavy floods and landslides on 11 June 2007. The Change Agents and all the Ward Disaster Management Committees (WDMCs) formed in the ten wards under PROMISE Bangladesh of the city corporation took active part in the search and rescue operation in their respective wards, and thereby proved their enhanced capacity to cope with such a disaster. In each of the respective wards the volunteers rescued the people from the waterlogged area, and arranged for draining out the water with the assistance of the city corporation personnel and joint forces.

- PROMISE-Bangladesh was introduced to and accepted by the new city administration. The PROMISE Bangladesh team met on 9 July 2007 with Mr. Manjur Alam, Acting Mayor of Chittagong City Corporation, and with other city officials to seek approval for arranging the small-scale disaster mitigation projects; Mr. Imtiaz Hossain, CEO, Mr. Rezaul Karim, City Planner, and Mr. Mokter Alam, Chief Engineer, were also present; both had attended the Regional Course on Governance and Disaster Risk Reduction.
- When Cyclone Sidr hit the coastal district of Bangladesh on 15 November 2007, the PROMISE-Bangladesh team maintained regular contact with the Cyclone Preparedness Program (CPP) focal person and disseminated the news to the change agents (CAs), who assisted their respective Ward Commissioner to evacuate community people cyclone shelters, and in distributing relief at the shelters. After the cyclone, the ward disaster management committees and some of the CAs went to the southern part of the country and assisted in the relief efforts there.
- BDPC signed a Memorandum of Understanding (MOU) with the National Institute of Local Government on 13 February 2008. NILG is mandated to conduct training courses for local government functionaries, both at the urban and local level. Under the MOU, NILG will conduct the national training course on Governance and Disaster Risk Reduction. Mr. Md. Arfan Ali, Director General, NILG, and Mr. Muhammad Saidur Rahman, Director, BDPC, signed the MOU on behalf of their organizations.
- A three-day community-based emergency response course (C-BERC) was held on March 2 to 4 in Chittagong to raise the skills of 28 community volunteers and support the emergency response structure at city level.
- A city-level workshop on “Development of City Disaster Management Plan” was held on 23 April 2008. The Honorable Mayor M. Manjur Alam inaugurated the program; Dr. Md. Jalal Ahmed, Civil Surgeon, Chittagong City Corporation, was present as Special Guest.
- PROMISE-BD helped Chittagong City Corporation (CCC) to develop standard operating procedure (SOP) for its emergency control room.
- PROMISE-BD team helped the Chittagong Development Authority (CDA) develop the guidelines for land use planning and construction regulation.

### 1.3.2. PAKISTAN

Selected City: Hyderabad

Lead Institution: Aga Khan Planning and Building Services Pakistan (AKPBSP)

- PROMISE-Pakistan organized a Health and Hygiene Program, wherein resource persons highlighted the importance of different components of hygiene in six workshops, from January 2007 to January 2008. Participants were the women of the union councils under the project.
- 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. The orientation programs were given between August 2007 and January 2008.
- An advocacy and mobilization seminar was held twice in Hyderabad, on 17 December and 23 January 2008. The second seminar, in collaboration with SAFWCO, the local NGO partner, oriented 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. District Deputy Nazim, Mr. Zafar Rajput was the Chief Guest.
- In January 2007, 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
- A Resource Mobilization Training was held from 22 to 25 June 2007, for 19 members of the disaster management committees formed under the project.
- 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.
- A two-day training workshop on 'Community Based Disaster Risk Reduction' was organized for 18 NGO representatives and officials of Taluka Municipal Administration, Latifabad on 7 to 8 September 2007.
- PROMISE Pakistan updated the 'Participatory Hazard Mapping and Vulnerability and Capacity Assessment' in September 2007. During the updating activities, another community has signed the terms of partnership for the small-scale disaster mitigation projects.
- PROMISE-Pakistan 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. The District Coordinating Officer has reactivated the Disaster Management Committee. The Naib Nazim has also formed a similar committee comprising of elected members of the District Assembly.

### 1.3.3. PHILIPPINES

Selected City: Dagupan City

Lead Institution: Centre for Disaster Preparedness (CDP)

- Dagupan City and Barangay Mangin, one of the project's barangays, have won the prestigious Kalasag Award (the Disaster Risk Management Award) for Region 1 for cities and barangays (respectively: Best Performing CDCC; Best Performing BDCC for rural category) They were both national finalist in the 2007 Gawad Kalasag for disaster mitigation. The awards are given out by the National Disaster Coordinating Council. They are again competing for the 2008 Kalasag Award, and are waiting for the National Evaluation.
- The eight pilot barangays developed their EWS and EVAC plan. Based on this an Early Warning & Evacuation Plan was developed for Dagupan City. An Early Warning & Evacuation Plan was developed for Dagupan City. The draft plan was developed in a write shop on 29 to 30 November 2007. The plan was presented to the eight pilot communities for feedback.
- PROMISE-Philippines had Medical First Response (MFR) training from the Philippine Red Cross in March 2007 in preparation for the upcoming flood simulation exercise in May.
- Dagupan City conducted a Flood Response Simulation Exercise on May 31, and subsequent evaluation of the exercise with two staging levels – city and barangay (in Barangay Mangin). Preparations included a review of existing evacuation plans, review of the flood warning system, orientations for the participating organizations, development of a realistic script, and organizing the volunteers. A simulation control team was formed to guide the whole activity. Around 300 people from the city's stakeholders participated. The results showed that the system was functioning well, and it also showed the points for improvement that were eventually adopted by the city and barangay disaster coordinating councils. A separate simulation was held on June 7 to test their communication systems. The simulations were successful, and served as a basis for the Kalasag Award received by the City and by Barangay Mangin. Subsequently, as part of the activities for the CARE Bangladesh study tour in September 2007, PROMISE-Philippines staged three separate flood simulation exercises in Barangays Lasip Chico, Lasip Grande, and Pogo Grande.
- The CDCC developed a Manual of Operations and Emergency Response Plan during the PROMISE Project implementation. The manual contains the organizational structure, evacuation plans and early warning and monitoring system. PROMISE-Philippines and Ms. Maris Palencia, one of the drill consultants, contributed inputs during the manual's development and review.
- Dagupan City held its second Disaster Preparedness Day celebration on 16 July 2007, highlighted by the awarding of certificates of appreciation for the stakeholders, partners and communities who actively participated in the city-wide drill on May 31. Mayor Fernandez awarded the certificates along with the other important city officials. The Guest Speaker of the ceremonies was Director Armando Duque of the Regional 1 Disaster Coordinating Council. The city held month-long activities for schools, including mangrove reforestation and re-

