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# The Philippines Disaster Risk Reduction and Management System

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January 13 to April 24, 2015

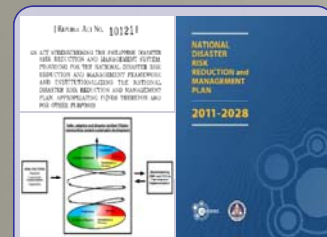
## Scope of Presentation



General  
Information



Disaster  
Risk Profile



The PDRRMS



DRRM Efforts



Challenges





Part I

## GENERAL INFORMATION OF THE PHILIPPINES

# The PHILIPPINES

- The Philippines is an archipelago of 7,107 islands with a total land area of approximately 300,000 square kilometers.
- Its 36,289 kilometers of coastline makes it the 5th longest coastline in the world.
- Bordered by the Pacific Ocean to the east, the West Philippine Sea to the west, and the Celebes Sea to the south.
- Three major island groups:
  - Luzon is the largest island group with 141,000 sq. kms.
  - Visayas is third with 57,000 sq. kms.
  - Mindanao is second with 102,000 sq. kms.



Source: en.wikipedia.org

# The PHILIPPINES

- Dominated by two major seasons: wet and dry seasons
- 28.3° C during summer months
- 25.5°C during rainy months
- Rainfall is the most important climatic element in the Philippines.
- Rainfall distribution throughout the country varies from one region to another, depending upon the direction of the moisture-bearing winds and the location of the mountain systems

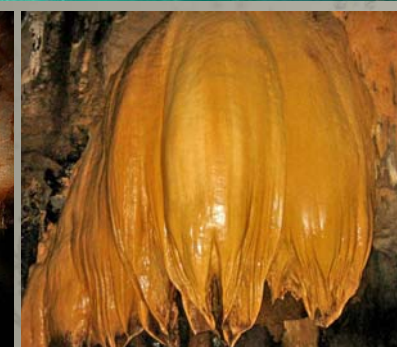
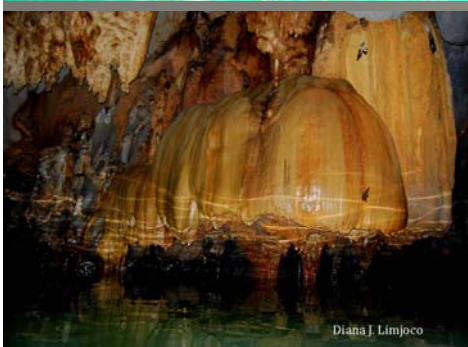
It's more fun in the  
**Philippines**



Source: [en.wikipedia.org](http://en.wikipedia.org)

