Local Hyogo Framework for Action Monitoring Tool Workshop
Bonn, Germany
02 June 2011

DISASTER RESILIENT MAKATI:
Implementation of the 10 Point Essentials of Making Cities Resilient Campaign

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Senior Advisor
Makati City, Philippines
MAKATI CITY
FINANCIAL CENTER OF THE PHILIPPINES

- **Land Area:** 27.36 sq. kms.
- **Population:**
  - *Night time:* 510,383
  - *Day time:* 3.7 million
- 2 Congressional Districts
- 33 Barangays (Communities)
- One out of 17 LGUs in Metro Manila (National Capital Region)
Located at the eastern portion of Makati is the West Valley Fault System.

Transected Barangays:
1. West Rembo
2. East Rembo
3. Comembo
4. Pembo
5. Rizal
SEISMIC INTENSITY DISTRIBUTION IN MAKATI CITY: MODEL 08
A Study supported by Japan International Cooperation Agency (JICA) shows that in a worst case scenario with a magnitude of 7.2 earthquake, Makati would suffer:

- human casualty of about 2,300 deaths (0.5% of the total population) and 7,700 injuries (2% of the total population)

- building damage: 9,200 would be heavily damaged (18% of total building count) and around 16,500 would be partially destroyed (33% of the total building count)

- fire damage: maximum of 53 hectares of possible burnt out area (resulting to 2,000 max burnt out buildings and 700 max possible casualties)

- displacement of 156,000 people
2. FLOOD-PRONE

• Former Tidal Flats
Located at the Western portion of Makati. Nine (9) barangays are flood-prone which includes Barangays Kasilawan, Singkamas, Tejeros, La Paz, San Antonio, Sta. Cruz, Palanan, San Isidro and Pio del Pilar.

• Near the Course of Pasig River
Three (3) Barangays identified – Guadalupe Viejo, Tejeros & Valenzuela
3. LIQUEFACTION POTENTIAL

Source: MMEIRS 2004
4. LANDSLIDE PRONE

One area in Makati identified as landslide prone located along the portion of C5 corner Kalayaan Avenue Extension.

The 500 meters buffer zone from the 18% slope break was marked and classified as potential landslide areas.
HYOGO FRAMEWORK FOR ACTION

HFA 2005-2015 offers guiding principles, priorities for action, and practical means for achieving disaster resilience for vulnerable communities.

The Philippines is one of the 168 governments who adopted the 10-year plan.

### HFA Priorities for Action

<table>
<thead>
<tr>
<th></th>
<th>HFA Priorities for Action</th>
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<tbody>
<tr>
<td>1</td>
<td>Ensure that DRR is a national and local priority with a strong institutional basis.</td>
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<tr>
<td>2</td>
<td>Identify, assess and monitor disaster risks and enhance early warning.</td>
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<tr>
<td>3</td>
<td>Use knowledge, innovation and education to build a culture of safety and resilience at all levels.</td>
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<tr>
<td>4</td>
<td>Reduce the underlying risk factors.</td>
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<tr>
<td>5</td>
<td>Strengthen disaster preparedness for effective response at all levels.</td>
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UN/ISDR MAKING CITIES RESILIENT CAMPAIGN

2010-2011 World Disaster Reduction Campaign of UN/ISDR, as a result of the Incheon Declaration held on August 2009

Objectives:

KNOW MORE: Raise the awareness of citizens and local governments on risk reduction options and urban risk

INVEST WISELY: Raise political commitment among national and local governments for development plans and budgets to include DRR aspects

BUILD MORE SAFELY: Promote participatory urban development planning and protect critical infrastructure
MAKATI IS AN ACTIVE PARTICIPANT TO THE UNISDR MAKING CITIES RESILIENT CAMPAIGN
TEN (10) ESSENTIALS

1. Put in place **organization** & **coordination** to clarify everyone’s roles & responsibilities.

2. **Assign a budget** & provide incentives for homeowners, low-income families, private sector to invest in risk reduction.