- vegetation, tableau and slogan competitions on July 16, and the Academic Olympics on July 26. The celebration is institutionalized by City Resolution 5469-2006.
- From 17 to 19 July 2007, PROMISE-Philippines had a C-BERC with ADPC and co-facilitated by the Pangasinan Red Cross team represented by Mr. Benjo Bacani and the others. There were 29 participants representing different city offices within the City Disaster Coordinating Council.
  - The PROMISE team conducted two Disaster Management Orientations for the school teachers and administrators which reinforced the School Safety Program of the different schools in Pangasinan. The first orientation on July 19 had 90 participants while the second batch on July 20 had 60 participants. The orientation included basic information on Disaster Risk Management and different DRM activities for schools and children.
  - PROMISE-Philippines was introduced to and accepted by the new city administration. On 10 July 2007, CDP and Dagupan City's Technical Working Group (TWG) representatives gave a courtesy call to Mayor Alipio Fernandez Jr. and gave an orientation on the accomplishments PROMISE-Philippines for the past 1.5 years. CDP and the Dagupan City TWG made a formal presentation of the Project PROMISE before the Sangguniang Panlungsod (Dagupan's legislative council) on 2 October 2007, to showcase the achievements of PROMISE-Philippines and emphasize the involvement of the city council for passing City Resolution 5469-2006 (making July 16 the Disaster Preparedness Day).
  - The City Council passed City Ordinance 367 of 2007 On December 10, creating an Emergency Operation Center of Dagupan City. The ordinance provided for an initial capital outlay of PhP 8 million for the building construction and equipment, and an annual PhP 2 million for operational expenses including the salary of three full-time staff.
  - PROMISE-Philippines organized a study Tour to Guagua and Minalin, Pampanga Province for the TWG and Barangay Captains of the pilot communities on 28 February 2008. The visit to Guagua's Municipal Disaster Coordinating Council was to learn from the Guagua MDCC's experience in Disaster Risk Management and the Municipal GIS used for DRM, monitoring, community mobilization, emergency response, local ordinances, and indigenous mitigation. The visit to Minalin was to the Community-Based Disaster Response Organizations, a peoples' organization mobilized by the Pampanga Disaster Response Network.
  - PROMISE-Philippines conducted the 1<sup>st</sup> LGU Course on Governance and Disaster Risk Reduction from 8 to 10 April 2008 in Dagupan City. The event aimed to promote the culture of disaster safety and resiliency putting forward the element of good governance among individuals and groups involved in the bureaucratic work. Thirteen (13) representatives from eight municipalities and cities attended the course: municipalities of Alcala, Asingan, La Union, Rosales, San Fabian, Sta. Barbara, and Dagupan City and Urdaneta City. Resource persons from the City Government (Technical Working Group), Center for Disaster Preparedness, Guagua Municipal Disaster Coordinating Council, and the Department of Interior and Local Government (DILG) of Region 1 imparted lessons learned and good practices in disaster risk reduction and good governance to the participants. The



course featured a half-day field trip to see the good practices in CBDRM in the 8 pilot communities under PROMISE-.

- A covenant signing among 42 representatives from different municipalities, cities and province of Region 1 in the Philippines was held on 10 April 2008 after the course to promote a partnership for mainstreaming disaster risk reduction into local planning. 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.
- Typhoon Cosme (international name Halong) hit Dagupan hard with its winds on May 17, and resulting in total damage (3,349 houses) or partial damage to houses (15,034 houses), affecting 24,973 families. Damage to public infrastructure (school buildings, day care centers, health centers, barangay and city offices, lighting) is estimated at PhP 28.9 million (USD 0.69 million). The deaths were three children who were living next to Pantal River and were swept into the waters, and one adult male who died from exposure. Although there was no rain in Dagupan, there is some flooding due to dam water release and high tide. Estimated losses for the fishing industry are at PHP 537 million (USD 13 million). PROMISE-Philippines is acknowledged for helping the city prepare against disaster. The city and barangay disaster coordinating councils were all activated well ahead of the typhoon's approach. The flood early warning system was monitored non-stop, and there were no deaths in spite of the high-risk locations of the project barangays. Barangay Mangin, with the highest risk, evacuated its residents, and distributed its own relief goods to add to the relief goods (medicine and food) from the City, ensuring 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 National Course on GDRR was held by the PROMISE team in Sulo Hotel having 28 participants from different Local, national and international NGOs, GOs. The training team was headed by the Center for Disaster Preparedness, in coordination with national government agencies like DILG. The PROMISE team from CDP, the City of Dagupan and other expert resource persons from the NGAs and NGOs gave the participants useful information, insights and skills in GDRR. The participants and facilitators had rich discussions during the training from 3 to 6 June 2008. The last day was a study tour to PAGASA, MMDA, Marikina City and Makati City.

#### 1.3.4. SRI LANKA

Selected City: Kalutara

Lead Institution(s): Lanka Jathika Sharmadana Sarvodaya (Sarvodaya)

- 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.
- Community hazard mapping and vulnerability assessments were done in November 2006 using participatory risk assessment tools in the villages of 730-A Kalutara GN Division, 729 Nagoda South GN Division, 730-B Katukurunda GN Division; this brought the total of hazard maps to 14.
- 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.
- 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 50 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.
- As the first step of the School Safety Program, the first awareness program was conducted in February 2008 for 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.
- A Kalu Ganga River Flood Forecasting and Warning System was developed under PROMISE-Sri Lanka. GPS Locations were taken in flood affected areas of Kalutara in November with the support of NBRO and the Irrigation office of Kalutara. Dr. Nandalal of the University of Peradeniya developed the Kalu Ganga flood model used by the system, while the flood model was prepared by NBRO for the flood EWS. In April and May, the communities were trained on how to disseminate the warning and were made evacuation plans. Flood gauges were installed, and the system was tested during the May 2008 floods.
- An Emergency Operations Center is under development for Kalutara. PROMISE-Sri Lanka advocated for the development of Standard Operating Procedures.

