



Quezon
Memorial Shrine
MUSEUM



Quezon City Disaster Risk Reduction and Management Council



**2nd City to City Exchange and Mentoring Program
Knowledge Sharing among Cities for Strengthening
Resiliency and Safety in Urban Informal Settlement**

QC DRRM Initiatives and Programs

**February 16-19, Asia Star Hotel, Tacloban City
LCP, UN-HABITAT UNICEF**

Karl Michael E. Marasigan

Department of Public Order and Safety,
Disaster Control Division, OIC
QCDDRRMO



Quezon City Disaster Risk Reduction and Management Council



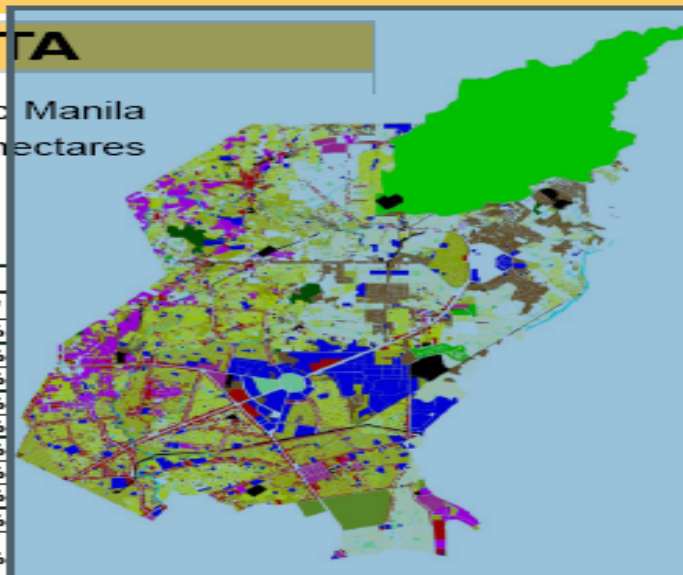
PROFILE

PHYSICAL DATA

Location NE of Metro Manila
 Land Area 16,112.58 hectares
 No. of Bgys 142

2009 Actual Land Use

Use	Total	
	(in has)	% to Total
Residential	5,542.00	34.40%
Commercial	1,170.92	7.27%
Industrial	871.19	4.17%
Institutional	1,158.42	7.19%
Military	201.18	1.25%
Cemetery	93.85	0.58%
Utility	206.43	1.28%
Vacant	1,250.52	7.76%
Open Space	227.11	1.41%
Informal Settlers	798.16	4.95%
Reservoir	2,437.75	15.13%
Roads	2,297.92	14.26%
Waterways	57.14	0.35%
	16,112.58	100.00%



SOCIAL DATA

People

School Age Population (3-21 years old) (2010) 1,029,819 (37.43%)
 3-4 yrs old (day care) 11%
 5 yrs old (pre-school) 5%
 6-11 yrs old (elem level) 31%
 12-15 yrs old (sec level) 21%
 16-21 yrs old (tertiary level) 32%

Population (2010) 2,761,720
 % to Metro Manila Population 23.29
 Annual Growth Rate (1990-2010) 2.42
 Estimated Population (2013) 2,998,658
 Pop'n Density (Persons per Has) 171
 Number of Households (2010) 634,346
 Average Household Size (2010) 4.3
 Sex Distribution
 Male 48.81%
 Female 51.19%

Source: National Statistics Office (2010)



Quezon City Disaster Risk Reduction and Management Council



LEGAL MANDATES

Republic Act No. 10121

Otherwise known as the “Philippine Disaster Risk Reduction and Management Act of 2010”

EXECUTIVE ORDER NO. 23 Series of 2010

ORGANIZING THE QUEZON CITY DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL (QCDRRMC), REDEFINING ITS FUNCTIONS, PROVIDING FOR ITS COMPOSITION AND FOR OTHER PURPOSES, PURSUANT TO R.A. No. 10121



Quezon City Disaster Risk Reduction and Management Council



LEGAL MANDATES

OFFICE ORDER NO. 72

**CONSTITUTING THE WEST VALLEY FAULT
TASK GROUP , REDEFINING ITS FUNCTIONS
AND PROVIDING FOR ITS COMPOSITION**

ORDINANCE NO. SP- 2290, s-2014

**ORDINANCE CREATING THE QUEZON CITY DISASTER
RISK REDUCTION and MANAGEMENT OFFICE
(QCRRMO), DEFINING ITS COMPOSITION,
APPROPRIATING FUNDS THEREOF AND THEROF AND
FOR OTHER PURPOSES.**

