



## Asian Network of Major Cities 21

## The 10<sup>th</sup> Asian Crisis Management Conference June 13, 2012 At Siam City Hotel, Bangkok

# **Post Conference Report**

### The 10<sup>th</sup> Asian Crisis Management Conference June 13-14, 2012 Bangkok, Thailand

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The Asian Network of Major Cities 21 and its member cities held the 10th Asian Crisis Management Conference as part of the network's joint project, Network for Crisis Management. The conference aimed to learn the lessons and share information and knowledge regarding urban crisis management among participating cities in Asia for enhancement of a stronger crisis management system in the region, in addition to promoting closer relationship among the member cities.

This conference took place in Bangkok, which was also the host of the conference, from June 13-14, 2012. There were various specialists from member cities such as Delhi, Kuala Lumpur, Manila, Seoul, Singapore, Taipei, and Tokyo, etc. attended the conference to discuss issues in accordance with its annual theme, "The Experience of Crisis Management in Major Cities" plus the following sub-themes:

- a) Experience, know how, skills and measures against calamities such as earthquake, flood and tsunami
- b) Characteristics of Disasters which have struck the member Cities and the systems and the measures for the crisis management
- c) Mechanism for Collecting, sharing and disseminating information

Date	Events	Location		
13 <sup>th</sup> June 2012	[Main Conference]	Siam City Hotel,		
	1. Opening Ceremony	Bangkok		
	<b>1.1 Welcome Address</b> by Mrs. Malinee Sukavejworakit, Deputy Governor of Bangkok, Bangkok Metropolitan Administration			
	<b>1.2 Address</b> by Mr. Toshiyuki SHIKATA, Counselor to the Governor of Tokyo, Tokyo Metropolitan Government			
	<b>2. Keynote Speech</b> by Dr. Sumet Tantivejkul, Committee Member and Secretary-General, the Chaipattana Foundation			
	3. Presentation Session			
	<b>3.1 Bangkok :</b> by Police Colonel Tevanuwat Airuh- Deva, Plan and Policy Analyst, Executive Level, Fire and Rescue Department, BMA			
	Topic : Management of Flood and Disaster in Major			

#### **Conference Schedule**

Cities	
<b>3.2 Bangkok :</b> by Mr. Vichai Somboon, Chief of Project Management Sub-Division, Drainage and Sewerage Department, BMA	
<b>Topic :</b> Flood Mitigation and Management in Bangkok Metropolitan Area	
<b>3.3 Bangkok :</b> by Dr. Petchpong Kumjornkijjakarn , Director of Bangkok Emergency Medical Service, Bangkok Emergency Medical Service Center Medical Service Department, BMA	
<b>Topic :</b> Medical response: Perspectives from Bangkok, Thailand	
<b>3.4 Delhi :</b> by Mr. Vijay Kumar Dev, Divisional Commissioner and Pr. Secretary (Revenue), Revenue Department, Govt. of NCT of Delhi	
Topic : Crisis Management Experience of Delhi	
<b>3.5 Kuala Lumpur :</b> by Lt. Colonel Noor Azam bin Johari, Commandant of North Territory Training Center, Malaysia Civil Defence Department	
Topic : Disaster Management: Flood	
<b>3.6 Manila :</b> by Mr. Ramon Juanco Santiago, Head, Flood Control Information Center, Metropolitan Manila Development Authority	
<i>Topic</i> : Preparing Metro Manila for a Strong Earthquake	
<b>3.7 Seoul :</b> by Mr. Ryoo In-Sung, Staff Member of Personnel team, Seoul Fire Department	
<i>Topic :</i> Sungnyemun Conflagration 20:50 February 10, 2008	
<b>3.8 Singapore :</b> by Mr. SAC Jackson Lim, Chief of Staff, Singapore Civil Defence Force	
Topic: Experience of Crisis Management in Singapore	
<b>3.9 Taipei :</b> by Mr. Tai-Shiung Lei, Senior Planner, Taipei Fire Department	
Topic : Disaster Prevention and Management of	

	Taipei City	
	3.10 Tokyo : by Mr. Hiroyuki Ito, Director of Crisis	
	Management, Disaster Prevention Division, Bureau of General Affairs, TMG	
	<b>Topic :</b> Direction of Disaster Prevention Measures Based on Lessons of the Great East Japan Earthquake	
	3.11 IOKYO: by Mr. Hidemi UI, Police Superintendent, Disaster Division, Security Bureau	
	Tokyo Metropolitan Police Department	
	<b>Topic :</b> TMPD Disaster Strategy Program Lessons	
	from The Great East Japan Earthquake	
	3.12 Tokyo : by Mr. Kaoru Amemura, First Assistant	
	Chief Director, Fire Technology and Safety Laboratory,	
	Tokyo Fire Department	
	Topic : Tokyo Fire Department Disaster Measures	
	Based on The Great East Japan Earthquake Field Studies	
	<b>4</b> Annual Poport of Secretariat by Mr. Takao	
	Yoshida, Director of International Joint Projects (ANMC	
	21), International Affairs Division, TMG	
	5. Selection of the next Host City	
14 <sup>th</sup> June 2012		Prakhanong,
	[Observation of Crisis Management Facilities]	Bangkok
	Site Visit at Phrakhanong Pumping Station, Drainage	

#### **1** Opening Ceremony

# **1.1** Welcome Address by Mrs. Malinee Sukavejworakit, Deputy Governor of Bangkok, Bangkok Metropolitan Administration

It is my pleasure to welcome all of you to the 10<sup>th</sup> Asian Crisis Management Conference in Bangkok. This is the first time ever that Bangkok has the honor to host a conference on crisis management at international level. I believe we all agree that crisis and emergency management is a very important responsibility for all city, particularly at the present when there is ever increasing occurrences of both natural and man-made disasters. We, at the Bangkok Metropolitan Administration, gladly welcome this opportunity for our colleagues from member cities of ANMC21 to share experience and exchange know-how in dealing with crisis of various types and scales.

I believe this meeting will be of much significant. It is not only an opportunity to help enhancing the crisis management capacity of each participating city, but also it plays an important role in achieving the ANMC 21 objectives of establishing strong Asian community and forging our emergence as a world leader region through a close cooperation among member cities. With this reason, I would like to encourage the commitment of all participants during this two-day meeting whose success will certainly benefit our people as well as the Asian community.

This time, though the meeting is a short two-day program, I believe there are plenty useful lessons and information we could learn from one another, particularly from presentations of various city representatives today and from a site visit tomorrow at the Phrakhanong Pumping Station and the Rama IV – Ramkhamhaeng Diversion Tunnel, the two strategic locations for Bangkok flood prevention.

I do hope that you make the most of your time here in Bangkok. I also wish this meeting the best of success and a fruitful outcome.

Finally, on this auspicious occasion, I would like to declare the 10<sup>th</sup> Crisis Management Conference open.

Thank you very much.

# **1.2 Address by Mr.Toshiyuki Shikata, Counselor to the Governor of Tokyo, Tokyo Metropolitan Government**

On behalf of all the ANMC21 member cities, I would like to express our deepest gratitude toward Deputy Governor of Bangkok Malinee Sukavejworakit and all participants from the city of Bangkok for their diligent efforts in preparing for this meeting.