### 1.3.5. VIETNAM

Selected City: Da Nang

Lead Institution(s): Centre of International Studies and Cooperation (CECI)

- After typhoon Xangsane hit Central Vietnam in early October 2007, CECI initiated and received funds from CIDA and Canadian government for housing construction/reconstruction for Da Nang. CECI collaborated with ADPC and the Construction Department of Da Nang City to conduct a workshop and four training sessions on safer construction concepts and techniques for 52 fund beneficiaries and local builders. The training ran from 30 November to 1 December 2006, and provided skills to help them to build and monitor construction activities. This activity was not part of the original PROMISE-Viet Nam concept, but the Climate Change activity was changed to this one to accommodate the impact of the typhoon on the project site.
- Letters of agreement were signed with the PC to assign a construction professional to regularly check on the quality of 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
- 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.
- CBDRM training classes at seven wards were conducted from April to July 2007 in collaboration with Cam Le district Red Cross association.
- 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. A total of 27 participants (nine female and 18 male) came from the city's Red Cross from seven districts. Later, three classes of the Community-Based Emergency Response Course were conducted in October for emergency response teams of three. Around 62 persons attended the training, the majority were men (70%); all were given Certificates of Completion. Da Nang City Red Cross trainers, who had acted as Assistants for ADPC trainers, delivered these.
- Thirteen Change Agents (four female and nine male trainers) identified from six ward and Cam Le district participated in TOT training from 27 to 28 September 2007. A refresher course on lesson planning and practicum was held in December 2007.

- Disaster Preparedness Plans were developed in all wards. Three community meetings were conducted in three wards from 23 to 25 October 2007 to disseminate CBDRM knowledge and safe house construction techniques and validate of the ward disaster preparedness plan.
- PROMISE-Vietnam provided some emergency equipment such as 90 life jackets, 40 life buoys, 260 helmets, 98 hand loudspeakers and 300 m of ropes to the emergency rescue team of wards and sections, as proposed in their disaster preparedness plans. PROMISE-Vietnam and the 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 that ever happened in Central 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 4<sup>th</sup>- and 5<sup>th</sup>-grade pupils of primary schools in the three project wards. 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 *Guidelines on Safe Construction Techniques* were finalized in February 2008. The guidelines have been translated into Vietnamese and disseminated in the community. The guidelines were developed in collaboration with the Construction department of Da Nang city and the Construction Consulting Company of the Architects Union.
- The project activities were closed 31 May 2008.

### 1.3.6. INDONESIA

Selected Urban Area: Jakarta Metropolitan City

Lead Institution(s): Bandung Institute of Technology (ITB)

- Mrs. Karunaratne and Ms. Iglesias went to Jakarta to meet with the implementing partner for PROMISE-Indonesia and other relevant stakeholders. On February 4, ADPC had a meeting with Officials with Jakarta Provincial Government and Dr. Harkunti of ITB; the Secretary to the Regional Planning Board of Jakarta Provincial Government (Bapeda) Ms. Tuty Kusumawati chaired the meeting. Discussed were the hydro-meteorological hazard profile of Jakarta province, regulatory actions taken, structural and non-structural mitigation measures in place, greatest needs, and possibilities for linking up to existing JPG activities.
- Meetings were held on February 4 and 5 with Dr. Harkunti Rahayu of the Bandung of Institute of Technology (ITB) - Institute for Research and Community Service, the implementing partner. Under discussion were the objectives and framework of PROMISE-Indonesia, and the needs of Jakarta province in terms of hydro-meteorological disaster mitigation. A short visit was made to the potential intervention sites that are affected by flooding and other hazards.
- The team met with USAID-Indonesia on February 6 to discuss current USAID initiatives so that proposed project is not duplicating other efforts, and to get recommendations on the level of intervention of PROMISE-Indonesia. Present were: Mr. Barton, USAID/OFDA; Mr. Oppusunggu, Ms. Setiono, and Mr. Nakatsuma, USAID-Indonesia; Dr. Harkunti and Dr. Syahril, ITB; and the PROMISE team were present at the discussion.
- The team paid a short visit to Mr. Wisnu of Bakornas to inform them of the developing PROMISE-Indonesia project and gain their support for the project.
- PROMISE-Indonesia began in February, with a technical scoping/project orientation workshop held on February 15 as the official kick-off event. The workshop was held at the general meeting room of the Regional Planning Board (Bapeda) of the Jakarta Provincial Government (DKI). It was attended by 40 officials of JPG and related stakeholders; Mr. Yusak Oppusunggu of USAID-Jakarta; Tuty Kusumawati, Secretary of Bapeda DKI; and Harkunti P. Rahayu, Project Coordinator for PROMISE Indonesia. The workshop was officially opened and inaugurated by the Secretary of Bapeda DKI.
- Mrs. Karunaratne and Mr. Zay Yar Min went to Bandung in March to finalize the project proposal, work plan and project monitoring plan. They gave an orientation on financial reporting and status reporting. They worked with Dr. Harkunti on the project planning.
- In May 2008, data was collected on: the vulnerability and capacity of Kelurahan Kebon Baru and Kelurahan Bukit Duri; existing spatial data (spatial plan, land use, etc.); capacity data for the Ciliwung catchment areas (map of flood gate station, level of preparedness, etc.); and flood preparedness and mitigation initiatives and program done by various institution and organizations.
- The data and the risk assessments were presented during the TOT on CBDRR Initiative held on 8 to 11 June 2008 for stakeholders in Jakarta.

## 1.4. City Demonstration Project Profiles

### 1.4.1. PROMISE-Bangladesh

Project Location:	Chittagong
Hazard Type:	Flood, cyclone, water-logging
Project Management:	Bangladesh Disaster Preparedness Center (BDPC)
Project Manager:	<b>Mr. Moloy Chaki</b>
Schedule:	Start Date: January 2006 End Date: July 2008
Total Project Cost:	BDT 7,706,730
Total USAID Cost:	BDT 6,877,500
Total Counterpart:	BDT 829,230

#### Project Summary

The port city of Chittagong, Bangladesh has traditionally been a major centre for trade and commerce, and has a population of more than 5 million. The coastal areas are highly prone to natural disasters such as cyclones, flooding and tidal surges. The lead institute identified to serve as the project's implementing partner in Chittagong is the Bangladesh Disaster Preparedness Centre (BDPC), a non-governmental organization engaged in disaster related activities such as research, advocacy, strategy formulation, piloting, educational and communication information materials development, post-disaster response planning and interventions, monitoring and evaluation. The associate partners of BDPC are CARE-Bangladesh and the Government of Bangladesh through the Comprehensive Disaster Management Project (CDMP) and Disaster Management Bureau (DMB), and also the Chittagong City Corporation.