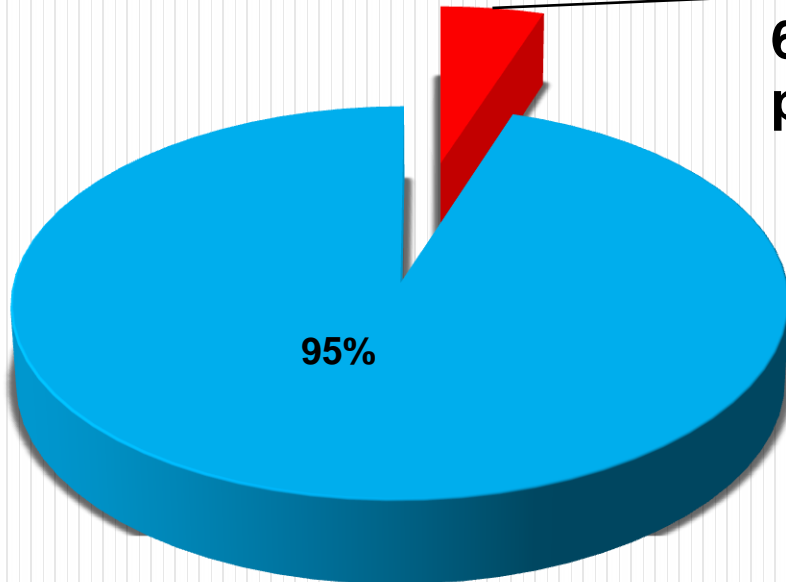


Quezon City Disaster Risk Reduction and Management Council

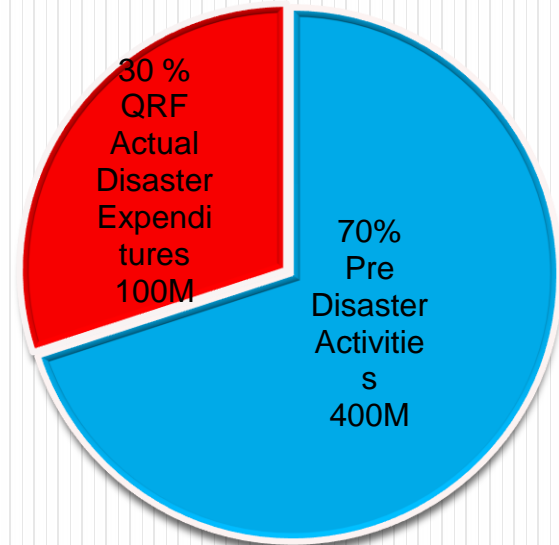


QC DRRM Fund Allocation

Gross City Income



5% of
Gross
Income
650
M
php/year





Quezon City Disaster Risk Reduction and Management Council



Prevention and Mitigation:

Engineering Intervention:

Road and Water ways
Retaining Wall Project at
Lower Empire, Barangay
Payatas





Quezon City Disaster Risk Reduction and Management Council



Prevention and Mitigation:



**200 M
DRRMF/ year for
retaining wall project**

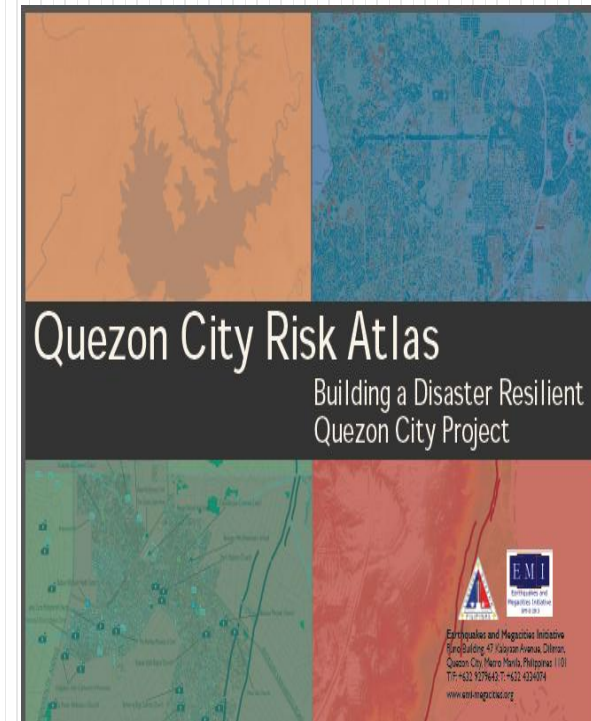
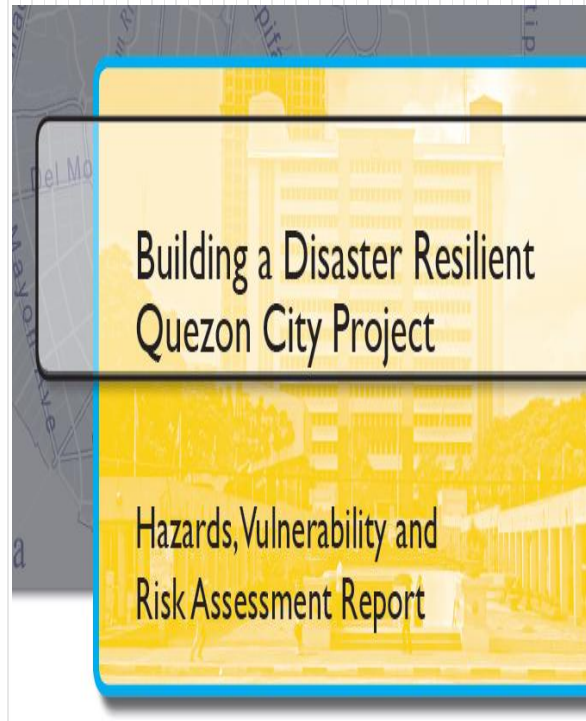
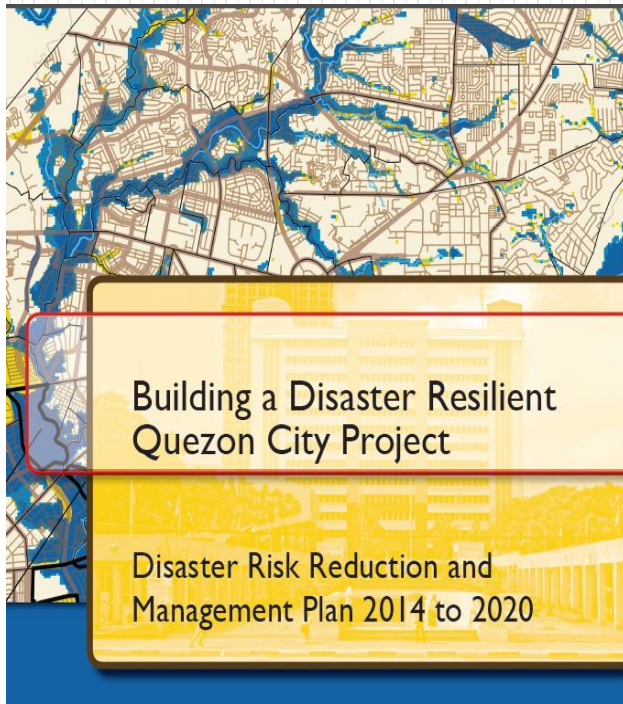


Quezon City Disaster Risk Reduction and Management Council



Preparedness:

BUILDING A DISASTER RESILIENT QUEZON CITY PROJECT (Aug. 2012-Aug. 2013)





Quezon City Disaster Risk Reduction and Management Council



HAZARDS, VULNERABILITY AND RISK ASSESSMENT REPORT (HVRA)

Provides the scientific information related to Quake

- **Earthquake Hazards: Fault Location, Ground Shaking, Liquefaction, Fire Following**
- **Earthquake Risk Parameters: Casualty Estimates, Distribution of damage to buildings, critical facilities, high loss facilities**
- **Potential damage to Transportation systems and lifelines**
- **Identification of hotspots for Flood, Quake and Combined**