The Asian region, which we call our home, is geographically prone to frequent, major natural disasters such as typhoons, floods and earthquakes.

Urbanization that accompanies Asia's economic growth and burgeoning population have brought in an increasing number of urban calamities such as high-rise building fires and localized heavy rainfall. Once disasters strike in cities, their effects tend to be magnified. City residents suffer not only from damage caused by the disaster itself hitting the city head-on, but also from secondary damage resulting from the paralysis of urban infrastructure.

Last year saw the outbreak of two enormous natural disasters, the Great East Japan Earthquakes and massive flooding in Thailand. Also still fresh in our memories are Typhoon Nesat, Typhoon Washi and other tropical storms that battered Southeast Asia in 2011.

The victims of these disasters endured great hardship, and what even worse, the disruption of industrial productivity struck a tremendous blow to the global economy.

Under these circumstances, this year's meeting is being conducted on the theme of "The Experience of Crisis Management in Major Cities"

This theme is right in line with the Seoul Declaration drawn up at the 10<sup>th</sup> ANMC21 Plenary Meeting in Seoul last year, which includes the statement "We shall share our know-how, technology and experience to prepare and ensure prompt response to disasters and effective recovery efforts."

The results achieved at this meeting, by extension all the ongoing efforts of the cities belonging to the Network for Crisis Management, will lead to the realization of the goals set forth in this Seoul Declaration.

It is my sincere hope that all the representative in attendance will not only make presentations on the initiatives their cities are implementing, but also engage in spirited discussions and share the experience and know-how of their respective cities so as to maximize the crisis management capacity of the entire Asian region.

Thank you for your attention.

#### 2. Keynote Speech by Dr. Sumet Tantivejkul, Committee Member and Secretary-General, the Chaipattana Foundation

Dr. Sumet thanked BMA for inviting him to share aspects of achievement carried out by our beloved King. He has the presentation on the royal initiatives by HM the King. Normally, the king does not have to be involved in this matter. However, the King is globally recognized as the Working Monarch because he has worked hard. Just like Queen Elizabeth, he is under the constitution and has the right to advice. While Queen Elizabeth does it annually, the King does it occasionally in many topics. About the flood last year, the press remembered the advice he gave 16 years ago and broadcasted it. However, no one cared to follow them at that time until people suffered from the flood.

The King works for the country as a Thai citizen. Throughout 65 years of hard work, he became unhealthy. He tries to avoid the duplication of work with other agents and works with the people. Dr. Sumet gave the presentation as the secretary generation of Chaipattana Foundation, which is the King's personal foundation. After receiving the money from his citizen, he gives it back to the people. Throughout his reign, he has initiated more than 4,200 projects to maintain his role as national consultant.

The King is an expert on water. 75% of his projects are about water. In 1986, he said the water resources were very important because they were the life source. The water involves

our life from the beginning of the day to the end. It is therefore both useful and harmful, depending on the management. If we would like to solve the problem of soil and forest, water is the start.

"From the sky, mountain to ocean" means his work starts from the sky to the mountain and ends at the sea. In the sky, the plane represents his project of "artificial rain" for the farmers in remote areas. The main idea is about 'natural'. Therefore, he uses the natural material like sea salt to stimulate the cloud. Many countries do not do this because our world is led by capitalism and cares only for the money-making projects. However, this project is charitable work. We cannot control the exact location for the rain to fall. So, it is the service from the Thai government. According to the King, "Our loss is our gain." The government must therefore subsidize for the people. What we gain is the people's less suffering.

When the rain falls, the first spot that gets an impact is the mountain peak. Since the number of people increases, the deforestation widely takes place and water resources are in poor condition. Other countries that may have snow or not enough natural water storages use forest as the natural storage. To solve the flooding problem, the solution must take place in the forest.

The management must start from the upstream to downstream. The King listens to the weather forecast every day so that he can promptly helps the people when crisis occurs. He does not overlook the ancient science like astrology. He also reminds us that we are in an angel city but he is not sure if the angel can survive because we are now living in the modern world with high technology and we have no respect to the mother nature. People look for exploitation and change it into the money. Eventually, we suffer for what we have done. Even though you have power, you cannot defeat the nature. It has been proved for many times. So, we must handle the nature with respect.

"Kaem Ling" (monkey cheek) is the natural approach. The king has it constructed since the deforestation occurs and causes flood. Dr. Sumet was assigned to find the location for its construction; therefore, he had to study the monkey's behavior. Eventually, he understood that the monkey keeps the food in the cheeks. So, we must construct the place to reserve the water and use it during dry season like the monkeys do.

Now that the deforestation takes place, we must grow the forest back by not growing trees. This can be done by water management. First, we built check dam with the materials like stones and bamboos to reserve the water on the mountain by slowing the water down (dripping system), not stopping it from flowing. Then, it causes the moisture and the forest grows back within seven years without growing a single tree because the life is still underground. It is the second generation forest. In Doi Saked, the miracle happens. Now, it is in the final stage, back to the original stage or evergreen forest. It is very easy for anyone to build the check dam.

In the middle of the mountain, the King saves the water and finds low-cost protein, which is fish, to feed people. Then, the water flows to the foot of the hill, which is the "economic forest", such as fruit orchard or plantation. Afterward, the water flows to the plain. The dam is still necessary but we need to manage it well and consider the suitable location. How much benefit we gain depends on the calculation. Our system can keep seven drops of rain out of 100. So, 93 drops flow down to Bangkok. That is why the flood occurs.

Our country is mainly agricultural. Mostly, we depend on the nature. Only 20% are under irrigation. The King also teaches his subject to depend on themselves by managing their

own land. About 30% of the land must be the pond to reserve the water during the dry season. About 30% grows rice or grains to feed themselves (self-sufficiency). About 30% grows things they eat. The last 10% is residential area. If everyone does this, they will be saved. Dr. Sumet gave a successful case in Jomthong, Chiang Mai province. The people made a small canal around the mountain and 'monkey cheek' to reserve the water. This is considered their success.

The water comes from mountain top to the village. Finally, it comes down to the city where people consume and pollute water. How to manage the waste and water pollution? The King advises people to use the natural approach. Formerly, there were a lot of water hyacinths. He applied the easy management approach by making plots of water hyacinths and letting the plants absorb the heavy metals. At the downstream, the water became cleaner. Every 30 days, the water hyacinth must be pulled out to make fertilizer. The young plants grow in the plot. We must know how to manage it properly. There are other 22 species of water plants that can be used the same way.

As an inventor, the King initiated the water purifier that consumes less energy and is easy to make. The popular models are RX (Royal Experimentation) 2 and 4. His 72 pieces of invention help improve the people's way of life. Petchburi province has the natural treatment called wetland system. The water is released to the sea by using natural power instead of machine. It passes mangrove areas first where the polluted water is treated for aquatic creatures. Therefore, his projects are from the sky to mountain and the sea. He went to see the wastewater himself and observe the water treatment at the plant. It is also the home of rare species of birds. The mangrove areas expand and we gain more land. The sea feeds us with seafood. This is the King's holistic management way.