#### Participating Institutions

- Partner NGO:	<b>BDPC</b>
- Technical Support:	BDPC
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- Training: National Institute of Local Government (NILG)  
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- Information and Networking: CARE Bangladesh  
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## 1.4.2. PROMISE-Pakistan

Project Location:	Hyderabad Municipality, District Hyderabad, Sindh Province, Pakistan
Hazard type:	Flash flood, Flooding, Windstorms, Extreme Temperature, Heat waves
Project Management:	Aga Khan Planning and Building Services, Pakistan <b>(AKPBSP)</b>
Project Manager:	<b>Mr. Faisal Farooq Khan</b>
Schedule:	Start Date: May 2006 End Date: June 2008
Total Project Cost:	PKR 6,960,000
Total USAID Cost:	PKR 6,000,000
Total Counterpart:	PKR 960,000

### Project Summary

With a population of 1.6 million, Hyderabad is the second largest city in Sindh Province, and the eighth largest in Pakistan. The city serves as the government seat for the district of Hyderabad and is the meeting point of two of Pakistan's largest highways. Hyderabad is vulnerable to floods, drought, extreme temperatures, heat waves and windstorms. The local partner, Aga Khan Planning and Building Services (AKPBSP), was established in 1980 as part of the Aga Khan Developmental Network in Pakistan. Disaster mitigation and management is one of AKPBSP's key program initiatives, with planned and ongoing Habitat Risk Management initiatives in several provinces.

### Participating Institutions

- Partner NGO: **AKPBSP**  
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- Technical Support: FOCUS Humanitarian Assistance  
Key Project Contact: **Mr. Gholam Panjwani**  
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- Training: Sindh Agricultural and Forestry Workers Coordinating  
Organization (SAFWCO)

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- Information and Networking: Hyderabad District Council

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- Policy Development: Hyderabad District Council

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### Project Contacts

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Or

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### 1.4.3. PROMISE-Philippines

Project Location: Dagupan City  
Hazard type: Flooding  
Project Management: Center for Disaster Preparedness (CDP)  
Project Manager: **Ms. Mayfourth D. Luneta**  
Schedule: Start Date: February 1, 2006  
End Date: July 31, 2008  
Total Project Cost: PHP 4,058,000  
Total USAID Cost: PHP 2,980,500  
Total Counterpart: PHP 1,077,500

#### Project Summary

Dagupan City, with a total population of approximately 150,000, is a sub-regional centre for trade and commerce, finance, health and education services in the Northern Luzon Region. Frequent perennial floods in the city's low-lying coastal delta areas cause regular damage to public infrastructure, private property, agricultural crops, fishponds, and other urban economic activities. The project implementing partner, Centre for Disaster Preparedness (CDP), is one of the leading advocates of Community Based Disaster Risk Management (CBDRM) in the Philippines. CDP's work illustrates how CBDRM works through community partnership and the support of government and other stakeholders. Activities include building the capacity of local community leaders and development workers in government and private sector institutions.

#### Participating Institutions

- Partner NGO: **CDP**
- Technical Support: Agno River Basin Flood Forecasting and Warning Center  
Key Project Contact: **Engr. Arturo Ladislao**  
Tumana West, Rosales, Pangasinan  
+63-75-582-3528
- Training, Information and Networking, and Advocacy and Mainstreaming partners:

*All partners below work with CDP for all components.*

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Key Project Contact: **Maj. Gen. (Ret). Glenn J. Rabonza**  
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Key Project Contact: Department of the Interior and Local Government (DILG)  
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### Project Contacts

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#### 1.4.4. PROMISE-Sri Lanka

Project Location:	Kalutara Municipality
District:	Kalutara
Province:	Western
Hazard type:	Flood (Urban flood, River Flood, Flash Flood)
Project Management:	Lanka Jathika Shramadana Sangamaya Sarvodaya (Sarvodaya)
Project Manager:	<b>Ms. Priyanka Mudalige</b>
Schedule:	Start Date: 1 <sup>st</sup> March 2006 End Date: 30 <sup>th</sup> June 2008
Total Project Cost:	SLR 14,576,412
Total USAID Cost:	SLR 10,710,266
Total Counterpart:	SLR 3,866,146

#### Project Summary

Kalutara is a medium size urban coastal city with a population of more than 100,000. The city has recorded tremendous growth and possesses strong economic development potential as a rapidly developing satellite town in close proximity to Sri Lanka's capital, Colombo. Kalutara is prone to frequent natural disasters including riverine floods and rain-induced landslides. It was also affected by the December 2004 Indian Ocean Tsunami. The lead local partner institute, Sarvodaya Sramadana Society, is the largest national NGO network in Sri Lanka. Over the course of its 48-year history, Sarvodaya has focused on introducing sustainable development in rural, semi-urban and urban environments. Its development activities are implemented through a network of over 4,000 Sarvodaya Societies covering almost 15,000 villages. Sarvodaya is partnering with the National Building Research Organization (NBRO) to conduct flood modeling of the Kalutara river basin and with the Sri Lanka Institute of Local Government (SLILG) for conduct of national training.

#### Participating Institutions

- Partner NGO: **Sarvodaya**
- Technical Support: National Building Research Organization  
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- Training: Sri Lanka Institute of Local Governance (SLILG)  
Key Project Contact: **Mr. RMAK Ratnayake**  
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- Information and Networking:

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USAID:

#### 1.4.5. PROMISE-Vietnam

Project Location: Da Nang Municipality, Cam Le District  
Hazard Type: Flood/inundation, storm and drought  
Project Management: Center for International Studies and Cooperation (CECI) Vietnam  
Project Manager: **Ms. Kathleen McLaughlin**  
Schedule: Start Date: March 2006  
End Date: May 2008

Total Project Cost: VND 1,844,210,830  
Total USAID Cost: VND 1,580,103,110  
Total Counterpart: VND 264, 107,720

#### Project Summary

Da Nang, with a population of approximately 600,000, is a dynamic city located in central Vietnam's Key Economic Zone. Situated along the World Heritage Route, Da Nang has tremendous potential for growth in tourism and economic development. The city is highly vulnerable to urban floods and has also experienced two major storms over the past ten years. The lead partner institute, Centre for International Studies and Cooperation (CECI), is one of the leading NGOs in the field of social, economic and environmental development within central Vietnam. CECI has been very active in assisting local government partners, UN agencies, International Organizations and coastal communities in assessing vulnerability and developing community-based solutions for disaster risk management, adaptation to climate change and environmental protection.