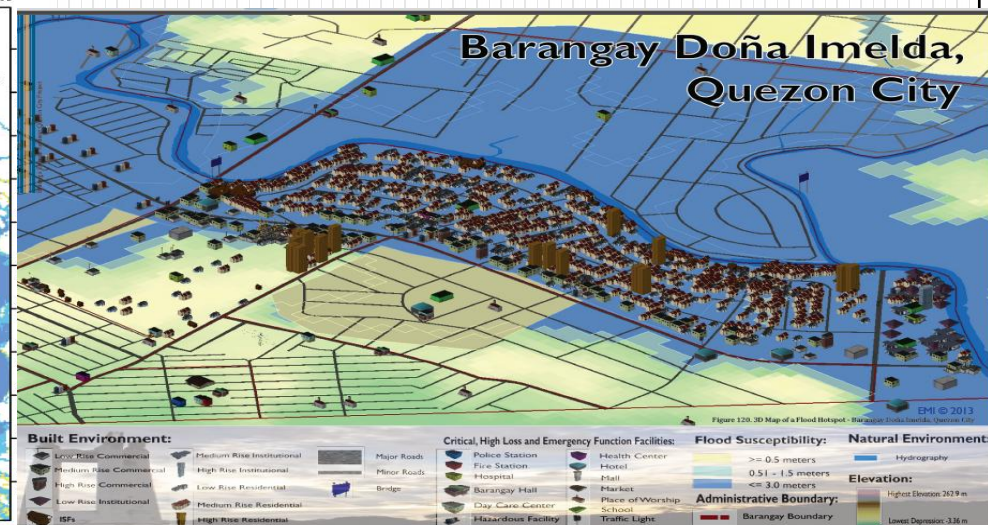
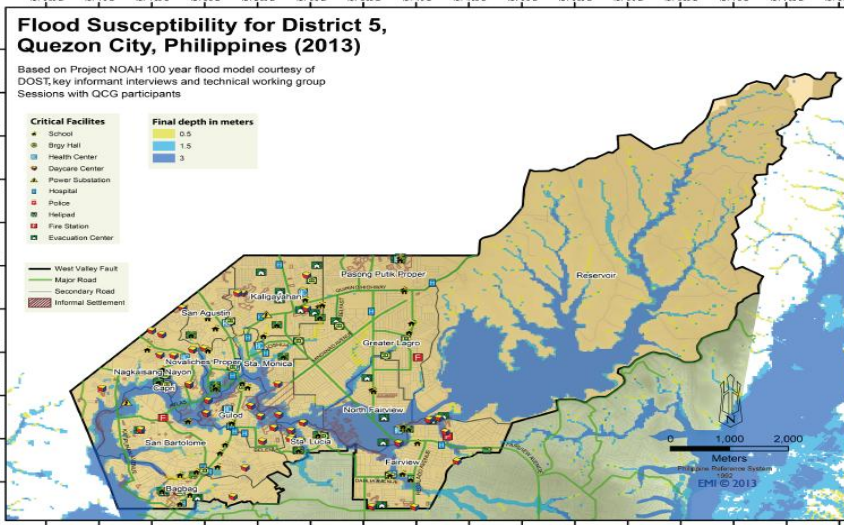
Quezon City Disaster Risk Reduction and Management Council



HAZARDS, VULNERABILITY AND RISK ASSESSMENT REPORT (HVRA)

Provides the scientific information related to flood

- Flood Susceptibility Maps
- Flood Risk Parameters (Population Affected, Casualty, Displaced population, Economic Loss, Impact on High Loss and Critical





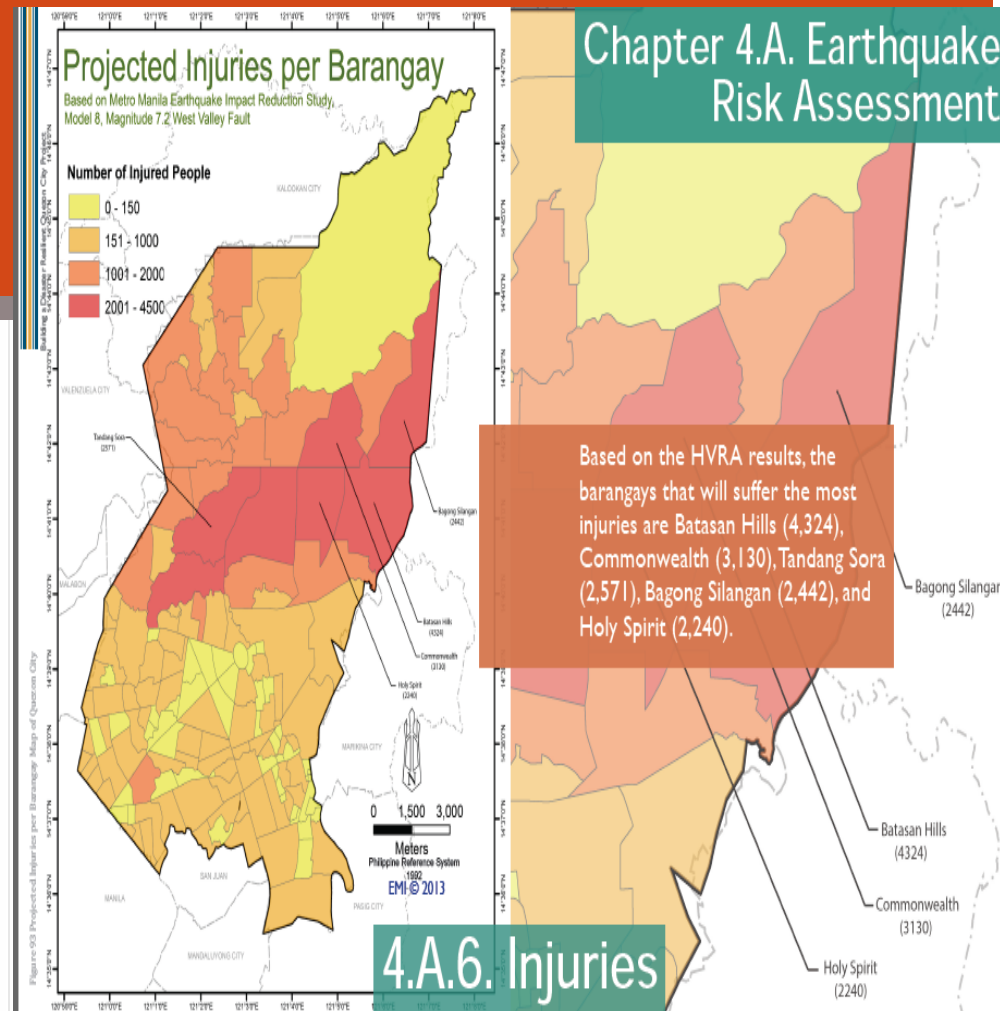
Quezon City Disaster Risk Reduction and Management Council