3. Update data on hazards & vulnerabilities, **prepare & share risk assessments**.

4. Invest in and maintain **critical infrastructure**, such as **storm drainage**.

5. Assess the **safety of all schools and health facilities** & upgrade these as necessary.


7. Ensure **education programmes & training** on disaster risk reduction are in place in schools and local communities.

8. **Protect ecosystems & natural buffers** to mitigate hazards, adapt to climate change.

9. Install **early warning systems & emergency management** capacities.

10. After any disaster, ensure that the **needs of the affected population** are at the centre of **reconstruction**.
## TEN (10) ESSENTIALS

<table>
<thead>
<tr>
<th>Level</th>
<th>Generic description of level of progress for overall ranking</th>
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<tr>
<td>5</td>
<td><strong>Comprehensive achievement</strong> has been attained, with the commitment and capacities to sustain efforts at all levels.</td>
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<tr>
<td>4</td>
<td><strong>Substantial achievement</strong> has been attained, but <strong>with some recognized deficiencies</strong> in commitment, financial resources or operational capacities.</td>
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<tr>
<td>3</td>
<td>There is <strong>some institutional commitment and capacities</strong> to achieving DRR but progress is not comprehensive or substantial.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Achievements have been made but are incomplete</strong>, and while improvements are planned, the commitment and capacities are limited.</td>
</tr>
<tr>
<td>1</td>
<td><strong>Achievements are minor</strong> and there are few signs of planning or forward action to improve the situation.</td>
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</table>
Essential 1: Put in place organization and coordination [HFA1]

MAKATI CITY DISASTER COORDINATING COUNCIL (MCDCC)

- Works closely with the Disaster/Emergency Operations Center through which disaster operations and activities are coordinated.
NOW RENAMED AS...

MAKATI CITY DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL (Makati DRRMC)

• Based on the national law, Republic Act No. 10121 or the National Disaster Risk Reduction and Management Act of 2010

• Signed and approved in to law in May 27, 2010.

• The Implementing Rules and Regulations (IRR) was approved and passed last September 27, 2010.

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Republic of the Philippines
Congress of the Philippines
Metro Manila
Fourteenth Congress
Third Regular Session

Began and held in Metro Manila, on Monday, the twenty-seventh day of July, two thousand nine.

[Republic Act No. 10121]

AN ACT STRENGTHENING THE PHILIPPINE DISASTER RISK REDUCTION AND MANAGEMENT SYSTEM, PROVIDING FOR THE NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT FRAMEWORK AND INSTITUTIONALIZING THE NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT PLAN, APPROPRIATING FUNDS THEREFOR AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. Title. – This Act shall be known as the “Philippine Disaster Risk Reduction and Management Act of 2010”.
BARANGAY DISASTER RISK REDUCTION AND MANAGEMENT COMMITTEE (BDRRMC)

Established as the implementing arm of MCDRRMC at the community-level.
MAKATI SEARCH AND RESCUE UNIT

- Renders medical and technical support to communities, agencies and institutions
- Founded in 1992
MAKATI EMERGENCY MEDICAL SERVICES SYSTEMS (MEMSS)

MEMSS’ Prime Responsibility: Facilitating, coordinating and supervising operations in mass casualty situations

• The emergency department of Ospital ng Makati serves as the pilot agency in mobilizing and facilitating proper flow of medical services.

• Community health centers in the barangays provide extension services.

• Makati Rescue unit and Makati Fire-EMS unit provide emergency medical technical services.
MEMSS ORGANIZATIONAL STRUCTURE

OFFICE OF THE MAYOR

Makati Emergency Medical Services System

MAKATI CITY DISASTER COORDINATING COUNCIL

WORKING COMM./REGULATORY BODIES

SUPPORT & RESOURCES AGENCIES

POLICE MAPSA

MAKATI FIRE DEPARTMENT

MEDICAL BASIC/ADVANCED/PROLONGED

MAKATI RESCUE

Ospital ng Makati

Health Department

Created in July 3, 1997 through City Ordinance No. 97-093
Makati C³ is the City’s nerve center in dealing with emergency and disaster situations. It constitutes the focal point through which the implementation of counter-emergency/disaster plans are directed and coordinated.
Regular monthly meetings are conducted to discuss issues on air and water quality management, solid waste management, pollution control and hazard, thereafter policies are formulated for recommendation to the City Council.
Makati EPC ORGANIZATIONAL STRUCTURE