#### Participating Institutions

- Partner NGO: **CECI**
- Technical Support  
Key Project Contact: **Mr. Nguyen Duy Vong**  
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#### 1.4.6. PROMISE-Indonesia

Project Location:	Metro Jakarta
Hazard Type:	Flood
Project Management:	Bandung Institute of Technology – Institute for Research and Community Service (ITB-LPPM)
Project Manager:	<b>Dr. Harkunti Rahayu</b>
Schedule:	Start Date: 1 February 2008 End Date: 31 July 2009
Total Project Cost:	IDR 1,404,400,000
Total USAID Cost:	IDR 1,150,000,000
Total Counterpart:	IDR 254,400,000

#### Project Summary

Jakarta Metropolitan City is the capital of the Republic Indonesia, contributed more than 17% to the national GDP for 2006, and had a population of 8.96 million in the same year. Modern-day Jakarta sits on alluvial lowland with 40% of the land area below mean sea level. It is very prone to any type of perennial and five-year inundation due to excessive rainfall and flash floods along the river systems that pass through the mainland; flooding is often aggravated by storm swells, land subsidence, and/or high tide during full moon. The lead institute identified to serve as the project's implementing partner in Jakarta is the Center for Disaster Management (CDM) under the Bandung Institute of Technology – Institute for Research and Community Service (ITB-LPPM). ITB is a government teaching and research institute. CDM conducts research and development activities in disaster risk reduction, including programs for risk assessment, development of risk reduction technology, dissemination of disaster risk information and public awareness campaigns, policy studies and advocating disaster risk management approach. The associate partners of ITB-CDM are the Jakarta Provincial Government – Regional Planning Board (Bapeda) and the Indonesian Red Cross (Jakarta PMI).

#### Participating Institutions

- Partner NGO: **ITB-LPPM**
- Technical Support and Training Partner: ITB-LPPM  
Key Project Contact: **Dr. Harkunti Rahayu**  
PROMISE Program Manager
- Information and Networking: In progress



### Project Contacts

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## 1.5. Project Outputs

Under the first phase of the PROMISE, the main output envisaged is hazard and vulnerability assessment of the selected cities in the five countries. The activities to produce these are on-going and the different partners are at different stages according to the circumstances of each individual country project. In addition, several city-level workshops were conducted to contribute to the assessment activities. Annexed are the outputs that were completed after the 2006 Working Group Meeting.

- Bangladesh – PROGRESS REPORT on City Demonstration Project, January 2007
- Pakistan – Hazard Mapping and Participatory Vulnerability Assessment Report: PROMISE Hyderabad, Pakistan, January 2007
- Sri Lanka -- Hazard Vulnerability and Risk Assessment, Kalutara, March 2007

For the second phase, the outputs have been summarized in four case studies, published under the Safer Cities series. Printed copies of the case studies are inserted in the folder:

Case Study	Title	City	Date Published
16	Cooperation between Local Authority and Communities Reduces Flood Disaster Risk in Dagupan City, Philippines	Dagupan	April 2007
19	Promoting Safer Housing Construction through CBDRM: Community-designed Safe Housing in Post-Xangsane Da Nang City.	Da Nang	November 2007
20	Community Based Early Warning System and Evacuation: Planning, Development and Testing	Dagupan	March 2008
21	Community Empowerment and Disaster Risk Reduction in Chittagong City	Chittagong	June 2008

## 1.6. Small-Scale Disaster Mitigation Projects

Observations made during last few years substantiate that many of the urban poor falls in to low income or lower middle-income groups of families. Many of them are second- or third-generation urban migrants. Resettlement of these communities in their ancestral home towns or villages were failed at most occasions as it conflicts their way of thinking and social behavior of born environment and settling environment. Basic needs, such as a drainage system to prevent submerging their houses, drinking water, and toilets to sustain sanitation levels and sheltering locations with basic facilities during a disaster, will be enough to satisfy their demands.

Through Hazard, Vulnerability and Risk Assessments (HVRA), teams comprising community and other stakeholders were able to identify most vulnerable areas, level of risk, types of people likely to be mostly affected (school children, farmers etc) and the potential risk and the elements at risk. This analysis was the basis for the prioritizing the project proposals with the objective of providing a suitable platform for community ownership.

Small-scale disaster mitigation projects were selected through community meetings participated by community members, elected members of wards, clergy and other relevant groups. Once all proposals were received, they were pre-visited and decided according to the community action plans, availability of funds, number of beneficiaries, and the scale of impact after completion.

### 1.6.1. PROMISE-Bangladesh

- Small-scale disaster mitigation projects were formulated through community consultation workshops held with WDMC, change agents, ward commissioners, officials from water and sanitation departments, engineers and the city planner. These were implemented with close monitoring of the community. The projects were selected based on validated risk assessments. The Ward Commissioners of the respective Wards and PROMISE-BD team formed project implementation committees (PICs) that are responsible for overall monitoring and follow-up. The projects are:
  - 1) Jalalabad – widening of a drainage system
  - 2) Ward No. 41 - South Potenga – installation of pond filter to generate drinking water as the available ground is with high salinity.
  - 3) Ward No. 16 - Chawk Bazar: toilet block and water supply facilities through tube well
  - 4) Ward No. 40 - North Potenga – Silt removing of canal and improvements to drainage system by raising the side walls
  - 5) North Middle Haliashor – water and sanitation facilities to high school which is used as a temporary shelter

### 1.6.2. PROMISE-Pakistan

- Four small-scale disaster mitigation projects were selected for implementation in 2008. In January 2008, AKP BSP had signed terms of partnership with communities for the small-scale disaster mitigation projects. The completed projects are:
  - 1) Reducing Physical Vulnerability through Developing Flood Mitigation Infrastructure, Ghera Sudhar Community – involves earth filling, installing community latrines
  - 2) Street Raising and Improving Drainage Lines, Aliabad – involves earth filling, installing covered drains, and mobilizing communities for maintenance
  - 3) Installation and Rehabilitation of Drainage Line, UC # 2 Latifabad – involves earth filling, installing covered drains, installing communal latrines, and health and hygiene education
  - 4) Reducing Vulnerability of Communities through Flood Mitigation Demo Projects, Thakur Colony – involves earth filling, installing covered drains, installing communal latrines, health and hygiene education, and mobilizing the community for savings generation
  - 5) Mitigating Flood through Improved Drainage System in Maheshwari Colony – involves tank installation, 850 feet of open drainage line, and rehabilitation of four communal latrines
  - 6) Improving the Main Pumping Station of Hali Road, Latifabad – changed due to existing city government plans for the road; money is diverted to set up an Emergency Operations Center, with main financing from the district government.