RISK HOTSPOTS IN QUEZON CITY

Physical Risks

- Projected Population Loss (ie. displaced population, fatalities, injuries, etc.)
- Projected Building Loss (ie. collapsed bldgs, partially damaged bldgs, highly damaged bldgs, etc.)
- Critical Facilities Exposure to EQ and Floods (ie. hospitals, facilities, hazardous transportation infra, etc.)





Quezon City Disaster Risk Reduction and Management Council



RISK HOTSPOTS IN QUEZON CITY

• Socio-economic Impact

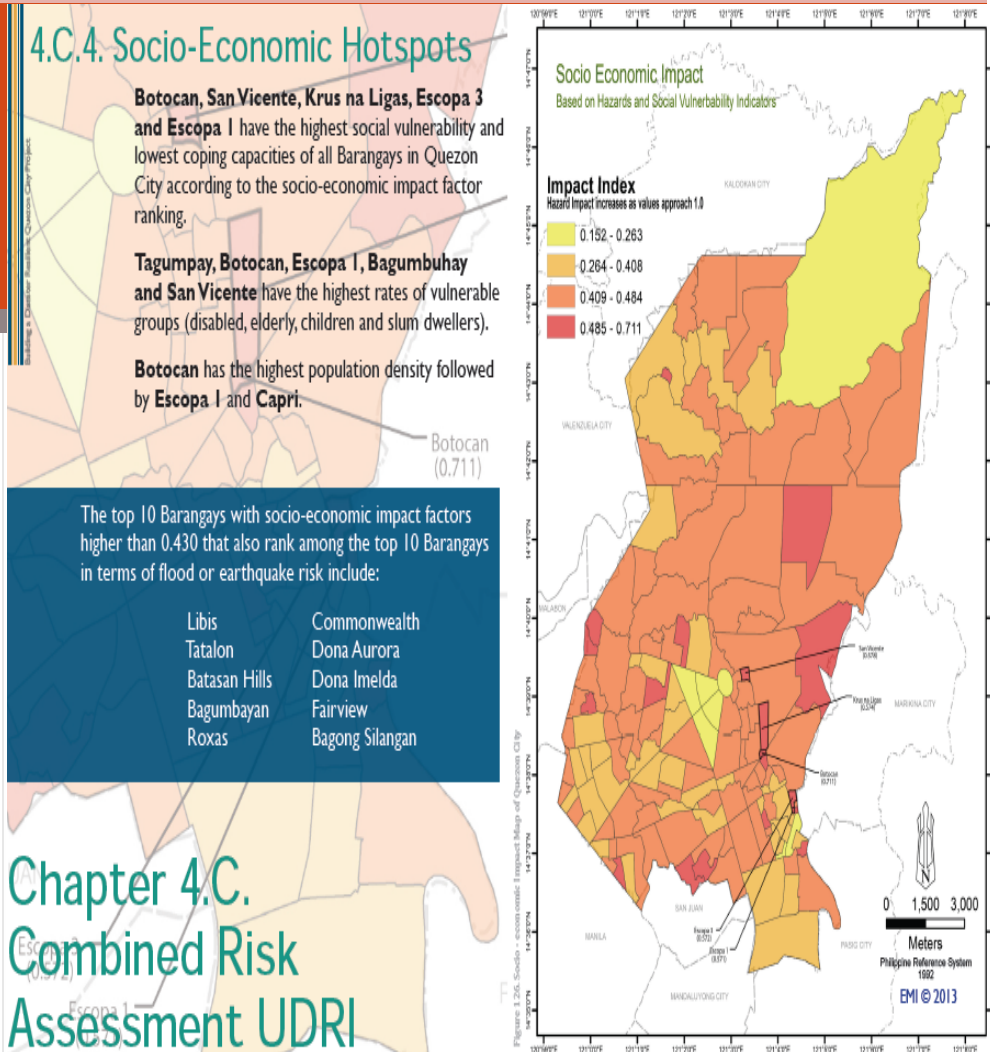
- Social Vulnerability (ie. vulnerable population, education, urban congestion, etc.)
- Coping Capacity (ie. hospital capacity, firefighting accessibility, etc.)

4.C.4. Socio-Economic Hotspots

Botocan, San Vicente, Krus na Ligas, Escopa 3 and Escopa 1 have the highest social vulnerability and lowest coping capacities of all Barangays in Quezon City according to the socio-economic impact factor ranking.

Tagumpay, Botocan, Escopa 1, Bagumbuhay and San Vicente have the highest rates of vulnerable groups (disabled, elderly, children and slum dwellers).

Botocan has the highest population density followed by **Escopa 1** and **Capri**.