The crisis, as the topic of this conference, is not about the city management. The problem takes place at the mountain. Therefore, we must solve the whole system by applying what we have learned, which is to prevent upstream, midstream and downstream. We cannot stop the water. Some countries move the capital city to avoid the problem. The King advises us to live with the crisis and turn it into opportunity. In the past, the houses were raised high. Holland builds the floating villages. We have to appropriately apply our knowledge. We should use the King's knowledge as the example. Anyone can study his projects.

#### 3. Presentation Session

#### 3.1 Management of Flood and Disaster in Major Cities with the theme of "GREAT FLOOD INCIDENT" BANGKOK 2011by Police Colonel Tevanuwat Airuh-Deva, Plan and Policy Analyst, Executive Level, Fire and Rescue Department, BMA

Bangkok is a part of Continental Shelf of Asia Meteorological application affected by geographical location, Equatorial. Causing severe weather system such as: tropical storms, depressions, and typhoons. Historically, there were major flood twice in Bangkok in 1942 and 1995. In 2011, the 42 of 50 districts wear flooded by huge mass of water overflow from the North area of Thailand.

#### **B.M.A.** reacts to the impact as the following:

- Preparedness on personnel, equipment and vehicles.
- Setting up B.M.A. Task Force Center to prevent and solve the in coming Flood, according to the Prevention and Mitigation Act B.E. 2550 and Bangkok Disaster Management Plan.

- Incident Action Plan and Contingency Plans were maneuvered in order to control the Flood.
- There are the Operation Sections consisting of Primary Operation Sections, Secondary Operation Sections and Logistics & Support Sections in cooperation with government sectors, NGOs and foundations of charities.

#### **B.M.A.** Management System and Concepts

Incident Command System: ICS has been applied on a case-by-case basis and designed management by objective (MBO) most incidents locally. Uses a standard set of organizations and procedures as same as the national level but smaller in term of personnel, resources, interactive components, incident location and facilities that enable diverse organizations to work together effectively and efficiently because BMA has her own governing body for instance. BKK-Council enable to enact her own City Laws and Enactments that cause the least possible disruption on existing systems and procedures.

#### **Flood Control**

According to the Bangkok Metropolitan Administration policy on Flood Control, there are six major measures refer to as follows,

- 1. Set up working groups.
- 2. Daily conference to prepare necessary information about flood situation.
- 3. Urgent conference to solve emergency incident.
- 4. Directing the execution of the IAP and/or Contingency Plans to the IMT assigned to perform tactical operation activities and response of flood risk areas or impact areas.
- 5. Participatory with community who vulnerable effected by flood to gain more sand bags.
- 6. Early warning evacuated when the water flooded its banks for safety measures.

#### The effect on social and economic

- 1. Contagion diseases infection
- 2. Casualties of flood victims
- 3. Physical injuries
- 4. Mental rehabilitations
- 5. Public health sanitation
- 6. Natural environment problems

#### **After Action Procedures**

- Rehabilitation-temporary asylums are being provided and health care is adequate.
- Reassessment of the damage and loss of the flood victims including infrastructures.
- Primitive Reimbursement for the victims are ready to hand-off
- Reconstruction of all damaged infrastructures and follow-up the procedures of victim's reimbursement from the National Government ASAP.
- Garbage collection and clean up the debris as well as natural environment. (Big Cleaning Day)

#### After Flood Assistance

- Medical services and Public Health
- Mental Health and treatment
- Home Visit Services
- Stray Animal & Pets care and temporary home centers
- Observe and protect epidemic from flood
- Environmental Management

#### **Obstacles on Flood Operation**

- There is need to up lift and increase the drainage system in Bangkok
- Public area trespass by over crowded migration cause many trouble to dredge canals and ditches.
- Community involvement and participation is very important to manage water protection walls and ridges. Disobey people may effect the flood Control system and face the difficulty to protect the ridges.

#### Suggestions and recommendations

- Short-term
  - 1) Reparation flood control embankment
  - 2) Supplement of flood dykes
  - 3) Enhance the drainage systems
  - 4) Inject the warming systems and floatation equipments and devices
  - Long-term

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- 1) Enlargement of flood dykes
- 2) Drainage system development
- 3) Law enforcement measure
- 4) Flood Risk Map
- 5) Subvention and Compensation Measure
- 6) Tax and Insurance Measure
- 7) Management of dams' rule curve
- 8) Management of Monkey Cheeks Projects
- 9) Establish of flood ways and diversion canals

#### Preparing for Flood in 2012

- Lesson Learned
- Seminars with all entities, public sectors, private sectors, NGOS, other agencies.
- Integration of Policy to prevent and response Flood disaster with 4 measures:
  - > Prevention measure : Risk Mapping

- > Mitigation measure : Preparedness
- > Assistance measure (Temporary asylum, Finding Housing, Employment)
- Rehabilitation/Reconstruction

#### **Disaster Management Initiatives**

- 1) Hydro-meteorological disaster mitigation
- 2) Community-based long lead Early Warning and Response
- 3) Participatory planning for disaster Mitigation program at local level
- 4) School- based disaster management
- 5) Communities linking arms for safety, disaster preparedness and resilience
- 6) Ensuring participation of vulnerable groups and harmonizing NGOs and charity foundation effort

#### Conclusion

In the global climate system during the 21st century that would very be larger than those observed during the 20th century. The Global warming is now recognized as a serious threat to human civilization.

Therefore, many countries are initiating their own IAP (Incident Action Plan) to prepare and mitigate global warming problems. Disaster risk management meeting were inaugurated almost everywhere in the world in order to share experiences and recommendation on current disaster risk management related programs and activities.

In the meantime, there is money to be made. Big money. The doomsday has always been a great marketing tool. Many people believe the world may soon end. They cite a variety of signs, including certain calendars devised by the ancient Egyptians, early Christians, and Native Americans, not to mention astrological charts.

The options available for how to meet the end of the world are broad. You can put on a costume and await a spaceship off, you can bury yourself in a Montana bunker (\$ 5,000 each), or you can join group in Jerusalem to build the prophesied Fourth Temple. For the investment-minded, sells "Future maps, join the Voluntary Human Extinction Movement, gun merchants use anxiety to boost sales, disaster survival kits is the cheapest way to purchase.

In terms of disaster preparedness, construction of sea walls, water protection walls, diversion canals, drainage systems, evacuation centers and many other benefiting mitigating measures in preventing massive destruction of typhoons and natural calamities. Training of staff and volunteers for disaster readiness and response is also another projects as part of its capacity building for disaster management curriculums as effective tools for preparedness.

In the implement, we found that the level of coordination in the district level is still weak regarding disaster management. Therefore, the benefit for local government and local leader could actively help initiated partnership between institutions in the government and link with NGOs and communities/schools on the first aid assistance mechanism and establish incident action plan between public and private sectors for follow up actions and activities when disaster strikes the area, the staff should be able to response effectively so that loss of lives, properties, and development investments can be keep minimal. Besides, the staff also will understand the rationale of emergency response and community development concepts; so that they will be able to apply them appropriate without contradiction. These programs may consider as "The World Vision's Rule".