### 1.6.3. PROMISE-Philippines

- Small-scale disaster mitigation projects were implemented from 2007 to 2008 in two phases. In the first phase, under their first grant, the projects were mostly for non-structural mitigation:
  - 1) Equipping the Barangay Disaster Coordinating Councils of the 8 project barangays with emergency equipment, training and maintenance plan (2007). These included boats, bamboo raft, road guides to demarcate safe routes that avoid open canals, flashlights, hard hats, raincoats, boots, ropes, megaphones, emergency lamps, indigenous warning devices (*kanungkong*), two-way radios for citywide communication, camera, radio transistor, heavy duty lamp, farm tractor and others. The distribution was based on each community's needs. Each barangay had its own counterpart in equipping the BDCC. They bought some of the emergency equipment from their barangay funds and other sources, such as flashlights, two-way radios, megaphone, and others. The project filled in the shortage as needed, and the needs varied from one barangay to another.
  - 2) Small livelihood projects in each barangay, to reduce vulnerability due to economic disruption (2007). In response to the possible disruption of the livelihood of the vulnerable population during floods and other hazards, the provision of alternative livelihood options also became a priority. After a screening and approval process, they were able to venture into different income-generating activities. Some communities have embarked on rice retailing businesses while the others engaged in tri-bike operation. Small income generating projects through lending were also undertaken. The said small-scale economic mitigation program not only created income for the vulnerable population but also provided them with funds for the maintenance of the given emergency preparedness equipments and gadgets.
- In the second phase, under their extended grant, the projects were structural mitigation:
  - 3) Barangay Dike, Barangay Bacayao Norte – The project intends to assure the continuous drainage of water, prevent soil erosion, and protect the Barangay Hall and barangay the day care center. Part of the labor in building the dike was the community's counterpart contribution
  - 4) Abong ya Pantotogiopan, Barangay Bacayao Sur – The Barangay Disaster Coordinating Council of Bacayao Sur had already increased its capacity through trainings and acquisition of equipment and tools. This project sustains their capability to respond to emergencies by improving the barangay's Emergency Operation Center (EOC). The goal was to elevate the structure, and improve the community kitchen used during emergencies. The Barangay contributed around PhP 65,000 (about USD 1580) as their counterpart.
  - 5) Improvement of Emergency Operation Center, Barangay Pogo Grande – Barangay Pogo Grande decided to improve the Emergency Operation

Center to lessen the risk of its being flooded and damaged during floods and typhoon. The EOC also serves as a temporary evacuation center.

- 6) Barangay Lasip Chico Hall 2nd floor as the EOC, Barangay Lasip Chico – After changing their proposal twice due to lack of other sources of funding, the community decided on converting the second floor of the existing Barangay Hall into their EOC. The second floor will also be used to be temporary evacuation center. The labor for refurbishment will be provided by the community
- 7) Filling and Concreting of BDCC Evacuation Center, Barangay Mangin – The City Disaster Coordinating Council and the Project PROMISE have identified Barangay Mangin as one of the high-risk barangays. During flooding events brought about by typhoons, the water level in almost all parts of the barangay is as deep as four to five feet, and takes four to five days before flood waters subside. Rescue teams could hardly navigate the evacuation route to the City Water District building located at a nearby barangay. For their project, the community decided on an elevated permanent evacuation center during calamities. An existing covered court at the Mangin Elementary School was selected as the temporary shelter and evacuation center. The elevation and concreting of the covered court is halfway finished.
- 8) Improvement of EOC/ holding area, Barangay Tebeng – The project was to widen the area of the existing EOC to create a space for a holding area or temporary evacuation center.
- 9) Improvement of Comfort Rooms of Barangay School, Barangay Lasip Grande – The Barangay Lasip Grande Elementary School serves as the barangay's Evacuation Center. The improvement of the toilets will lessen the health risk of children in the community before and during a flood event.
- 10) Construction and Elevation of Comfort Rooms for the Barangay Elementary School, Barangay Salisay – Barangay Salisay Elementary School serves as the barangay's Evacuation Center and had no elevated comfort rooms. The objective was to construct toilets that could be functional during flooding, when sewage and drainage systems do not work properly.

#### 1.6.4. PROMISE-Sri Lanka

- Sarvodaya, having meetings with Mayor, Deputy Mayor, elected members and ward community identified a list of small-scale demonstration projects. Due to unplanned urbanization and increasing population in slum areas in Kalutara, the burning issues of the people were on water and sanitation.
- 1) Drainage improvements to Dhaham Mawatha – Due to the filling of natural water retention areas, excess floodwater runs along the road, making it impassable and submerges the nearby houses. A drain was built on one side of the road with raised sidewalls to prevent flooding. The community was actively supporting the work, and one house owner volunteered his land to link the road drain to the marsh. The urban council will improve the road by filling and compacting and agreed to allocate funds from the 2009 budget.
  - 2) Drainage improvement to Akkarawatte – The main road is on higher elevation; the lack of drains during rains means the adjacent, dense housing area is inundated. The improvement will solve the problem for this area.
  - 3) Bindunnela canal improvements and home composting scheme, Gunathilake Rd Wadduwa – A large canal flowing through this lower middle class community was filled with garbage and solid waste and neglected for a long time. It was partially dredged by the Disaster Management Centre. A number of awareness and training programs were given to stop dumping garbage into the canal, maintain the canal, and to teach how to compost daily biodegradable household garbage. Now, about 80% of the communities in the area grow vegetables for their own consumption. The Chief Monk of the near by temple supports the community on this project, and arranged and constructed a waste separation center. Two days a week, a person collects garbage in separate bins, and a collecting agent purchases the waste. The income pays for the collector’s honorarium.
  - 4) Micro Credit Scheme – Under the Sarvodaya Financing Division, a trust fund named “Micro-Credit Scheme of PROMISE” was established 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 began with a needs assessment and personal planning. The community was briefings on livelihoods and credit management planning, on the objective of the micro-credit scheme and its benefits, the importance of investment planning of their proposed livelihood scheme, and on the selection criteria. Applications were called from potential recipients, and support was obtained from Grama Niladari of the area who became responsible for certifying personal data of the applicant, including the income of potential recipient families. Priority was given to single parent families, large families, and persons with prospects of further improvement plans. The first round benefited 10 families.

