BACKGROUND

The Asia-Pacific is a hotspot for natural disasters (e.g. river floods, earthquakes, volcanoes etc.). Additionally, the proximity of settlements to the coast leaves them vulnerable to the effects of global warming such as floods and rising sea levels.

As shown in Figure 1, the countries of East and North-East Asia (China, Democratic People’s Republic of Korea, Japan, Mongolia and the Republic of Korea) account for the largest disaster losses in the Asia-Pacific region from 1970 to 2010. Losses incurred by China alone during that 40-year period are far more than the losses of all the countries in South-East Asia, South and South-West Asia, North and Central Asia and the Pacific combined.

Disasters have a double impact —on a population’s well-being, and on the ability of a country to recover economically. Cities are particularly vulnerable due to the high concentration of people and economic assets. Risks are especially high in low- and middle-income countries where 1/3 to 1/2 of urban dwellers live in slums. The major disasters of the last two years include: earthquakes in Japan (2011), Haiti (2010), Chile (2010), and China, (2010); and floods in China (2010), Pakistan (2010), and Brazil (2010, 2011). Of the 633 cities with a population of 750,000 or more in 2011 (representing 1.6 billion people), 374 cities (59% or 977 million people) have a relatively high risk of exposure to natural hazards (Gu et al., 2011). Eight out of ten of the most populous cities in the world have a moderate to high earthquake hazard. Eight out of ten of the most populous cities are vulnerable to storm surges and tsunami waves (ADB, 2008). Urban disasters are becoming increasingly common and expensive. Asia’s urban expansion occurred later than other regions, but the continent is significantly more volatile. Asian urban areas increased from 17% of the total population to 44% between 1950 and 2010, and are projected to hit 55% by 2030. Asia has approximately the same number of urban dwellers as the rest of the world combined. The urban poor often live in low-lying settlements, with few social or economic safety nets, and are particularly vulnerable to the physical and economic shocks of extreme events.

(See Figure 1. Global and Asia-Pacific disaster fatalities, 1970-2011 (Source: UNISDR analysis based on data from the Centre for Research on the Epidemiology of Disasters, EM-DAT, the international disaster database, version: v12.07. Brussels: Université Catholique de Louvain. www.emdat.be))
Local governments are a key stakeholder in disaster risk reduction (DRR) and preparedness because they are in charge of critical development functions (e.g. land use and urban planning, public works, construction safety and licensing, social services, and responding to needs of the poor.)

For local governments to implement DRR initiatives it is critical to examine how they can:

- Identify challenges (the Hyogo Framework for Action by Local Stakeholders provides guidance for DRR capacity assessment)
- Be empowered
- Reform governance

CITYNET Yokohama Project Office (CYO) aims to continue its assistance to CITYNET members by providing expertise on various issues facing member cities. CITYNET identifies the capacity building of DRR professionals and practitioners as one of the necessary actions for developing resilient cities. To foster capacity building, CYO allows members to undergo training in Yokohama, attend seminars and workshops, participate in field visits, apply for projects, request expert dispatches, and exchange knowledge.

The CITYNET Platform for Disaster Resiliency (CPDR) is a new initiative of the City of Yokohama to follow up on the commitment made during the 25th Anniversary Seminar on Disaster in Yokohama in 2012. Supported through the Council for Local Authorities for International Relations (CLAIR) and the City of Yokohama, senior representatives related to disaster management from Bangkok Metropolitan Administration (BMA), Colombo Municipal Council (CMC) and Makati City Government met in Yokohama to develop an online platform for members to interact, learn and share issues related to disaster management. The platform uses Moodle to deliver the online courses and exchanges. Throughout the courses, Yokohama and other member cities provide expertise on waterworks training, solid waste and wastewater management, disaster management, Smart City Project concepts, urban planning, port development, environmental protection, medical and sanitation programmes, sustainable public transportation, and economic cooperation along with other important topics for better urban management.