-created through Executive Order No. 2006-003.
PARTNERSHIPS WITH OTHER ORGANIZATIONS

Philippine Red Cross - Makati Branch, Rizal Chapter
…the PRC-Makati Branch, Rizal Chapter as member of Makati City Disaster Coordinating Council is committed to share their resources in all aspect of disaster management

Philippine Association of Emergency Medical Services (PAEMS)

Makati Fire Safety Foundation, Inc. (MAFSAFI)
…a major partner of the City Government of Makati, Makati Fire Department and Bureau of Fire Protection in promoting greater fire prevention and life safety awareness in Makati.
FOREIGN PARTNERS

- The City Government of Makati has foreign partner organizations which provides disaster risk management (DRM) technical support and assistance.
- These foreign partners include:
  - CITYNET
  - Earthquakes and Megacities Initiatives (EMI)
  - German Committee for Disaster Risk Reduction/German Ministry of Foreign Affairs
  - Japan International Cooperation Agency (JICA)
  - Kyoto University
  - International Council for Local Environment Initiatives (ICLEI)
  - Pacific Disaster Centre
  - World Bank and
  - UNISDR among others.
Essential 2: Assign a budget for DRR [HFA1]

1. Local DRRM Fund (previously known as Calamity Fund)
   - 5% of total revenue

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<tr>
<th>Particulars</th>
<th>In PhP</th>
<th>In USD</th>
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<tr>
<td>Local DRRM Fund (previously known as Calamity Fund)</td>
<td>390 M</td>
<td>8.9 M</td>
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<tr>
<td>➢ 5% of total revenue</td>
<td></td>
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<tr>
<td>• 30% Quick Response Fund</td>
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<tr>
<td>• CDRI (with CCDRMMMP and Barangay Profiling)</td>
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<td>• GFDRR</td>
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<tr>
<td>• CITYNET Disaster Cluster</td>
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<tr>
<td>• Disaster Risk Assessment</td>
<td></td>
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<td>• Early Warning</td>
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**DRRM Fund**

- Preparedness 70%
- Quick Response Fund, 30%
**RISK TRANSFER/INSURANCE: MAKATI CITY GOVERNMENT AND ITS COUNTERPART AGENCIES/ORGANIZATIONS**

**Assistance to victims of disaster / emergencies**

**GOVERNMENTS SERVICE INSURANCE SYSTEM (GSIS), PAG-IBIG FUND AND THE SOCIAL SECURITY SYSTEM (SSS)**

Provide calamity loans for members. It intends to meet the emergency credit needs of a member who is a victim of a natural disaster in a locality declared as a calamity area.

**MAKATI CITY EMPLOYEES COOPERATIVE (MACEMCO)**

Provides Emergency Loans for Calamity, Hospitalization/Confinement, Medication, Death of members of the Family among others.
MAKATI HEALTH PROGRAM

Assistance to victims of disaster/emergencies

HealthCard Program
- Implemented citywide
- P200 annual membership fee
- Free medical and diagnostic services
- 50% discount on maintenance medicines

Universal Health Insurance Coverage for the Makati constituent
- Quality health care within reach of the low-income residents
- Enables poor families to avail of medical services not only in our hospitals but also in a private tertiary hospital
- Includes Philhealth insurance for indigent families
- Premiums is paid by the city government
CITY ORDINANCE NO. 2010-A-010

Authors: Councillors A.C. Magpantay, N.S. Pasia, M.M.T. Del Rosario, III,
  V.T. Sese, F.T. Eusebio, M.A. Casal-Uy, T.C.P. Ramos,
  L.M. Magpantay, V.V. Hilario, M.T.N. De Lara, H.A. Jacome,
  R.C. Medina, S.D. Pangilinan, M.R.C. Tolentino,
  N.S. Yabut, Jr., D.A.A. Hocbanova and M.A.M. Ortega