#### 1.6.5. PROMISE-Vietnam

- Agreements were signed between PROMISE Vietnam, the people's committee (PC) in the concerned wards, and the district steering committee for commitments on investment, local contribution and definition of responsibilities. Competent local builders were selected and approved. Project supervision boards were set up including participation of ward authorities, district engineers, ward engineers, Community Development Groups and 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 the sustainability of the projects. These training classes on Disaster Preparedness and Building Practices were expanded to six wards of Cam Le district.
- The projects are:
  - 1) Upgrading an interfiled Dyke (Hoa Tho Tay ward) – This drain serves as a field channel to irrigation lands and to drain off excess water during flooding. It was an earth drain now built as square section concrete drain. With the limited funds, 500m length was constructed and the balance will be constructed by the community.
  - 2) Box Culvert at (Hoa Tho Dong ward) – The Road running to a village on the flood prone area just around the river. High, elevated, large-spanned suspension bridge is functioning where as the culvert under PROMISE as built underneath to serve the access road to the nearby village.
  - 3) Box Culvert at (Hoa Xuan ward) - This is on the main evacuation route to the village. During floods, the area with mainly paddy fields is surrounded by floodwaters and the village will be cut off from the area. Therefore, the construction of this culvert serves important role as an evacuation route and as the main route to use to transport agricultural products to the city. Also people have raised the road accesses to the culvert and strengthen the road by widening and mud plastering.
  - 4) EOC - The centre is functioning smoothly with a systematic EWS where selected leaders from community are given responsibility and on alerting, evacuating, checking and emergency responding etc.



## 1.7. Best Practices

The implementation of the projects in the five countries of Bangladesh, Pakistan, Philippines, Sri Lanka and Viet Nam 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 five themes, and the corresponding practices will be presented in the Second Working Group Meeting. The following is a description of the themes, and a listing of the papers to be presented under each theme. The papers are annexed to the Briefing Notes.

### 1.7.1. Technology Development and Transfer for DRR

Urban disaster risk reduction advocates enforcement of strict building by-laws, controlled development, adherence to engineering construction codes, the incorporation of disaster risk management in land use plans and master plans, etc. Losses have resulted from non-compliance to such regulations. The urban floods in central and western India; the earthquakes that struck Gujarat, Bam, Sichuan; and the tropical cyclones that passed through Bangladesh, Myanmar and Viet Nam have reiterated that urban planning and development must consider the exposure to, frequency and impact of recurring hazards. Such consequences could be minimized by opting for appropriate community-oriented technology.

In view of the devastation and negative economic impacts, initiatives are proposed to strengthen the urban local bodies to mainstream disaster management in the development process. Technology development and transfer should be cost-effective for the target, in order to facilitate appropriate technology adoption, and hopefully lead to a safer urban environment. The mechanism should also consider and identify distinct roles in all stakeholders for urban disaster risk reduction process. There are several ways by which technology could be developed and transfer to the community for effective disaster reduction. These may be through:

- Developing innovative, cost effective construction technology against strong ground movement, high velocity wind forces and flood water.
- Developing or modifying existing master plans, land use plans, zoning, and building by-laws that incorporate disaster risk reduction components.
- Strengthening vulnerable multi-storey houses.
- Updating risk-related engineering design criteria.
- Strengthening early warning systems for floods, cyclone or other man-made hazards to reduce the resulting negative impacts

Papers:

- Setting up Urban Search and Rescue Teams at Community Level (Bangladesh)
- Modeling Kalu River floods in Early (Sri Lanka)

- Integrating Awareness Raising on Disaster Resistant Construction in Typhoon Recovery Projects (Vietnam)
- Planning and Implementation of City and Community Emergency Plan (Philippines)
- Case Study on Community Awareness Raising (Vietnam)
- Sensitization and Capacity Building (Pakistan)
- Community Capacity Development for Establishment of EWS (Philippines)

### 1.7.2. Practices for Mainstreaming DRR in Urban Development

Asian cities are experiencing rapid economic growth and have become a hub of livelihood opportunities. Over the past two decades, urban landscape has been changed drastically to meet the demand and supply. Urban centers, industries, informal sectors and other small/petty businesses are flourishing more in residential areas than specific location. Poor economic growth and high inflation rate in most Asian countries are heavily pushing the poor/vulnerable people to live in hazard prone areas. In this urban complexity, development authorities for cities or municipalities have to provide critical facilities along with economic opportunities for all to achieve sustainable development.

Mainstreaming refers to bringing different ideas, concepts, approaches/practices, policies and programs into the prevalent one. It also draws the attention of society and institutions to understand the proposed mainstreaming importance and earnest need to advocate for. The idea of mainstreaming is to incorporate disaster risk reduction activities in ongoing development programs/projects. In the early '80s and late '90s, disaster risk reduction 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.

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 sectoral and spatial planning of the urban cities which further leads to reduce the impact of hazards.

Papers:

- Access to DRR through School Safety Program (Bangladesh)
- Good Practices for DRR Mainstreaming (Philippines)
- Sustainable Tomorrow – Micro-Credit Scheme for Better Livelihood (Sri Lanka)

### 1.7.3. Networking and Partnership Development for DRR

Networking and partnership is the strengthening of new or existing relationships among relevant risk management institutions/organizations for improving potential for hydro-meteorological disaster mitigation, capacity for application, and dissemination of lessons learned.

The strategy is to identify and capture specific components and elements (documents, reports, lessons learned, successful urban disaster mitigation & preparedness practices, public awareness campaigns, etc.) from each of the city demonstrations that would enrich the regional knowledge base on urban disaster mitigation & preparedness facilitated by ADPC. Whatever necessary tools, needs assessment, capacity building, etc. were required were identified and strengthened at national levels. Existing networks among local authorities, of disaster response organizations, and of regional partners such as the USAID were tapped to expand the network for urban hydro-meteorological disaster risk reduction.