#### 3.2 Flood Mitigation and Management in Bangkok Metropolitan Area by Mr. Vichai Somboon, Chief of Project Management, Sub-Division, Drainage and Sewerage Department, BMA

The map showed Chao Phraya River, the largest river in Thailand. Bangkok, located at the downstream and delta area, is flood-risk area. There are three rivers. Chao Phraya River is in the middle, Tajeen on the left and Bangpakong on the right. Chao Phraya River Basin is 159,000 sq.km.

The size of Bangkok is 1,568.74-sq.km., with the middle height above sea level. The highest level above the sea is two meters. The middle of Bangkok is lower. The map of land-use area in 2009 showed registered population 5.7 million people. Moreover, there were four million commuters during the day. So, Bangkok had almost 10 million populations. Now, it has almost 11 million people.

The areas along Chao Phraya River are 35% of the total area, divided into the upper and lower part by Chao Phraya Dam in Chainart province. The inner area in red is the flood-risk areas, 35,000 sq.km. Community, with 12 million people, lives on 1,800 sq.km. The 17,000-sq.km. rural area is the home of two million people. The 16,000-sq.km. farming area has three million residents. Even though the area is very small, the damages are significant. The flood occurs every three to five years but it is not severe. However, it is severe in 2011.

Thailand has five to six major dams to manage the water. The largest one is Bhumibol Dam that can contain 13,000 million cubic meters. The EGAT is in charge of the dam. The main objective is to generate the electricity. The secondary objective is to be water resources for farmers and prevent the flood.

The slope of Chao Phraya River is steep. It takes four days for the water to flow from the Dam to Ayudhya. From Ayudhya to Bangkok, it takes longer. In total, Bangkok has nine days to prepare itself. The minimum flow capacity to retain the water from Nakornsawan is 1,300 cubic meters/sec while the maximum is 3,000 cubic meters/sec. If it exceeds the maximum, the flood will occur in Singburi. Bangkok can contain 3,000 – 3,500 cubic meters.

Bangkok is located in the lower basin-shape land. In the north, it is 1.6 m. above sea level. The water easily gets into the city but it is hard for the drainage. So, Bangkok constructs the dikes to prevent the flood. If the dikes are broken, the water will flood the city.

In 1995, Bangkok had flood problem. The water volume was 5,461 cubic meters/second, increasing the water level in the river to 2.27 m. The next severe flood was in 2011. The flow capacity was 4,900 cubic meter/second but the high tide increased the level of water in the river to 2.53 m. Another factor is the urbanization and accumulated rain volume. In 1991 – 2010, the average volume is 1,638 mm. Then, it gradually increases by almost 30%.

In 1995, the flood occurs in wide areas, especially in the risky areas. The level of flood is 0.5 - 3.5 meters. In 2006, the situation was not serious because BMA constructed the dikes along the river bank.

The problem occurred last year because it rained in the northern part but it was not serious. In 2011, the city faced the crisis because BMA constructed dikes along the river. There are also dikes in the plain, which were the royal initiatives. People living outside the dikes faced serious problems. There are many ways for water to flow back. BMA cooperated with the government to direct water through the city and drain the flood. Since Bangkok is the basin, it still has some problems.

Ayudhya faced the serious flood as well as Thammasat University and industrial estates.

To prevent the flood, BMA opened water gates to drain the water as much as possible. So, 42 districts were flooded. The red zone is the evacuation zone, next to the dikes. The problem lasted less than a month.

BMA divides flood protection into two systems:

- 1. Flood protection systems: Dikes are used to protect discharge from upstream and 75.8 out of 77 km. of dikes are currently completed. The dikes in the plain is constructed with 72 km. length and two meters high.
- 2. Drainage system: Royal initiative project to build floodway can prevent flood for 60 mm/hr.

Improvement of Bangkok Flood Protection:

- 1. Short-term: Increase the efficiency of drainage systems and initiate warning system
- 2. Mid-term: Repair flood walls along the Chao Phraya River
- 3. Long-term: Increase the capability for pump systems

#### Q&A:

1. What has happened during the last flood?

Garbage is the main problem, causing damages to the city. We therefore gather agents to handle the problem.

2. The city in the upstream and downstream should be more cooperative to mitigate the damage. What do you think?

We have a taskforce committee that decides how much water should be released to Bangkok. When we have the amount, we construct the dikes to prevent the flood. This is the cooperation between BMA and the government. 3. According the graph in page nine, the water level in Bangkok rose very high up to 2.53 meters. Why the water level in Bangkok, compared to the previous year, rose very high?

There are many factors. First, the sea level was higher (almost 30 cm.) than the past. The second factor is the impact of urbanization or confinement effect.

# **3.3 Medical response : Perspectives from Bangkok, Thailand by Dr.Petchpong Kumjornkijakarn, Director of Bangkok Emergency Medical Service, Bangkok Emergency Medical Service Center, Medical Service Department, BMA**

Population of Bangkok is 5.9 million. Total number of hospitals both public and private sectors are 103 hospitals divided into 8 hospitals for BMA, 10 hospitals for Non-BMA and 79 hospitals for private hospitals including 68 health centers.

For Bangkok Flood 2011, Flood Relief Operation Center under supervision of National Level. While the structure of B.M.A. Operation Center is Provincial Level that consists of Bangkok Governor, Secretary General, Primary Operation Section and Secondary Operation Section.

The structure of Medical Service Department of B.M.A. includes Emergency Medical Operation Center divided into Operation Section, Planning Section, Logistics Section and Administration and Finance.

During Flood crisis in Bangkok, BMA provided temporary shelter in corporation with Culture Sports and Tourism Department and Education Department. Schools were set up to be temporary shelters for 1,333 family or 5,529 people.

How to control Disease: Sanitation, Pest/Insect control and Surveillance

Planning for Emergency Response is multidisciplinary and multi-sectorial approach and classified hospital risk in group: flash flood, flush/flood way, river and canal effected by tide, high risk, moderate risk and low risk (Central Bangkok Area).

Patient Care during Flood in case of emergency was to increase call taker agent and convert land to marine emergency medical service in flooding area. For non-emergency case included mobile medical team, mobile hospital team and field hospital.

Post event medical care has been provided by means of multidisciplinary and multi-sectorial approach Medical care and Stress Management.

# **3.4** Crisis Management Experience of Delhi by Mr. Vijay Kumar Dev, Divisional Commissioner and Pr. Secretary (Revenue), Revenue Department, Govt. of NCT of Delhi

Delhi is the capital city located in the northern part of India and divided into nine districts. The Yamuna river divides Delhi into two parts - east and northeast. It is the largest metropolis by area in India and the second largest by population. The city is the 8<sup>th</sup> largest in the world by population. The Yamuna River flows through the eastern part of Delhi. The national capital territory of Delhi spreads over an area of 1,483 sq. km. The climate is extreme continental. In 2011, the population is 16.5 million. Delhi is vulnerable to terrorist attack, earthquake, road accidents, and flood (moderate to high).

The city is susceptible to tectonic earthquake originating from Himalaya as well as nearby fault zones. Entire Delhi falls under earthquake zone IV and earthquakes up to 6.5 Richter scale can occur. A large number of buildings are susceptible to risks.

Regarding the flood vulnerability, district of northeast, north, northwest, southwest and south are affected by flood. Since 1900, Delhi has experienced six major floods in the years. The highest risk form floods comprise 15,000 families living in the villages.