Quezon City Disaster Risk Reduction and Management Council



Disaster Mitigation in Housing Project: Inter Agency Coordination for Housing Project/Community Mortgage Program (CMP) Housing Community Development and Resettlement Department (HCDRD) Social Housing Finance Corporation (SHFC)



Thru HVRA the proposed location is identified if;

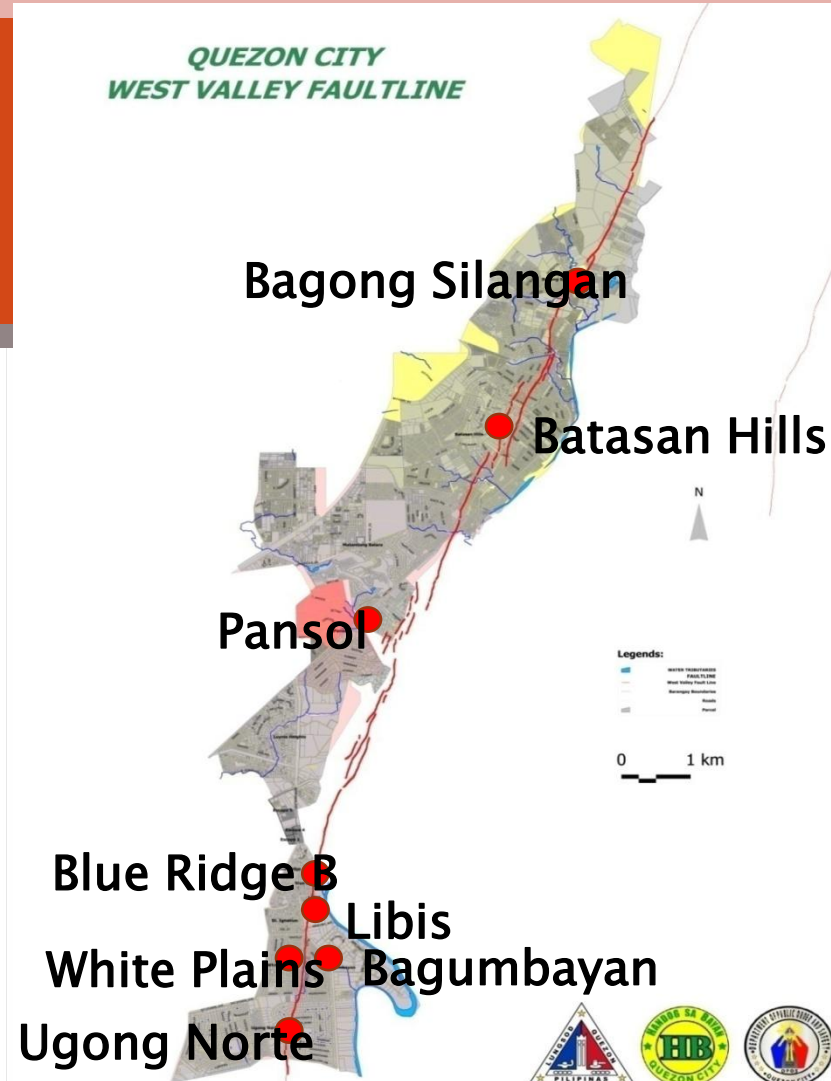
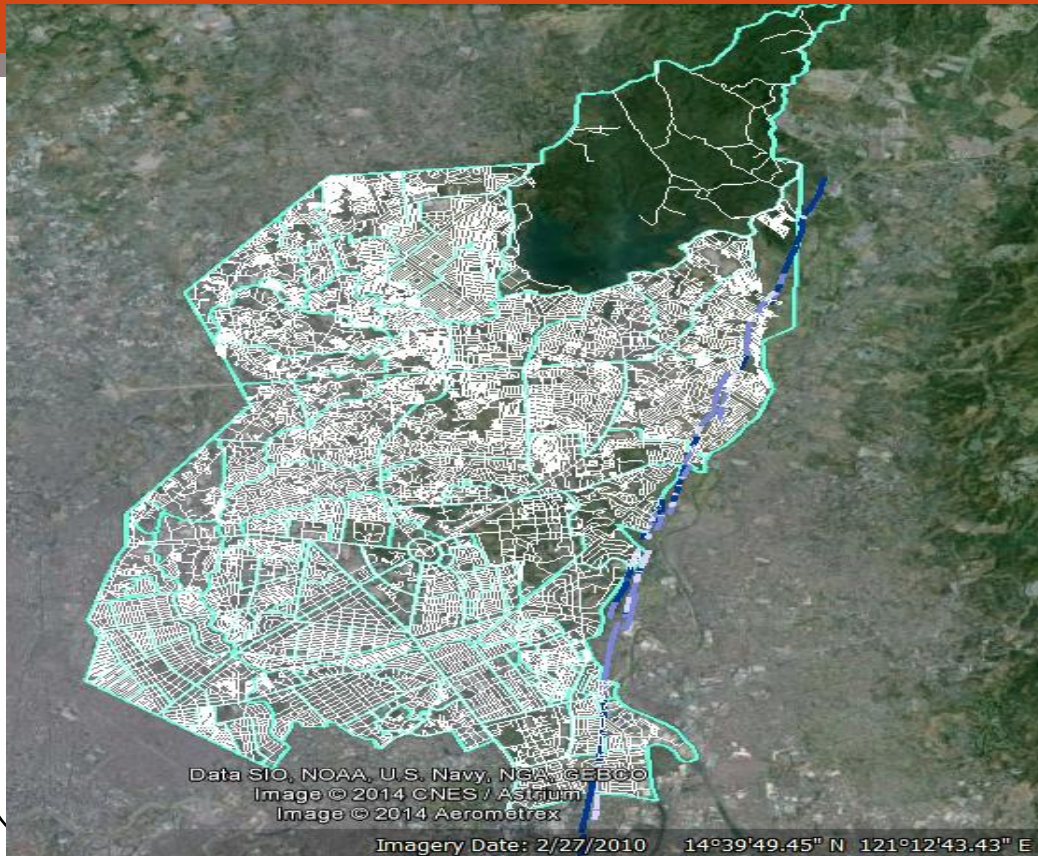
- Susceptible to Land Slides
- Flood Prone Area
- Near the West Valley Fault



Quezon City Disaster Risk Reduction and Management Council



Location of the West Valley Fault in Quezon City





Quezon City Disaster Risk Reduction and Management Council



Preparedness:

FORMULATION OF CONTINGENCY PLAN
FINAL WRITESHOP (MAR. 11-12, 2014)



Quezon City Disaster Risk Reduction
and
Management Council

OPERATIONS MANUAL





Quezon City Disaster Risk Reduction and Management Council



Preparedness:



**Incident Command System
December 28, 1014**

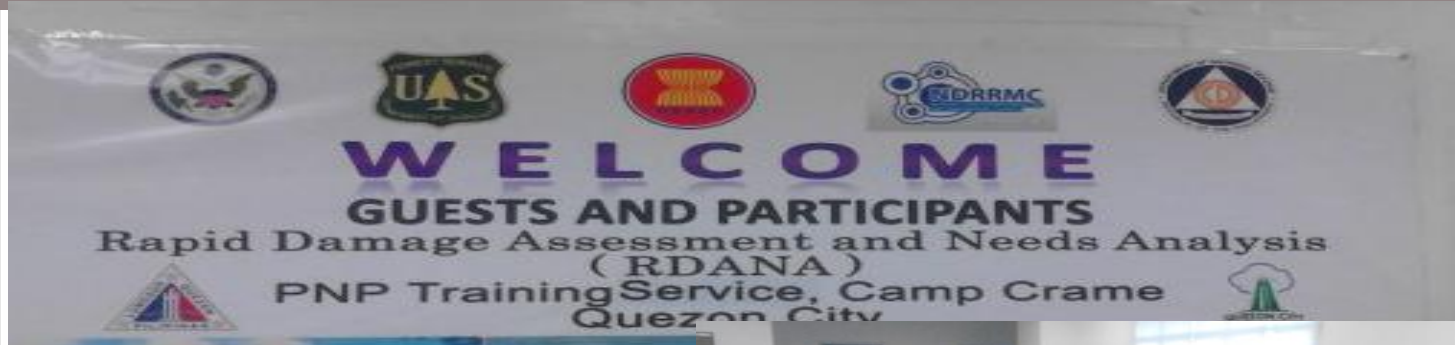




Quezon City Disaster Risk Reduction and Management Council



Preparedness: First Batch in National Capital Region (NCR), Rapid Damage Assessment and Need Analysis (RDANA) Training.





Quezon City Disaster Risk Reduction and Management Council



TASK FORCE WEST VALLEY FAULT Inter Agency Walk the Fault Activity



April 28, 2011	Ocular inspection at Quezon City/Montalban Rizal Boundary
April 29, 2011	Press Conference at PHIVOLCS/Walk the Fault
May 13, 2011	Installation of Concrete Markers
May 17, 2011	Preliminary Mapping of WVF
June 1, 2011	Map Validation of Transected Areas
June 23, 2011	Rechecking of Coordinates with PHIVOLCS
Nov. 17, 2011	Final Validation at District II
Nov. 18, 2011	Final Validation at District III



Quezon City Disaster Risk Reduction and Management Council



TASK FORCE WEST VALLEY FAULT TRENCHING ACTIVITY AT BF PROPERTY AT BRGY. BAGONG SILANGAN (FEB. 17-MARCH 6, 2012)





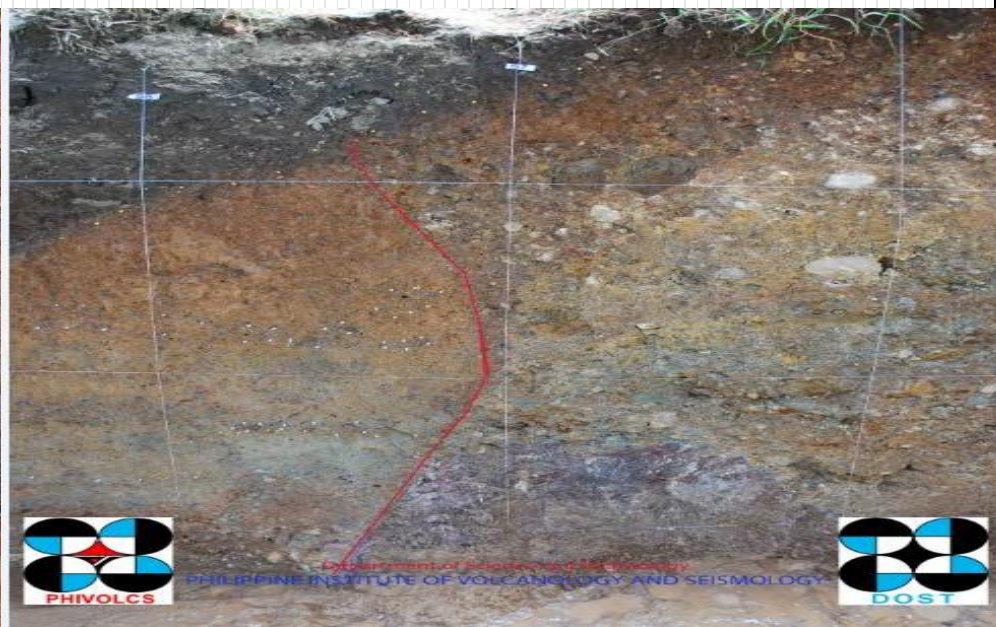
Quezon City Disaster Risk Reduction and Management Council



TASK FORCE WEST VALLEY FAULT TRENCHING ACTIVITY AT BF PROPERTY AT BRGY. BAGONG SILANGAN (FEB. 17-MARCH 6, 2012)



TRENCH SITE 1



TRENCH SITE 2



Quezon City Disaster Risk Reduction and Management Council



KEY FINDINGS OF PHIVOLCS

- Evidence of ground displacement include abrupt change of sediment layers across the fault.
- Scarp or step like drop of the ground surface across the fault
- More than one earthquake event seems to be indicated in the exposed trench walls.





Quezon City Disaster Risk Reduction and Management Council



MARKING AND INSTALLATION OF CONCRETE MARKERS/SIGNAGE ON AREAS TRANSECTED BY THE WEST VALLEY FAULT

BRGY. BAGONG SILANGAN



BRGY. BATASAN HILLS





Quezon City Disaster Risk Reduction and Management Council



ELSAROC (EARTHQUAKE LANDSLIDE SEARCH AND RESCUE ORIENTATION COURSE FOR BRGY. TRANSECTED BY WVF (JANUARY 21-22 2014)

Ugong Norte

- ❖ Pansol
- ❖ Libis
- ❖ Batasan hills
- ❖ Loyol a Heights
- ❖ Bagong Silangan
- ❖ St. Ignatius
- ❖ Payatas
- ❖ Blue Ridge A
- ❖ Bagumbuhay
- ❖ White Plains
- ❖ Commonwealth
- ❖ Matandang Balara





Quezon City Disaster Risk Reduction and Management Council



Barangay Emergency Response Team B.E.R.T. (2012)





Quezon City Disaster Risk Reduction and Management Council



Barangay Emergency Response Team B.E.R.T.

