

Mainstreaming of Climate Change Adaptation (CCA) & Disaster Risk Reduction & Management (DRRM) in the Local Planning System: The Case of Puerto Princesa City, Philippines

# Taxonomy of Natural Hazards in the Philippines

Triggering Phenomena	Associated Events	
Earthquakes	Ground shaking	Landslides
	Ground rupture	Tsunami
	Liquefaction	
Volcanic Eruption	Lava flows	Fissuring
	Pyroclastic flows	Tsunami
	Base surges	Landslides
	Tephra falls	Debris avalanche
	Volcanic gases	Lahars
	Earthquakes	Seiches
Climatic Changes	Storm surges	Tropical cyclones
	Water-induced	Coastal erosion
	landslides	Tidal fluctuations
	Floods	Sea level rise
Sources: DOST-PHIVOLCS, 1994 NEDA-NLUC, 2002	Drought	

# Aspects of Climate Change w/ Potential to Affect the City

- ☑ Sea Level Rise
- ☑ Storm Surge
- ☑ Coastal Erosion
- ☑ Weather Extremes (Flood and Drought)
- ☑ Temperature Rise







#### **Human-Made Disasters**

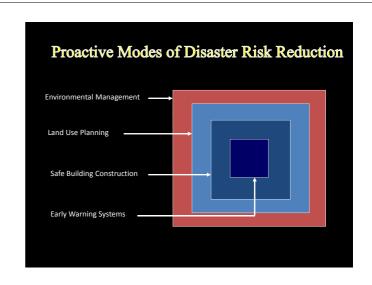
- The Philippines' social, economic and political environment also exacerbates the destructive effect of hazard events.
  - Widespread poverty drives people to engage in risky and unsustainable livelihoods
  - Poverty drives people to inhabit high-risk areas



#### Reactive in Focus

- The Philippine Disaster Management System is essentially reactive, emphasizes preparedness for emergency situations
- Hence, the need to institutionalize proactive modes of disaster mitigation and prevention.

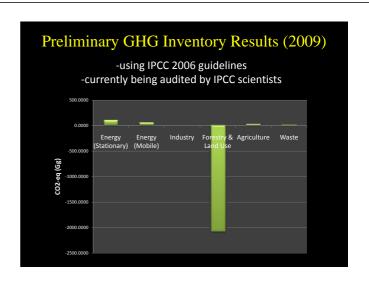
CLIMATE CHANGE ACT OF 2009
(Republic Act 9729) & DISASTER RISK
REDUCTION AND MANAGEMENT
ACT OF 2010 (Republic Act 10121)
Opportunities for Reforms to address
fundamental concerns





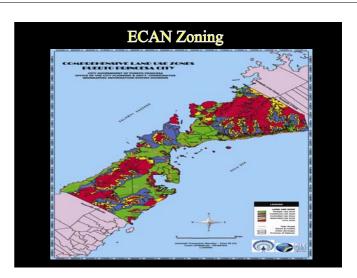






#### Land Use Planning

- Current example of ridge-to-reef (or total catchment) zoning in the Philippines is the Environmentally Critical Area Network (ECAN) Zoning of Puerto Princesa City in Palawan
- The only local zoning that is enforced through a National Law "Strategic Environmental Plan of Palawan Act" (RA7611)
- The City of Puerto Princesa enacted the ECAN Zoning Ordinance in 2008



#### **ECAN Zoning Provisions**

Terrestrial ECAN Zones	Allowed Activities	
CORE Zone – Primary Forest	-Scientific research, resource inventory and monitoring authorized by the ECAN Board	
	- Allowed traditional activities of indigenous peoples (religious and cultural practices which are not causing ecosystem degradation)	
	- Restoration/rehabilitation of degraded areas (natural regeneration, assisted-natural regeneration) in areas authorized by the Board	
Core Zone - Habitat of endangered fauna (excluding habitat located in primary forests)	<ul> <li>Non-obstrusive and non-disruptive ecotourism activities (regulated hiking, sight-seeing, bird watching and photography) in ecotourism areas (within core zones) designated and approved by the Board</li> </ul>	

## Integrating DRRM/CCA in the Comprehensive Planning Process

- Identified/developed projects, services, and regulatory measures targeted to reducing the vulnerabilities and enhancing the capacities of the local population.
- Gave higher weight to risk parameters in the evaluation of projects to be included in the Local Development Investment Program.

#### Preparing DRRM Contingency Plan

Prevention & Mitigation Measures Identified/ Suggested in the Community Consultations

- o Structural Measures:
  - dikes
  - dams
  - drains
  - sea walls
  - raising of roads and houses
  - permanent houses



#### Preparing DRRM Contingency Plan

Prevention & Mitigation Measures Identified/ Suggested in the Community Consultations

- o Non-Structural Measures:
  - safety measures
  - community health & sanitation
  - strengthening livelihood & economic opportunities ( sustainable agr'l, income generating projects, marketing cooperatives
  - Planting coastal belts, mangrove reforestation
  - Building Code
  - Legislation supporting community-based disaster management & environmental protection
  - Policy study and advocacy



### Preparedness measures:

- Individual, family and community preparedness measures: knowing what to do before, during and after a disaster.
- Disaster preparedness training
- Community early warning system
- Public awareness activities: public awareness campaigns such as community meetings and house-to-house information dissemination, posters and pamphlets, poster-making contest for school children, disaster consciousness day/week/month
- Formulation of community counter disaster plan or disaster management plan
- Formation and strengthening of community disaster management
- Evacuation drill and disaster simulation exercises
- Strengthening coordination, networking and institutional arrangements
  - Ensuring availability of relief supplies (stockpile) and logistics
  - Evacuation

#### After the Disaster – Recovery: Rehabilitation & Reconstruction

- Emergency responses:
  - Evacuation and evacuation center management
  - Search and rescue
  - First aid and medical assistance
  - Damage Needs Capacity Assessment
  - Relief delivery (food and drinking water, clothing, blankets, kitchen utensils, etc.)
  - Psycho-social counselling (comforting, prayers, critical stress debriefing)
  - Repair of critical facilities and services
  - Emergency Operations Center (for major disasters)

#### After the Disaster – Recovery: Rehabilitation & Reconstruction

- Recovery activities:
  - Cleaning-up the debris
  - Rebuilding and strengthening of damaged structures
  - Relocation to safe place
  - Income-generating projects

#### Comprehensive Plans CLUP CDP Detailed/ Master Plans Implementation Plan ELA/ LDIP/ AIP/ Cap Dev Area / System/ Thematic REGULATORY NON-PROJECTS PROGRAMS / MEASURES **PROJECTS** / SERVICES •LGU Dept. / office •LGU Funded •LCE Directives •National legislation Other Local •NGA Funded •Joint Funding •Adm. Issuance Private Sector •Nat. NGA Policies LGU Family of Plans

### Philosophy and Paradigm of Puerto Princesa

(Section 2 of City Ordinance No. 396, otherwise known as the **CODE of CONDUCT for the CONSERVATION, PROTECTION &** RESTORATION (CPR) of the Sources of Life of Puerto **Princesa City** 

"Environmental security is the highest form of national security. The supply quality of the Sources of Life - the Land, the Air and the Waters - are the essential elements of a people and of a country and the base of all economic activity. The availability of these life-sources and services

are hereby placed in the highest form City Government of Puerto Princesa threhimalins:

MAYOR COMARDS TO DE HAT QUERPOLITIC

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