It is also vulnerable to fire. About 70% of fires are estimated to occur due to electrical causes, mainly short circuiting. In residential areas, the fire is caused by illegal storages of risky substances with poor ventilation.

For epidemics vulnerability, monitored in Delhi are cholera, gastroenteritis, acute diarrhea, infective hepatitis and typhoid. Furthermore, food poisoning, viral fever, meningitis and dengue fever are monitored.

In 2005, Delhi enacted "Delhi Disaster Management Authority", with the Honorable Lt. Governor as the Chairperson and Honorable Chief Minister as Vice Chairperson, to conduct action plan at provincial level. The general officer commanding (national army) is also a member.

At the district level Deputy Commissioner (Revenue) acts as a chairperson. Function is variously divided. For example, problem-related communication is the responsibility of MTNL. The evacuation requires Police Department while Security Home is in charge of Search and Rescue.

For response mechanism, Emergency Operation Centers are established in all districts and headquarter office. Standard operation procedures for earthquake, fire, flood and building collapse as well as sub-divisional response team are in operation.

In terms of preparedness, metro, hospital and industrial units made plan for the city in 2005. Awareness campaign was also undertaken and several programs have been drawn. Lastly, mock drills were undertaken for the training of civil defense in crisis management activities.

Professionally qualified personnel were trained to deal with the event, such as search and rescue. The city also established state-of art emergency operation center. Delhi wants fully computerized center to support the function. One issue is that various departments could not communicate with each other because each has its own network and frequency. So, the city needs wireless system to minimize time loss and strengthen ESF. Appropriate equipment are required to deal with affected areas. Moreover, Delhi needs to establish warehouses for material storage and rehabilitation of affected people. Quick response team, including computer based modeling and earthquake scenario, is required to spread all over Delhi to effective respond the function. Lastly, the medical preparedness will take place in July 2012.

#### **3.5** Disaster Management: Flood by Lt. Colonel Noor Azam bin Johari, Commandant of North Territory Training Center, Malaysia Civil Defence Department

Flood is natural hazard in Malaysia. 29,000 sq.km. or 9% of total land area of Malaysia are flood prone. Flood affects 2.7 million people or 15% of Malaysian population. Our government has various strategies and programs that has been implements to address the problem of flooding on nationwide basis. Besides, a disaster relief mechanism has also been established to carry out relief operations in the event of a major flood disaster. Assistance to flood victims and covers various emergency relief operation such as: dissemination of information for people, rescue and evacuation of victims and provision of emergency food supplies, emergency clothing, health and medical care

Natural Disaster Relief Committee is set up to counter flood. The Committee consists of Government's Chief Secretary, Army General, Inspector General of Police, Minister of Finance, Minister of Social and Welfare, Minister of Natural Resources and Environment, Minister of Science, Technology and Innovation, MACRES, Fire and Rescue Department, etc.

The flood relief and operation is based on the National Security Council Directive and the Operation Procedure No: 29 published by the National Security Council. There are 3 levels :

- 1. Alert Level Department of Irrigation and Drainage (DID) monitors closely the flood situation.
- 2. Warning Level Department of Irrigation and Drainage informs relevant flood control centres to activate the flood relief mechanism system.
- 3. Danger Level Warrant evacuation of flood victims.

People can get online information via InfoBanjir webpage: <u>www.water.gov.my</u>, portalbanjir.mkn.gov.my, bencanaalam.jkr.gov.my

Also we have Short Message System (SMS) MySMS 15888 Services alert to relevant officers in charge of government agencies.

#### Conclusion

Malaysia has to manage the problem of flooding which if uncontrolled, can pose a major obstacle to its socio-economic development planned.

Government incurred more than RM4 billion to implement structural and non-structural measures to mitigate flood damages for the last 10 years.

#### 3.6 Preparing Metro Manila for a Strong Earthquake by Mr. Ramon Juanco Santiago, Head, Flood Control Information Center, Metropolitan Manila Development Authority

Mr. Santiago presented operation plan focusing on earthquake emergency. Like Japan and Taiwan, Manila faced seismic quake along the West Pacific rim. Thanks to the help of Japanese government in 2002 – 2004, there is a study to determine the strong earthquake in Manila and earthquake generators were identified. Top three worst earthquake generators

are 7.2 magnitude of earthquake, tsunami generating earthquake and strong ground shaking with the magnitude of 6.5.

Comprehensive vulnerability includes building collapse, flammability and evacuation difficulty. The map indicates the potential separation of different parts to Manila, making it difficult to access and affecting emergency services. It shows different affected areas in Manila. Red zone involves more severe damages. Totally, 1,325,896 or 40% of residential structures were damaged by the earthquake because of the materials used for construction. It therefore led to 35,000 deaths and 113,600 injured people. The quake also impacts the lifelines and threatens the water resources of Manila.

The main recommendation focuses on five areas:

- 1. Strengthen legal framework and institutional capacity for disaster management
- 2. Build capacity for relief and recovery
- 3. Strengthen community preparedness for earthquakes
- 4. Reduce seismic dangers of residential structures
- 5. Enhance national system to become resistant to impact of earthquakes

Safe Metro Program is established to:

- 1. Raise public awareness, knowledge and consciousness towards seismic safety
- 2. Make equipment and resources immediately available to the people to enable them to quickly organize and respond to earthquake emergencies
- 3. Enhance institutional and public capacities to plan for the worst-case disaster events and enable them to undertake appropriate measures
- 4. Strengthen the structures and improve present state of social conditions to cope with earthquake disasters

The city established a center that links with 17 local government units and has its own organizations with strong team members for emergency response as well as volunteers. Moreover, it links with national organization for different concerns. It also links with the private broadcast network to disseminate the warning to the public. The city tries to enhance the resources with better communication to bring down the command structure to the lowest level as possible. For example, it established the mobile communication equipment by spending almost 10,000 USD.

Since the communications and information flow is crucial, it currently tries to make the incident mapping and management software to keep track of resources and incidents. Now, Manila has about 100 cameras around the city but the city will eventually cover the larger amount. Furthermore, it prepares resources for emergencies. All staff is trained for the preparedness as the drills in Disaster Response Organization. It also tries to mobilize public volunteers.

"Yakal" comes from the tree that can resist strong movement and weather. Therefore, "Metro Yakal" emergency response planning is formulated:

- Pre-deployment of resources based on potential damage areas and possible isolation
- Major road network prioritized for debris clearing for services and evacuation
- Pre-identified evacuation sites and staging areas
- Alternate routes to key facilities
- Pre-designated emergency assembly areas
- Disaster response tools and equipment field storage units (DRETFSUs)
- Contents and locations of DRETFSUs

- Manila tries to stockpiling essential items, such as mobile water treatment and purification units. This includes tents and power generators distribution to LGUS.
- Earthquake search and rescue training
- ELSAROC training for university students
- Participation of individual, community, government and non-government organization is important.

The help is divided into self-help and mutual help.