AN ORDINANCE GIVING TAX AMNESTY TO THE BUSINESS
ESTABLISHMENTS AFFECTED BY THE GAS LEAK AT THE WEST TOWER
CONDOMINIUM, BARANGAY BANGKAL, MAKATI CITY, SUBJECT TO ALL
LAW AND EXISTING LEGAL RULES AND REGULATIONS.
Essential 3: Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments, and use these as basis for urban development plans and decisions [HFA2]

MMEIRS as the main reference to form the baseline information on the City’s Earthquake Risk Profile
• Started in 2009 in partnership with Earthquakes and Megacities Initiative (EMI)

• As part of its baseline studies necessary for the formulation of Barangay Rizal’s redevelopment plan, the project engaged in town watching activities together with the residents of the said barangay to do community risk and vulnerability assessments.

• The project is planned to be scaled up to the remaining 32 barangays especially in the high risk areas.
CLIMATE AND DISASTER RESILIENCE INITIATIVE (CDRI) CAPACITY-BUILDING PROGRAMME

- Venue for gathering baseline information on the assessment of the City’s resilience, which serve as the basis for the formulation of the Makati City Climate Action Plan
- In partnership with CITYNET and Kyoto University, Japan.
**Essential 4:** Invest in and maintain critical infrastructure that reduces risks [HFA4]

**MAKATI CITY PROGRAM ON FLOOD MITIGATION**

- Preventive Maintenance Program for the Whole Year
- Relocation of Informal Settlers along Waterways
- Demolition of Private Structures Encroaching along Waterways
- Upgrading of Drainage System and Creeks
- Multi-sectoral Involvement
- Land Acquisition for Staging Area of Debris and Silt
Regular maintenance of land improvement projects, such as concreting of roads and drainage improvement.
HEALTH AND EMERGENCY CARE FACILITIES

- One of the top investment priorities of the Makati City Government.

- **Primary Care**
  - 27 Health Centers
  - 3 Lying-In Clinics

- **Secondary Care**
  - 1 Acute Care Center (ACC)

- **Tertiary Care**
  - 1 Ospital ng Makati (OSMAK)

- The City Government provides subsidized medical services in these health and emergency care facilities especially for indigents.
POSSIBLE EVACUATION FACILITIES

• All thirty-three (33) barangays in Makati have their own covered courts/sports complexes which also serve as an alternate evacuation facility during disasters.

• Public School Buildings also serve as alternate evacuation sites.
RESettleMENT AREAS FOR RESIDENTS IN CRITICAL/DANGER AREAS

- Settlements in critical/danger areas of the City such as those informal settlers located along waterways, landslide prone areas and those encroaching easements were relocated off-site.
- These informal settlers were given free housing and livelihood opportunities in partnership with Gawad Kalinga (GK) which is an NGO.
- The land used as resettlement area was acquired by the City Government of Makati.
Makati Command, Control & Communication (C3) Center

The City’s nerve center in dealing with emergency and disaster situations.
MAKATI C3 SYSTEM COMPONENTS

Computer Telephony Interface

Computer-Aided Dispatch
Essential 5: Assess the safety of all schools and health facilities [HFA4]

Based on the Safe Hospitals indicators, OSPITAL NG MAKATI is generally SAFE!

…it will not collapse in a disaster
…it will continue to function and provide critical services in emergencies
…it is organized, with contingency plans in place and health personnel trained to keep the network operational
Customized Safe Hospitals indicators tell us that our Barangay Health Centers are relatively SAFE!

...they will continue to function and provide critical services in emergencies

...they are organized, with contingency plans in place and health personnel trained to keep the network operational
Based on the Safe School indicators provided by NDCC and DepEd, Makati Public Schools are relatively SAFE!
Essential 6: Apply and enforce realistic, risk-compliant building regulations and land use planning principles [HFA4]

- DEPW, through its Office of the Building Official, conducts annual inspections of buildings and facilities to ensure the strict compliance with the Nat’l Building Code.