**DISTRIBUTION OF FIBER GLASS
RESCUE BOATS WITH PADDLES,
LIFEVEST AND ROPES TO 20
FLOOD PRONE BARANGAYS
July 8, 2013**



**BOAT HANDLING TRAINING AND
QCDRRMC RESCUE BOAT
COMPETITION FOR BARANGAYS
June 18, 2013**

TOTAL OF 175 PARTICIPANTS





Quezon City Disaster Risk Reduction and Management Council



Junior Rescuer Orientation & Training 2011





Quezon City Disaster Risk Reduction and Management Council



Community Risk Assessment conducted in partnership with Center for Disaster Preparedness (CDP) in barangays transected by the West Valley fault. (2014)





Quezon City Disaster Risk Reduction and Management Council



Preparedness: Early Warning System (EWS) Installation of Landslide Susceptible permanent marker





Quezon City Disaster Risk Reduction and Management Council



Preparedness: Full implementation of Early Warning System (EWS) protocol

Alert Level	Criteria	Interpretation	Required Standard QCDRRMC and BDRRMC Action
1 (yellow) ON CALL ALERT	Rainfall of 7.5mm to 15mm per hour has fallen or expected to fall and most likely to continue for the next 3 hours	Awareness stage, Flooding is Possible in low lying areas and near river channels Water level I River in Alert Level	Hourly monitoring of rainfall and Community awareness. QCDRRMC and All BDRRNC to check all equipments and personnel is in "ON-CALL ALERT STATUS"
2 (orange) HIGH ALERT	Rainfall of morethan 15mm to 30mm per hour has fallen or expected to fall and most likely to continue for the next 3 hours	Preparedness stage Flooding is threatening in low lying areas and near river channels. Water level in Rivers is in Alam Level	Activate QCDRRMC and all BDRRMC's advise communities to prepare for pre-emptive evacuation Pre position of assets and personnel
3 (Red) FULL ALERT	Rainfall of more than 30mm with in 1 hour has fallen or expected to fall and most likely to continue for the next 3 hours	Evacuation Stage, Community Response Serious flooding is expected Take precautionary measures Water level in rivers is in	mandatory FORCE/FULL Evacuation in Hazard and Combined Areas

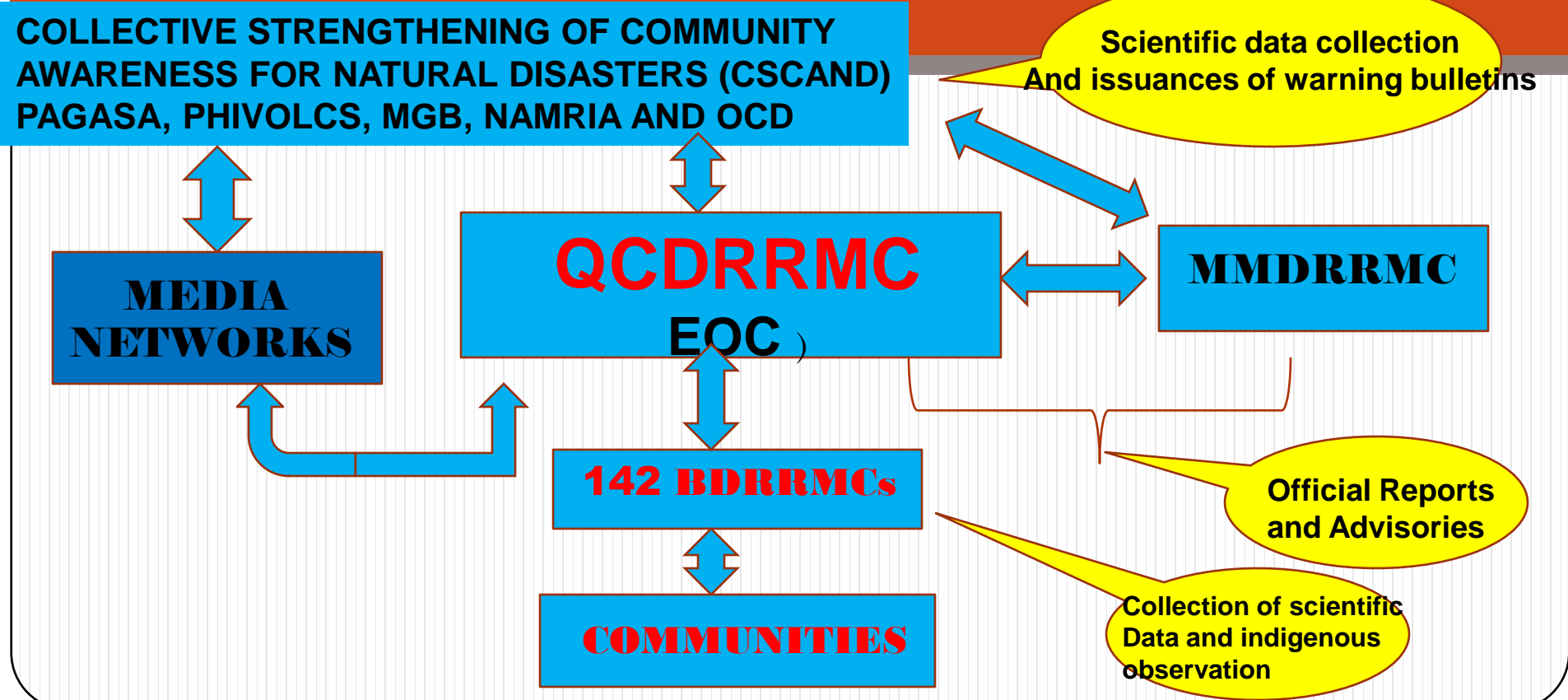


Quezon City Disaster Risk Reduction and Management Council



Preparedness:

COMMUNICATIONS PROTOCOL





Quezon City Disaster Risk Reduction and Management Council



PUBLIC-PRIVATE PARTNERSHIP (EQRP) EARTHQUAKE RESPONSE PROGRAM

**SIGNING OF THE MEMORANDUM OF AGREEMENT BETWEEN
QUEZON CITY GOVERNMENT AND PHILIPPINE INSTITUTE OF
CIVIL ENGINEERS\ (PICE) AND ASSOCIATION OF STRUCTURAL
ENGINEERS OF THE PHILIPPINES (ASEP) (NOVEMBER 17, 2014)**