#### 3.7 Seoul: Sungnyemun Conflagration 20:50 February 10, 2008 by Mr. Ryoo In-Sung, Staff Member of Personnel team, Seoul Fire Department

Briefing Disaster: Sungnyemun Conflagration happened on 20:50 pm. On February, 2008, located on Namdaemun-Ro, Jung-Gu, Seoul. Cause of the incident is the arsonist who had big discontent about land compensation broke into the west door and ignited thinner with lighter on the second floor in Sungnyemun.

Sungnyemun is No. 1 National Treasure. Its structure 2-story wooden building with a tiled roof. At that time, the weather was cloudy, temperature : -5.3 °C in the Morning, 3.4 °C at noon, Wind strength : Northwester 1.8 %, Humidity 58%

The fire extinguish equipment consists of 8 Fire Extinguishers and 10 Fire hydrants.

The damages of the incidents : There was no human death, property damage was estimated \$10 million. The Mobilized Fire Forces composed Personnel : 360

(Firefighter 330, Police 20, KEPCO 5, Others 5) and Car : 95 (Pump 22, Tank 33, High Ladder 7, Bending ladder8, Rescue 4, EMS 3, Lighting 2, Command 2, Others 14)

The problems are as the followings:

- 1. Lack of Knowledge about Traditional Korean House Structure
- 2. Unprepared Firefighting Manual on Wooden National treasure
- 3. Unprepared Civil Network for mobilizing Heavy Equipments
- 4. To make a hole into Sungnyemun Roof
- 5. Short Firefighting drill of Cultural Heritage Administration
- 6. Insufficient cooperation system of related organization

Here are the countermeasures:

1. Understanding Characteristics of Cultural asset structure and Preparing Specialized Equipments

- 2. Continuous Joint Drill with Cultural Heritage Administration
- 3. Making manual for protecting Wooden Cultural assets

# 3.8 Experience of Crisis Management in Singapore by SAC Jackson Lim, Chief of Staff, Singapore Civil Defence Force

Mr. Lim started the presentation with the VDO about Fire in Pulau Bukom Island and how Singapore successfully dealt with it.

He made two points:

- 1. Having system and framework is not enough.
- 2. We need to engage all stakeholders beyond awareness and do it on a sustainable basis.

The fire was a big incident. Singapore has Incident Management Framework. Once a major disaster occurs, the city needs more than one agencies to handle the incident on site. This is called the Whole of Government Approach, involving more than 27 agencies to work together, such as SCDF, police, army and maritime port authority.

Co-ordinated Ground Command is conducted to meet the need and provide them with communication and electronic means. Singapore briefed the media what was going on. Having framework alone is not enough. We have to work the plan and do the exercise at least once a year. Singapore has electronic system to record on site. Mr. Lim also meets his staff twice a year to know them face to face.

For the second point, emergency authority needs to be really involved with the other end to better combat the disaster. The emergency response team is set up and it goes beyond awareness. Within eight minutes, the fire must be extinguished. Since it is chemical, eight minutes might be too long. The country trains and equips people. Moreover, it makes sure the team can deal with the issue by testing them. Singapore has special NGO to support national authority.

It also provides Industry Mutual Aid to fight chemical fire. The company must work together with the government by investing in equipment and people.

Talking about safety alone is not enough. Mostly, Singapore has man-made disaster; therefore, the security dimension involves. The country can prevent it by bringing safety and security group of people together to deal with it.

#### Q&A:

1. Who is the incident manager? Is the manager very powerful? Singapore must deal with man-made disaster.

Incident manager, commissioner can make strategic decision. If need to make policy change, have to refer to the Minister. If there is a highjack of aircraft resulting in death, it is the police who are incident manager. The principle lies on who can make the greater impact and bring the incident to the end. We test the plan every year to make sure it works.

About the jet, we have planes in place to extinguish the fire.

About terrorism, we work with the military. If the terrorists run around, police will deal with the issue. They have to learn to wear helmets and vests. We have detailed plan. When the threat has been removed, other agent takes part. We collaborate with one another.

#### 3.9 Taipei: Disaster Prevention and Management of Taipei City by Mr. Tai-Shiung Lei, Senior Planner, Taipei Fire Department

Taipei City is located at a basin surrounded on 3 sides by mountains and crossed by rivers. About 55% area are hillsides and the geology is fragile so easily cause serious damage. Taiwan is an earthquake proned country. Hence, there is this shadow that cast on every citizen of Taipei. Earthquake and typhoons are frequently happening in Taiwan. These disasters cause huge loss and damages in Taipei and all over the island. Average 3.5 typhoons attacked Taiwan per year.

Every year from May to November, Taipei City is often affected by the server weather like Mei-yu fronts – afternoon, thunder-storms and typhoons. According to statistical data, there are 417 typhoons invade Taiwan between 1897 and 2010, the peak frequency is in August, followed by July and September.

Development of Disaster Prevention System includes river protection projects, construction of storm drainage system and typhoon monitoring system. Main equipment to protect the disaster is composed of manual pump, electric instrument, automation of pumping station, river conservation, rainfall storage pool, torrent control as well as comprehensive flood management plan.

Efficiency and management of system is one of vital factor to prevent disaster. Therefore Modern Emergency Operating Center is set up. Its vision is information collecting center, comprehensive communication network and complete database network. Target of the center focuses on multi-purpose Commanding Center, integrated resources system, full time working operation and friendly interface and space for use.

Decision making is an supporting system to collect information concerning typhoon route, typhoon warning sheet, satellite contour and earthquake report, in addition to disaster prevention information network such as platform for decision making and potentials data analysis, integrated disaster information collection system and integrated resource management system as well as database of disaster rescue resources.

Mr. Tai-Shiung Lei presented flooding potentials scenario and earthquake scenario.

# **3.10** Direction of Disaster Prevention Measures Based on Lessons of the Great East Japan Earthquake by Mr. Hiroyuki Ito, Director of Crisis Management, Disaster Prevention Division, Bureau of General Affairs, TMG

Mr. Ito talked about the disaster prevention measure based on Japan Earthquake. Last year, Japan suffered from the earthquake that hit Tokyo. The authority must protect life and maintain the function of Tokyo. Therefore, it must build prevention measure. To enhance the capability, TMG set disaster response guideline with 2 pillars: 1. Enhancement of the

individual organizations' disaster prevention capability and the cooperation among organizations 2. To be prepared for any kinds of situation, the individual organization should be enhanced and redundancy of measure is required. It means the security of the backup.

To enhance the organization's capability, there are 11 sub-sets. For the redundancy of measure, there are 12 sub-sets. Mr. Ito focused on the establishment of neighborhood union, measure for stranded commuters, fire resistance measure for wooden housing dense areas and preparation for flood area along Tokyo bay.

The first pillar is the enhancement of the organization's cooperation during disaster, TMG has two sub-set measures. The first one is mutual assistance and measure for stranded commuters. First, people need self-help to protect their lives and mutual help to protect their community. Then, they have public help offered by the local or national government. TMG focuses on mutual help, which people can help one another. In 1995, Japan had a great earthquake. Over 90% of people trapped in the buildings were rescued by people in the neighborhood. Furthermore, regular drills are conducted. During tsunami, students in junior high help younger children. So, there was not severe damage in that area.