**COURSE OUTLINE DEVELOPMENT**

CYO, in partnership with BMA, CMC, the City of Makati, City of Yokohama and the Earthquakes and Megacities Initiative (EMI) held a meeting during August and September 2013 for introductory course planning. CITYNET members met prior to content and module development, in order to gather input for the course. CITYNET members also took a short survey aimed at assessing their existing human resource capacities for DRR and to provide recommendations on the priority training programmes that would be needed in the short- and medium term. Survey results were used to create appropriate themes and topics for the course. Inputs from resource cities and organisations are critical for balanced outreach to cities in the Asia-Pacific. The online introductory course began on May 12, 2014 with 34 participants and took six weeks to complete. Participating cities and organisations included Makati, Iloilo, Bangkok, Dhaka North, Dhaka South, Taipei, Barisal, Butwal, Municipal Association of Nepal (MuAN), Office of Civil Defense (OCD), Municipal Association of Bangladesh (MAB), and the EMI.

The course contains three main modules divided...
into lessons. Some lessons include audio narrations for easier comprehension. Lessons also present best practices from Yokohama and other member cities, and contribute to the city-to-city learning process. Participants answer an evaluation questionnaire for each module in order to collect information on various DRR issues. A final evaluation questionnaire asks for opinions on how to improve future courses.

**COURSE OUTLINE**

**MODULE 1: URBAN INITIATIVES FOR MAKING CITIES AND PEOPLE RESILIENT**

**Lesson 1 – Local Government Framework on DRRM and its Relation to the National DRRM Policies**

- 1.1.1 Disaster Risk Reduction and Management (DRRM): Earthquake Resiliency of Yokohama City
- 1.1.2 Yokohama Disaster Prevention Plan (Earthquakes)
- 1.2.1 Main Tasks of Yokohama Crisis Management Department
- 1.3.1 Main Tasks of Yokohama Fire Bureau
- 1.3.2 Yokohama Fire Bureau Response System
- 1.3.3 Operation of Yokohama-type First-Aid System
- 1.3.4 Sample Activities of Yokohama
- 1.4.1 Precautions against Infectious Diseases
- 1.4.2 Sanitary Measures during Disaster
- 1.4.3 Proper Hand Washing
- 1.4.4 Cautions against E-coli
- 1.4.5 Sanitation and Disinfection

**MODULE 2: COMPREHENSIVE FLOOD CONTROL PROGRAMME**

**Lesson 1 – River Basin and Environment Management**

- 2.1.1 Measures against Storms and Floods
- 2.1.2 Doshi Water Conservation Forest, Yokohama Water Works Bureau

**Lesson 2 – Multi-Stakeholder Urban Planning and Activities**

- 2.2.1 Encouraging Pre-emptive Evacuation
- 2.2.2 Comprehensive Flood Control

**MODULE 3: COMMUNITY INITIATIVES TO SUPPORT DISASTER RISK REDUCTION**

**Lesson 1 – Community-based Initiatives and Frameworks on Understanding DRRM**

- 3.1.1 Community and Disaster Prevention, Kohoku Ward
- 3.1.2. Community-based Adaptation and Resilience Against Disasters Project
- 3.1.3 Local Disaster Prevention Base
- 3.1.4 Disaster Mitigation

**Lesson 2 – DRRM Framework in Asian Cities**

- 3.2.1 Bangkok
- 3.2.2 Colombo
- 3.2.3 Makati

**COURSE FINDINGS**

The introductory course on DRR in urban settings attempted to familiarise development practitioners with current concepts and practices in disaster management and contribute to a paradigm shift from reactive to proactive approaches.

CITYNET tracked the progress of participants on a weekly basis and sent reminder e-mails every week citing their advancements and remaining tasks. Only four participants failed to complete the course (Figure 2).