Quezon City Disaster Risk Reduction and Management Council



PUBLIC-PRIVATE PARTNERSHIP Center for Disaster Preparedness (CDP) on CBDRRM programs





Quezon City Disaster Risk Reduction and Management Council



Response: Newly constructed state of the art Disaster Risk Reduction and Management Building





Quezon City Disaster Risk Reduction and Management Council



•Response:





Quezon City Disaster Risk Reduction and Management Council



Response: Helping Others: conducted Damage Assessment and Needs Analysis (DANA) at Tacloban, Leyte last November 16-19, 2013 at Leyte Park with House Speaker Sonny Belmonte MMDA Chairman Francis Tolentino and Coun. Ludovica





Quezon City Disaster Risk Reduction and Management Council



Response: Helping Others: Humanitarian Mission at the adopted Municipality of Tolosa, Sta Fe, Palompon from Leyte last December 16 to 20, 2013





Quezon City Disaster Risk Reduction and Management Council



Response: Helping Others: Quezon City partnered with Gawad Kalinga on Housing Project at Tanauan Leyte last May 16, 2014 with the MMDA and other LGU's





Quezon City Disaster Risk Reduction and Management Council



Recovery and Rehabilitation: Proposed Evacuation Center at Bagong Silangan for Disaster Victims





Quezon City Disaster Risk Reduction and Management Council



Climate Change Adaptation Program: Solar Power of SM North EDSA





Quezon City Disaster Risk Reduction and Management Council



Climate Change Adaptation Program: The Pasong Tamo Linear Park led by the Pasig River Rehabilitation Commission. December 10, 2014



This marker commemorates the inauguration of the development of the Pasong Tamo Linear Park led by the Pasig River Rehabilitation Commission (PRRC) in partnership with the Local Government of Quezon City and with the relentless effort of the administration of President Benigno S. Aquino III to rehabilitate and protect the environment.

PRRC's budget for the development of the Pasong Tamo Linear Park is Php 48,560,919.47 from which Php 9,534,560.84 was only utilized in the desilting works, linear park development and bank improvement located in the North bank of the linear park approximately from Station 3+940 to Station 4+320 with a total length of 380 linear meters.

The restoration of the Pasong Tamo Linear Park brings us closer towards the goal of cleaner waterways throughout Metro Manila.

Memorialized today, the 10th of December 2014 at Teresa Fulion, San Miguel Village, Barangay Bahay Toro, Quezon City.





Quezon City Disaster Risk Reduction and Management Council



Climate Change Adaptation Program: Green House Gas Inventory

Existing GHG Reduction Actions of Quezon City;

ENTITY	COMMUNITY	ENTITY/COMMUNITY
Creation of the Environment Policy Management Council (EPMC)	Biodiversity Profiling Project	Solid Waste Reduction Initiatives
LED Streetlighting Project	Biogas Emission Reduction Project	Green Building Ordinance
	Ordinance on Open Burning	Greening Program
	Anti-Smoke Belching Operations	Greenhouse Gas Inventory
		* Green Procurement Awareness



Quezon City Disaster Risk Reduction and Management Council



Approved Ordinances and Resolutions relative to DRRM:

1. SP Ordinance No. SP-1560, S-2005 (PO2004-118)

An ordinance mandating that all personnel of Barangay disaster coordinating councils in Quezon City should undergo periodic and refresher courses in safety and disaster prevention and mitigation in order to improve the capability of such councils to immediately address such incidents and problems in their areas of jurisdiction.



Quezon City Disaster Risk Reduction and Management Council



Approved Ordinances and Resolutions relative to DRRM:

2.. Ordinance No. SP-2290, S-2014

An ordinance creating the Quezon City Disaster Risk Reduction and Management Office (QCDRRMO), defining its functions, duties and responsibilities, providing for its composition, appropriating funds thereof and for other purposes.



Quezon City Disaster Risk Reduction and Management Council



3. Resolution No. SP- 6006, S-2014

A resolution requesting the City Mayor, Honorable Herbert M. Bautista, to direct the concerned department/office of the Quezon City government who are desiring to be disaster volunteers for accreditation in the Quezon City Disaster Risk Reduction and Management Office and the barangay where the employee-volunteer is residing.

4. Ordinance No. SP- 2262, S-2014

An Ordinance mandating all private and public school teaching and non-teaching personnel to undergo risk reduction training, pursuant to Republic Act No. 10121, otherwise known as the Philippine Disaster Risk Reduction Management Act of 2010.



Quezon City Disaster Risk Reduction and Management Council



**Awarded the Seal of Disaster Preparedness –Level 1
by the DILG-NCR (December 17, 2012)**





Quezon City Disaster Risk Reduction and Management Council



MOVING FORWARD

- 1. EQUIP THE NEWLY CONSTRUCTED DRRM BUILDING WITH STATE OF THE ART FACILITIES IN EMERGENCY MANAGEMENT FOR EFFICIENT SIMULATION OF DISASTER SCENARIOS, EWS AND RESPONSE.**
- 2. INCREASE CAPACITY OF THE QCDRRMC DISASTER ACTION TEAMS IN RESPONDING TO DISASTERS THROUGH TRAINING AND DRILLS.**
- 3. ENHANCE THE PUBLIC AWARENESS IN DISASTER PREPARENESS THROUGH CHILD FRIENDLY AND PWD SENSITIVE COMMUNITY BASED DISASTER RISK REDUCTION AND MANAGEMENT PROGRAMS**
- 4. CONSTRUCT A SAFE AND RESILIENT PERMANENT EVACUATION CENTERS TO SERVE AS TEMPORARY SHELTERS IN TIMES OF CALAMITIES.**
- 5. DEVELOP PROGRAMS IN ADDRESSING CC IMPACTS AND MAINSTREAM DRR AND CCA IN THE CLUP**



Quezon City Disaster Risk Reduction and Management Council



DEFINITION OF **RESILIENCE** IN THE CONTEXT OF A DISASTER

- the ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from the effects of a hazard in a timely manner, including through the preservation and restoration of its essential basic structures and functions.

-United Nations International Strategy on Disaster Reduction (UNISDR)



Quezon City Disaster Risk Reduction and Management Council



DAMO NGA SALAMAT