To enhance the awareness of disaster and enhance the mutual help, Tokyo conducted seminar or training regarding disaster to community leaders or share the information of other areas with advanced activities. TMG sent expertise to the designated areas to get young people involved in the activities.

There are several voluntary activities. One is the voluntary firefighting for initial situation. The transportation and safety check is necessary for people in need for evacuation. People are trained to set up the evacuation shelter locally.

The next topic is the measure for stranded commuters. Tokyo has 30 million people and a lot of them commute. During disaster, transportation may be paralyzed. Many people cannot go home. During the earthquake, 26% of people or over 3.5 million people became stranded commuters. The authority needs the cooperation from companies for the self-help and measure to minimize the number of stranded people. It therefore encouraged people to stay where the disaster hits. According to the regulations, the company's owners are required to stockpile food and water for the staff for three days. TMG also requires transportation to protect the users and required the schools to protect students. TMG therefore needs to secure the communication platform and find alternative transportation. Based on this measure, companies must participate in self-defense drill on a large scale, with 10,000 people, so that the city can come up with better ideas to deal with the disaster.

Second issue is the redundancy of measure. There are areas packed with wooden houses in Tokyo. When the earthquake hit those areas, wooden houses were seriously damaged by fire or collapse. The authority worked on quake resistance refurbishment and tried to develop the road. TMG tried to construct the buildings along the road highly resistant. Furthermore, the authority secured the transportation. Also, it planned to set up fire-break belt to protect areas from spreading fire.

For the measure against the flood, there are 107 rivers and the total length of river is 108 km. There are 1.5 million people live along the rivers. Tokyo therefore needs to prepare during the high tide or rainfall. Furthermore, there are underground spaces in Tokyo like subway and underground streets. TMG works on the enhancement of disaster prevention measure with equipment and facility. The east side of Tokyo is located below sea level. There is a gate to prevent the flood in that area. For facility, the city will enhance the

earthquake resistance and establish the redundancy of communication and operation center that controls the water gate.

Because of the flooded river in the past, the city built underground regulation reservoir. This facility is 30 m. deep underground, with 4.5-km length. Therefore, 54,000 sq. cubic meter of water can be retained. By building this facility, the area is not suffered from flood anymore.

Based on the lesson from earthquake, Tokyo conducts different measures to prevent the citizen in Tokyo and maintain function in Japan.

#### 3.11 TMPD Disaster Strategy Program Lessons from the Great East Japan Earthquake by Mr.Hidemi Ui, Police Superintendent, Disaster Division, Security Bureau, Tokyo Metropolitan Police Department

Strengthening of diverse organizations' emergency response capabilities – Enhancement of Police Department disaster response capacity.

Due to casualties and damage in Tokyo in the Great East Japan Earthquake, Tokyo has intensity 5 or more at the maximum: 7 death 7, 116 injuries, houses totally/partially destroyed over 3,500 and number of fires 33.

Situation in Tokyo when the Great East Japan Earthquake occurred are as follows: 1. Transportation system disrupted: railway services stopped, metropolitan expressway blocked, regular road jammed

- 2. Large number of passengers stranded
- 3. Communications problems occurred: communications restricted

Major Features of the program are: Community-based Partnership is to educate people by combining of the "Self-help" and "Mutual-assistance" Spirits. This force consists of local government, police forces, fire forces and others, public transportation companies, neighborhood associations, cooperative groups and utilities companies. We select the pilot police station for the partnership (five stations). That is

- 1. Waterfront tactics
- 2. Tactics for stranded commuters
- 3. Development of voluntary organizations
- 4. Tactics for the densely housing areas
- 5. Tactics for the elderly at facilities

Our development enhances capabilities of emergency response such as emergency response, form police station rescue teams.

After disaster, traffic management is another issue to handle. There are 2 stages of management. The first stage is to restrict the traffic to central Tokyo, secure roads for Authorized Emergency Vehicles. To expand or shrink the restriction areas is the second stage.

#### 3.12 Tokyo Fire Department Disaster Measures Based on the Great East Japan Earthquake Field Studies by Mr. Kaoru Amemura, First Assistant Chief Director, Fire Technology and Safety Laboratory, Tokyo Fire Department

In the firefighting area, the department conducts on-site survey and compiles reports. Based on those reports, the basic policy is amended and new challenges are added for specific countermeasures.

Tokyo Fire Department enhances capability and measures from the earthquake. The tsunami and nuclear explosion caused major damage.

Out of the report, he talked about the fire. How do the firefighters work when the available roads are limited? The emergency team coming from all over Japan must get supplies for firefighting and cover a wide range of areas. It took several weeks to put out the fire. The fire department has tried to use various measures. One of them was to use the deep wells at 150-m. depth. There are submersible pumps for firefighting and people can also drink the water. In 4 years from now, Tokyo plans to add deep wells.

In the area of wooden houses, the roads are narrow and the vehicles cannot enter. Furthermore, the public firefighting cannot cover. So, it needs self-help and mutual help. The city adds standpipes in the neighborhood for the initial firefighting. Moreover, the department plans to repair the existing equipment.

The intact fire hydrants are distributed to local community. The residents can connect them directly to fight the fire. The fire station also offers the training programs to the citizen and the number of training increases.

Long-period ground motion is a new threat. Osaka was damaged from the vibration. At the high story, the tipping or fallen furniture can cause injury and damage. As the countermeasure, people need quake resistant measure and lock the equipment to assure the safety zone in the room. People work in high story must attend the preventive campaign to protect themselves.

Lastly, how does the fire department enhance firefighting ability? Recognizing the usefulness of helicopter, the department decides to add one helicopter to the unit and hyper-rescue team for the special mission.

On March 11, it was a cold day. Area struck by quake was covered by snow. Team also fought the cold weather, which it will continue the preparation in the future.

#### Q&A:

1. (Singapore) because of the lesson learned from Japan's earthquake, TMPO starts to build strong rescue team. Now that both police and fire department have rescue team, how do they cooperate and respond to the incident? Who is in charge?

If it requires fire fighting, fire department will be in charge. It depends on the situation. All related organizations should work together.

# 4. Annual Report of Secretariat by Mr. Takao Yoshida, Director of International Joint Projects (ANMC 21), International Affairs Division, TMG

ANMC21 last year adopted the Seoul Declaration at the 10th Plenary Meeting in Seoul.

It acknowledged that the Asian region is prone to large-scale disasters, and decided to promote sharing knowhow, technology and experience to respond and address disasters.

Regardless of the Seoul Declaration, the network has already embodied the declaration's vision and has shared much knowhow, technology, and experience by implementing several programs.

We hold an annual conference every year in ANMC cities to discuss and share the crisis management issues.

We have several training programs for the Asian cities officials engaged in crisis management.

We also set up a mailing list to share crisis management information among crisis management officials.

In the 1st program, the Asian Crisis Management Conferences (ACMCs) are indispensable opportunities for us to share the know-hows, techniques, and lessons from the large disasters.

This Bangkok conference, in particular, has discussed each city's experience to combat large-scale disasters.

The second program is "Human Resources Development" programs.

The first one is the International Urban Search and Rescue Course, a training session held by the Singapore Civil Defense Academy.

In addition to providing knowledge on practical rescue techniques, the course was a great success in building a network between rescue teams of different countries. Last year, Taipei team joined this course, and Tokyo will attend the program in this September.