PROMISE employed a 'cluster cities' approach that focused intervention in a demonstration, and lessons learned will be disseminated to reach a target cluster of cities that share a common watershed or coastline and possess similar types of vulnerabilities to hydro-meteorological hazards. The Program will use the opportunity to replicate the success through the existing ADPC institutional linkages throughout the Asian region for networking and sharing of experiences.

Papers:

- Community Level DRM Committees (Bangladesh)
- Partnership Development with Stakeholders for Long Term DRR (Sri Lanka)
- Resource Sharing and Public-Private Partnership (Pakistan)
- Networking and Partnership for DRR (Philippines)
- Technical Institutions Focus (Pakistan)

### 1.7.4. Planning and Implementation Process for DRR

Records of recent disasters in cities of Asian countries show an increase of vulnerability of urban built up areas resulting loss of lives, properties, infrastructure and livelihood. The proportion of the urban community found in smaller cities (of less than 500,000 people) is over 50% of the total urban residents of Asia. Many people living in informal or underserved settlements are second- or third-generation migrants from rural areas. Even with a comprehensive resettlement project, the present generation is reluctant to return to rural lands. Cities in developing countries are unable to suppress the rate of migration, meet even the basic needs of such communities, nor to adhere to regulations of building control and land use planning due to political pressures and scarcity of land and funds. As a result, the poor tends to settle down in state lands, river and road reservations, unsafe lands, encroachment etc., risking their lives without basic amenities and thereby exposing themselves to great risks.

In this context, key stakeholders have their role to play. National government sets in place the policy, legal, institutional and operational framework for disaster risk mitigation at central level. Local government develops local policy, legal, institutional and

operational framework in consistent with national level comprehensive risk assessment and risk reduction plans. The community can actively participate in decision-making in disaster risk reduction, preparedness and mitigation on the individual, family and community level. The business community keeps safety in the work place, and responds to emergencies by providing logistics and equipment. Community-based organizations (CBOs) mobilize community members to achieve disaster risk reduction. Non-governmental organizations (NGOs) develop capacity, mobilize resources, intervene between the government and community via advocacy, and build networks.

The impacts of natural disasters can be mitigated through structural engineering measures and non-structural policy measures. Increasing vulnerability for natural hazards is directly linked with the socio economic development and configuration of human settlements. The proper structural and non-structural measures can reduce identified vulnerabilities within acceptable risk limits.

Proper planning is mandatory from the inception of both short-term and long-term mitigation measures. Identification of risks, hazard and vulnerability assessment, data collection and analysis, needs assessment, capacity building, land surveys, assessments on available resources, measures, building control regulations, codes and land use planning and the extent of community awareness are some of the initial actions engaged at the base for planning stage for DRR. Prioritization, balancing funds, rate of vulnerability, community participation, monitoring and evaluation were taken place at secondary stages. These actions were successfully completed during the PROMISE project period. For institutionalization, it is essential the sustainability and political will.

Lack of data and lack of reliable data set back a designed implementation of appropriate mitigation measures. However, PROMISE partners were able to get the local community to understand and cooperate in DRR measures, maintain sustainability of public awareness and institutional building.

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.

The outputs of the whole planning and implementation process are model houses that can withstand tropical cyclones and floods, a skilled and knowledgeable community, active disaster management committees, structural improvements such as drainage systems and retaining walls, user-friendly early warning mechanisms, preparedness measures such as evacuation routes, sheltering locations, emergency response mechanisms and documentary developed guidelines for safe building constructions such as the "Guidelines for Typhoon and Flood Resistant Structures" for Cam Le district of Da Nang City, Viet Nam.

Papers:

- DRR through Effective CBDRM (Bangladesh)
- Planning & Implementation Process for DRR (Philippines)
- Participatory Disaster Preparedness Planning – Strengthening Local Govt. Planning Capacities (Vietnam)

### 1.7.5. Governance and Disaster Risk Reduction

Although the word "Governance" has emerged during last decades, the concept is rooted back to many years of practice. Governance is defined as "A process of decision-making and the process by which decisions are implemented". Key role players of Governance are local authority, area community, business groups, government and non-governmental organizations, intellectual community, and some influential bodies. In the context of urban governance, it refers to the exercise of power to manage economic, social and political affairs in urban areas by the aforesaid groups. The level and the extent of manipulation and influence in decision-making, policy formulation and implementation in urban sector development, vary from one area to another.

Disasters and Development are interrelated. Disasters set back the development process, while rehabilitation opens up new avenues of development. This co-relationship emphasizes the strong influence of disaster risk reduction measures into the development practice. PROMISE objectives recognize the participation by all, including PPP concept. During the PROMISE project, all stakeholders, particularly the community was involved at all stages of the project cycle from the inception to planning and implementation. They all have a vision to build a safer community. Political leaders, community leaders, and officials shoulder the accountability on safe living of their community balancing the social and physical development of the area. They jointly identified problems, decided strategies, listed priorities and implemented with everyone's blessings.

Good Governance provides a solid foundation for DRR in a sustainable manner. The implementation of DRR strengthens the governance process in identifying disaster resilience, realizing the people's safety, health and sanitation, and improving livelihood. DRR intervention is significant in working with responsiveness and delivering services effectively and efficiently for the urban development. Once the community support is ensured, they will be a part of pressure groups who demands political and community leaders to secure their lives, shelters and other basic needs.

The main characteristics of good governance are: Strategic Vision, Responsiveness, Participation by All, Decision making, Equity, Accountability, Effectiveness and Efficiency, Transparency and Rule of Law. Past experience of disasters over the last few decades have shown a significant increase in vulnerability of urban community in Asian cities, particularly in developing countries. Governance characteristics were practiced in small-scale demonstration projects, EWS mechanisms, HVRA assessment and all other activities. Understanding the severity, extent of work, availability of funds and the number of beneficiaries were the guidelines in these actions where transparency is maintained. The whole process is a good demonstration of application good Urban Governance into practice.

Papers:

- Community Ownership for Small-Scale Demonstration Projects (Bangladesh)
- Governance – An Effective Tool for DRR (Pakistan)
- Governance and Community Small-Scale Mitigation Projects (Philippines)
- Community Mobilization in Implementing Mitigation Actions (Sri Lanka)
- Improving Emergency Response – Da Nang Experience (Vietnam)
- Collaboration with NILG – Role of Local Government in DRR (Bangladesh)