- UDD, through its Zoning Division, handles the implementation of the Comprehensive Land Use Plan and Zoning Ordinance to ensure compliance of new and existing establishments before issuance of locational clearance.
AMENDED ZONING ORDINANCE OF MAKATI CITY
Specific Provisions on Risk Parameters

Section 85. There are hereby added new Sections under Article VIII to read as follows:

"SECTION 45. Environmental Compliance Certificate. Projects within the scope of the Environmental Impact Assessment System, those that are classified as Environmentally Critical Projects or those that are located in Environmentally Critical Areas shall not be commenced, developed, or operated unless the requirements of the Environmental Compliance Certificate have been complied with.

SECTION 46. Additional Studies. Projects in specific areas within but not limited to West Valley zone and areas prone to liquefaction as may be deemed necessary may be required to submit additional studies i.e. Engineering Geological Geophysical Assessment Report (EGGAR), subject to the Implementing Rules and Regulations of the Makati City Zoning Ordinance, As Amended."
Essential 7: Educational programs and training on DRR are in place in schools and local communities [HFA3]

The City Government has initiated multi-sectoral Information, Education and Communication (IEC) Campaigns for the local officials, schools and grassroots communities. Also, regular drills are conducted aimed at preparing the community for fire, earthquake and flood hazards.
BASIC EMERGENCY SKILLS TRAINING FOR MAKATI CITY HALL EMPLOYEES

CARDIO-PULMONARY RESUSCITATION

30 COMPRESSIONS
2 VENTILATIONS
done in
5 CYCLES
in 120 seconds
(2 minutes)

AMERICAN HEART ASSOCIATION
Disaster & Emergency Management for Barangay Disaster Coordinating Councils

Conducted at 22F Session Hall, Makati City Hall, July 7-9, 2009  (3 x 33 = 99 participants)

Mass Casualty Management System for BDCCs’ Barangay First Responders

Conducted at Makati City Hall Quadrangle, July 10-12 / 17-19, 2009  (6 x 33 = 198 participants)
PRACTICAL APPLICATION OF FIRST AID AND BASIC LIFE SUPPORT SKILLS

Barangay Mass Casualty Management Training conducted by Makati C3 and Philippine Red Cross- Makati Branch, Rizal Chapter.
PUBLIC INFORMATION EDUCATION CAMPAIGN PROGRAM

Disaster Information Materials
• Monthly Publication
(Makati Mirror, Makati Ngayon)
• Brochures & Leaflets
• Posters & Postcards

Radyo Makati
• Aired every Sunday at DWIZ (7:30 – 9:00AM)
• Provides venue for discussion on topics related to disaster risk management
IEC Material in Local Language
EMERGENCY EVACUATION DRILL

School children in “DUCK, COVER & HOLD” position during the conduct of Earthquake Emergency Drill
Essential 8: Protect ecosystems and natural buffers to mitigate floods and other hazards. [HFA4]

- Proper Solid Waste Management
- Relocation of informal settlers along creeks rivers and esteros
- Urban Greening
- Adoption of Envi-Friendly Technologies
- GHG Emission Reduction
Essential 9: Install early warning systems and emergency management capacities [HFA5]

Makati Command, Control and Communication Center (Makati C3), with its real-time video surveillance system, serves as a liaison between national government agencies and the communities for early warnings and emergency responses prior, during, and after disasters.