The second is the Rescue Techniques Course held by the Tokyo Fire Department. The course consists of two stages: The First stage is leadership training in Tokyo, and the second stage is a follow-up training held in the participant's home country.

In the leadership training, several trainees from a city are trained in Tokyo for two weeks to be the leader who can train fire-fighters in their own city.

In the follow-up training, instructors dispatched from the Tokyo Fire Department and the trainees who joined the leadership training collaborated in the three-week training for the firefighters in the city.

In 2011, the Jakarta City joined this course. Two members learned in Tokyo last November.

Tokyo fire department dispatched 4 members to Jakarta last November to instruct as many as 34 Jakarta fire-fighters. They all showed a keen interest in the Tokyo's rescue techniques, and asked a lot of questions to the instructors.

The third one is the joint trainings in the Tokyo comprehensive disaster management drill.

Sixth years have passed since the ANMC21 city first attended this training in 2006. And because of the disaster caused by the Great East Japan Earthquake, the Tokyo Metropolitan Government pushes back from the late August to the late October last year.

It also reviewed its program to incorporate the consequences of the disaster, and included the blind training, in which the trainees who join this drill do not have enough information on the situation. The members of the overseas team expressed that, although the time was limited, the training was productive in learning and understanding rescue procedures and techniques practiced in Tokyo while appreciating the differences from those in their home countries. This year's drill will be held this coming September 1.Teams from Seoul, Singapore, Taipei, and an observer, New Taipei, announced their attendance to this training. We are really looking forward to seeing these four teams actively collaborate each other in this training, and make a great achievement.

The last program of the network is the Emergency Hotline, a mailing-list that registers 44 crisis management staff members from every city. It sends out information on disasters and their prevention, both in normal times and in case of emergency.

Last year and early this year, the hotline has sent out information 23 times.

In the 9th Asian Crisis Management Conference, we shared the information through the hotline on the huge disasters like the flood in Bangkok, Typhoon Nesat that struck the Philippines, and Heavy Rain in Seoul. We are having the 11th ANMC21 plenary meeting in Singapore on June 30. The secretariat of the network for crisis management will explain the several programs that have embodied the Seoul declaration and have contributed to sharing knowledge, and experience on many disasters, especially focusing on the outcome of the Seoul and the Bangkok conference.

The first thing is the observation at the Tokyo comprehensive disaster management drill. This was already announced to every ANMC21 city. The application deadline is on June 27.

In addition to the observation at the drill, we are planning to take you to the Tokyo Fire Department, and The Tokyo Rinkai Disaster Prevention Park to see Tokyo's efforts to address disaster, and crisis management.

The last one is the workshop scheduled in January, 2013.

To further promote the Seoul Declaration's vision of sharing experience and knowledge, Tokyo is going to hold a workshop on the countermeasures against flood, storm surge, and tsunami. Site visit to the related facilities will include the underground reservoir, which temporarily holds a huge amount of rain water to prevent floods. The details are to be determined. Tokyo will send you the invitation to this workshop soon.

#### 5. Selection of the next host city

The meeting agreed to vote for the Metro Manila as the next host for the ANMC 21. The representative from Manila welcomed the vote and mentioned that the next meeting will further build upon the knowledge, especially on technical skills and modules to provide necessary upgraded firefighters.

The meeting was closed at 5.30 pm.

# APPENDIX

#### **Summary Statement**

#### Of

## The 10<sup>th</sup> Asian Crisis Management Conference

## June 13<sup>th</sup> – 14<sup>th</sup> , 2012, Bangkok

At the 10<sup>th</sup> Asian Crisis Management Conference, ACMC, which was held in Bangkok at Siam City Hotel on June 13, 2012. The participating cities that joined the Network Crisis Management, an Asian Network of Major Cities 21 Joint Project, were Delhi, Kuala Lumpur, Manila, Seoul, Singapore, Taipei, Tokyo and Bangkok.

With the corresponding development of ANMC 21 member cities, their presentations suggested summary and conclusion on various topics of disaster prevention and mitigation activities at local government level under sharing the main theme of "Management of Flood And Disaster in Major Cities". The Chairman's statement, hereby summarized the outcome of the conference resolutions are as follows:

The commitment to sustainable development, as one of the crisis management has also involved in the progress, supporting member cities in terms of measures, training and emergency hotline.

Sharing and discussing current practices and experiences, the conference participants highlighted the benefit in local government level disaster preparedness, particularly in flood emergency response, lessons of the earthquake, firefighting activities and disaster initiation and management framework. The participants noted that sustainability of disaster risk reduction activities need local government support and cooperating response to disaster among member cities of Asian network of major cities, ANMC21. Besides, boosting the disaster prevention capability of various organizations and improving cooperation between organizations, strengthening mutual coordination were emphasized. The conference called for sustained training and emergency response programs on disaster risk reduction and mitigation.

After the presentation of concerning cities, the participants articulated that a call for community-based involvement should be implemented at local levels. The participating cities also recommended that experiences and lessons learned from flood preparedness, emergency response and resilience were good practices to enhance the existing cooperation among organizations, multi-agencies, NGOs, and charity foundations. This activities is the key factor toward a safer communities.

Lastly, the ANMC21 is recognized as support system to trainers and learners throughout programs and projects. Training and Learning Circle will be the core of practitioners and trainers, who in turn promotes and advocates for disaster risk reduction resources of ANMC21 in order to develop gender sensitive knowledge products to their respective cities.

The conference participants, without any doubt, selected Metro Manila as the host city of the 11st ACMC in 2013.

#### Participant Namelist

### The 10th Asian Crisis Management Conference

### 13<sup>th</sup>-14<sup>th</sup> June 2012

### Bangkok, Thailand

City	Namelist	Position	Department	Telephone	Fax	Email
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	Dr. Vallop Suwandee	Deputy Governor of Bangkok	Bangkok Metropolitan Administration (BMA)	662 224 2966	662 224 3094	
	Mr. Pirapong Saicheua, M.D.	Deputy Permanent Secretary	Bangkok Metropolitan Administration (BMA)	662 226 4871	662 221 4866	
	Mr.Yutasak Romchatthong	Director-General	Fire and Rescue Department	662 354 6841	662 354 6849	
	Mr.Kittinan Khaosut	Deputy Director-General	Fire and Rescue Department	662 354 6844	662 354 6843	
	Mr.Surakait Limcharearn	Deputy Director General	Fire and Rescue Department	662 354 6878	662 354 6842	
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	Mr. Suwit Rassamipat	Director	Technical and Planning Division, Fire and Rescue Department	662 279 7301-5 ext.301	662 279 7301 ext.304	suwit-ra@hotmail.com

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	Mr. Piset Aramraks	Deputy Director	International Affairs Division	662 224 8177	662 224 4686	
	Ms. Jiraporn Pungprawat	Senior Foreign Relations Officer	International Affairs Division	662 224 8177	662 224 4686	
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#### The 10th Asian Crisis Management Conference

## Site Visit at Phrakhanong Pumping Station, Drainage and Sewerage Department, BMA 14<sup>th</sup> June 2012 Bangkok, Thailand



