In the final evaluation, participants responded to different aspects of the course (Figure 5). Of all the aspects, the highest number of the participants (78%) found the course highly relevant to their
needs. Nearly 75% of participants found the content and presentations highly satisfactory and said the lessons and presentations were easy to understand, informative and interesting. Over half of participants identified the time allocated for the course as not sufficient. Some participants (11.11%) identified the technical aspects of the course as not up to the mark, as some participants found the course difficult to operate. However, more than half of the participants rated that the course excels in all aspects. Many participants rated learning from the Community Based Adaptation and Resiliency Against Disasters (CBARAD) project and DRRM in Yokohama as very beneficial. Participants also rated lessons on the Disaster Prevention Base, pre-emptive evacuation, the Yokohama Fire Bureau response system and disaster sanitation as useful. Though all the lessons contributed in raising DRR knowledge, participants rated lessons on the Doshi Water Conservation Forest and proper hand washing as less relevant.

Participants also suggested including interaction with other participants through online discussion forums, and lessons on Information and Communication Technology (ICT) and DRR initiatives from cities outside member cities.
The course revealed a wide diversity of both needs and challenges for CITYNET members in the field of DRR. For cities with large populations, fire poses a high risk. Representatives from densely populated cities such as Dhaka, Kathmandu and Makati emphasised that epidemics are a concern. Approximately 87% of the participating cities have experience working with communities toward DRR (Figure 7). Only the participants from Nepal indicated that community-level work is not often taken up. Participants from Taipei, Makati, Kathmandu, Barisal, and Dhaka disclosed that they lack an evacuation manual, which is imperative for DRR. Nearly 21% of participants responded that they lack sufficient beds in hospitals to support people in case of a disaster. Taipei, Bangkok, Dhaka, and Iloilo revealed that they are still not part of either the Hyogo Framework for Action or Making Cities Resilient campaigns. Consistent and reliable drinking water is a challenge in many cities (approximately 17%) due to water source pollution, unreliable water supply during disasters, and lack of budget to improve drinking water management including maintaining and operating treatment plants.
INTRODUCTORY COURSE ON DISASTER RISK REDUCTION IN URBAN SETTINGS

Participants of the Disaster Cluster Seminar in Yokohama (28-30 August, 2014) also:

» Attended study tours (annual disaster drill of Yokohama, Yokohama City Fire Bureau, Tokyo Rinkai Disaster Prevention Park, etc.)
» Received course completion certificates

CONCLUSION

The City of Yokohama, with specific support from its Fire Bureau and Crisis Management Center, planned and initiated the CPDR platform. This online introductory course on DRR in urban settings is a necessary step to meet the objective of CPDR and further strengthen the capacity of DRR personnel. The ultimate goal is for personnel to be able to develop their own training and share ideas within their city as well as with other cities for improved dissemination of DRR practices.

The online platform is the first of its kind for CITYNET, where members can engage in discussion forums and share material with professionals from other member cities.

CITYNET developed the course considering the needs of member cities and disseminated examples of DRR initiatives as learning practices. In addition, participants cited various DRR initiatives and priorities taken up by other cities. This helps in tracking the progress of the cities and identifying challenges. In the long run, CYO expects the course to provide a database of various practices and initiatives related to DRR in member cities, organisations and institutions.

Figure 7. Disaster risk reduction issues in participating member cities

<table>
<thead>
<tr>
<th>Issue</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with Communities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evacuation Centres</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistent Drinking Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part of HFA or MCR Campaign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evacuation Manuals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Participants cited various DRR initiatives and priorities taken up by other cities, helping track the progress of cities and identify challenges.

In the long run, CYO expects the course to provide a database of various DRR practices and initiatives in member cities, organisations, and institutions.
References

Asian Development Bank (ADB)

Gu, C., L. Hu, X. Zhang, X. Wang, and J. Guo

United Nations International Strategy for Disaster Reduction (UNISDR)

United Nations Human Settlements Programme (UN-Habitat)

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)