Capacity enhancements of the Makati Rescue personnel on Basic Life Support and Emergency Response and Rescue, as well as disaster drills and simulated activities held in schools and barangays are conducted regularly.
MAKATI C3 SYSTEM COMPONENTS
COMMUNICATION LINKAGES

OFFICE OF THE CITY MAYOR

CITY COUNCIL MEMBERS

HEADS OF OFFICES

INTERNATIONAL LINKAGES

NATIONAL AGENCIES & LGUs

PRIVATE SECTOR

VOLUNTEER GROUPS

NGOs / POs

SERVICE UTILITIES

MEDIA

COMMUNICATION GROUPS

COMMUNITY

ENVIRONMENTAL PROTECTION

FIRE / RESCUE

POLICE / PUBLIC SAFETY

MEMSS / HEMS

LIGA NG MGA BARANGAY /BDCCs

MCDCC

MAKATI C³
EMERGENCY OPERATIONS CENTER BASIC WORK FLOW

1. Caller/s Dial 168
2. Call Takers
3. Radio Dispatchers
4. MAKATI RESCUE (Response Unit)

FEEDBACK
Essential 10: Ensure that the needs of the survivors are in place [HFA4]

Department of Engineering and Public Works (DEPW)
for the immediate restoration of basic utilities, rehabilitation of public infrastructure and provisions of temporary housing.

Makati Social Welfare Department
Provide assistance to families rendered homeless or suffered deaths and assist the physical and psychological rehabilitation of person who has suffered from the effects of disaster.

Support Departments:

- Makati Health Department for health and sanitation
- Makati Police & Department of Public Safety for security and maintenance of peace and order.
- Department of Environmental Services for environmental protection and solid waste management
- General Services Department for other logistical requirements.
The City Government of Makati through its Social Welfare Department is also extending assistance to victims of disaster through its “Cash-for-Work” program by encouraging them to participate in the relief & rehabilitation-related activities in the affected areas and giving them monetary assistance depending on the scope of work done within a certain period of disaster operations.
**AWARDS AND RECOGNITION**

**Gawad Kalasag 2010 - Regional**

Makati won the Gawad Kalasag 2010 for the Best City Disaster Coordinating Council – Highly Urbanized City Category.

**Hall of Fame Gawad Kalasag Awardee - Regional (2006-2008)**

**2nd Placer for Gawad Kalasag 2009 - National**
AWARDS AND RECOGNITION

GAWAD KALASAG PLAQUE OF RECOGNITION / SPECIAL CITATION for Best Government Emergency Responder/ Manager
to MAKATI RESCUE in recognition of its invaluable services and active participation in the field of disaster risk management. NDCC/OCD, MMDCC
July 2009

MOST OUTSTANDING ACHIEVEMENT AWARD
For Search And Rescue Operations, Philippine Coast Guard, ATOF- PCGA HQ, Paranaque City,
February 22, 2007

MERIT MEDALS
Search and Recovery Operation: Superferry 14 Post-Blast Incident (March 6 & 7, 2004), PCG, Manila
April 2004

GAWAD KALASAG PLAQUE OF RECOGNITION
National Disaster Consciousness Month Disaster Preparedness and Response National Disaster Coordinating Council Malacañang Palace, Manila
September 18, 2001

PLAQUE – CHAMPION
Red Alert 1st Rescue-Lympics, Red Alert 1st Rescue-Lympics
DZMM Radyo Patrol Sais Trenta, Novaliches, Quezon City,
October 30, 2004

PLAKE NG KAGITINGAN
Search And Rescue Operations, Mount Banahaw, Dolores
Quezon, RPN (Sabayan), RPN Broadcast City,
April 2, 1999

CERTIFICATE OF RECOGNITION
Invaluable services & active participation in SAR and Relief operation at Padre Burgos, Dingalan, Gen. Nakar, Infanta & Real Provinces of Aurora, 505th SAR Group, PAF Villamor Air Base, Pasay City December 21, 2004

CERTIFICATE OF RECOGNITION
Invaluable services during the retrieval operations of trapped victims in a tunnel at Lumban, Laguna
Bureau of Fire Protection, August 16, 1999
“We in Makati have long been taking steps towards disaster risk reduction. We know that advance planning and preparation is the best way to minimize, if not totally eliminate, the impact of disaster on members of our communities, our properties and our economies. We realize that our ability to mitigate the effects of disasters on our City will impact positively not only on the safety of both our resident community and our private sector, but on the national economy as well.”

- Mayor Jejomar Erwin S. Binay, Jr.