# The PHILIPPINES

Home of UNESCO World Heritage Site and one of the New 7 Wonders of Nature



Diana J. Limjoco

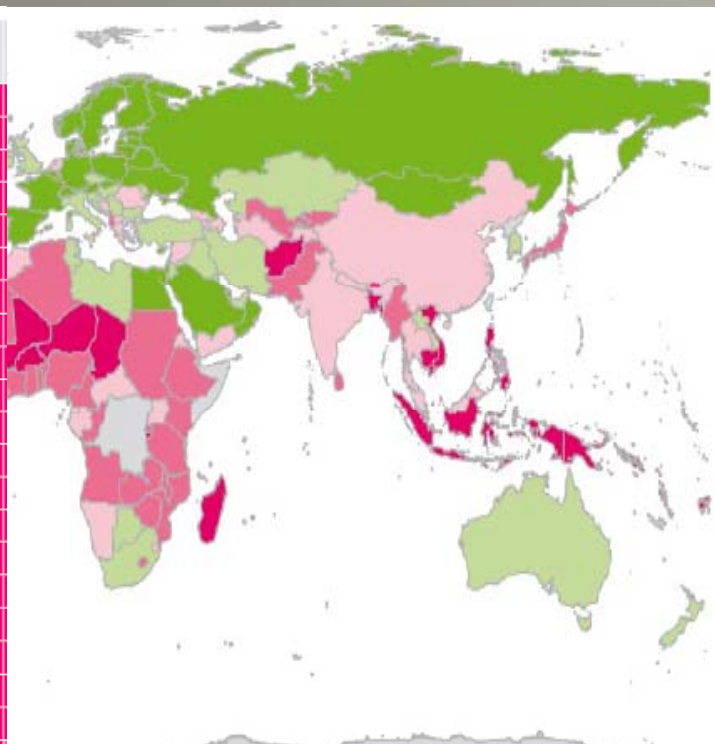


Part II

## PHILIPPINES DISASTER RISK PROFILE

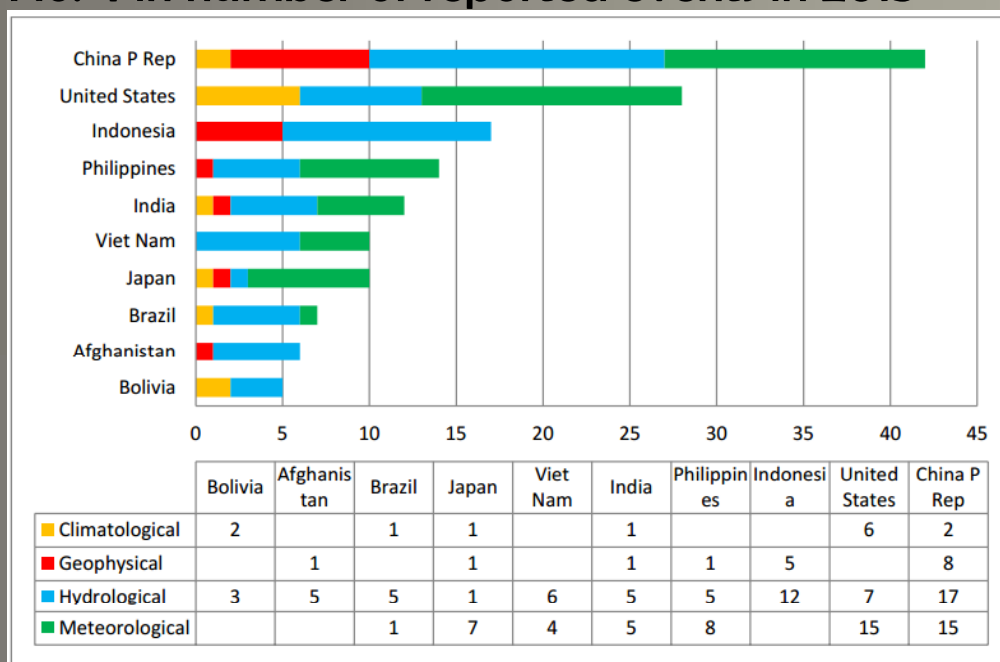
### World Risk Index Report 2014

Rank	Country	WorldRiskIndex
1.	Vanuatu	36.50 %
2.	Philippines	28.25 %
3.	Tonga	28.23 %
4.	Guatemala	20.68 %
5.	Bangladesh	19.37 %
6.	Solomon Islands	19.18 %
7.	Costa Rica	17.33 %
8.	El Salvador	17.12 %
9.	Cambodia	17.12 %
10.	Papua New Guinea	16.74 %
11.	Timor-Leste	16.41 %
12.	Brunei Darussalam	16.23 %
13.	Nicaragua	14.87 %
14.	Mauritius	14.78 %
15.	Guinea-Bissau	13.75 %
16.	Fiji	13.65 %
17.	Japan	13.38 %
18.	Viet Nam	13.09 %
19.	Gambia	12.23 %
20.	Jamaica	12.20 %



# Annual Disaster Statistical Review 2013

- No. 4 in number of reported events in 2013



[http://www.cred.be/sites/default/files/ADSR\\_2013.pdf](http://www.cred.be/sites/default/files/ADSR_2013.pdf)

# Annual Disaster Statistical Review 2013

- No. 1 in terms of disaster mortality in 2013

Country	Disaster distribution	No. of deaths	Country	Disaster distribution	Deaths per 100 000
Philippines		7750	St Vincent and the Grenadines		11.89
India		7119	Philippines		7.88
China P Rep		1395	St Lucia		3.29
United Kingdom		772	Solomon Is		1.78
Pakistan		730	Somalia		1.61
Japan		400	Cambodia		1.32
Mexico		223	Bolivia		1.27
United States		212	United Kingdom		1.20
Cambodia		200	Zimbabwe		0.88
Viet Nam		200	South Sudan		0.88

[http://www.cred.be/sites/default/files/ADSR\\_2013.pdf](http://www.cred.be/sites/default/files/ADSR_2013.pdf)

## Terrorism (Zamboanga Crisis)



Photo-credit: <philstar.com> Last retrieved on 07 February 2014

## Earthquake (7.2 M EQ in Bohol)



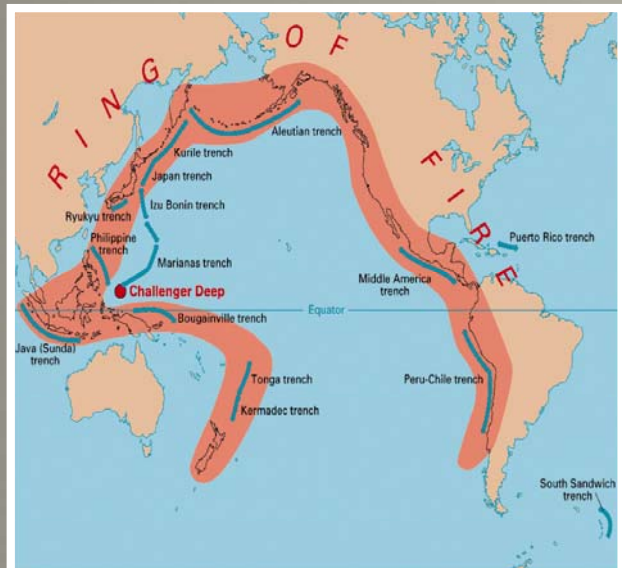
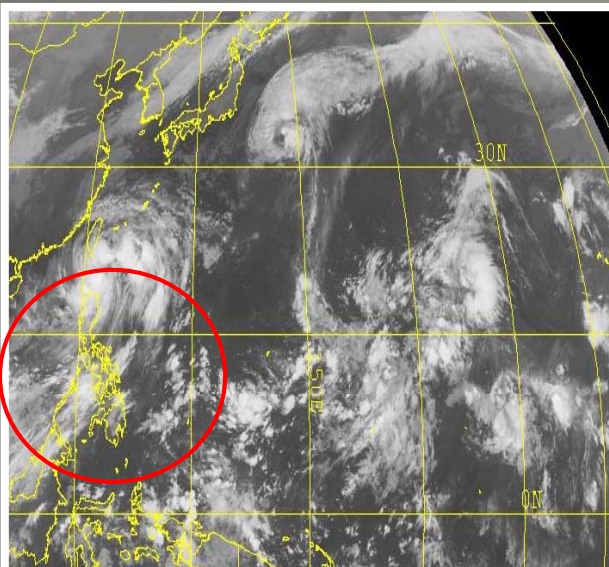
Photo-credit: <newsinfo.inquirer.net> Last retrieved on 07 February 2014

# Storm Surge (TY Yolanda)



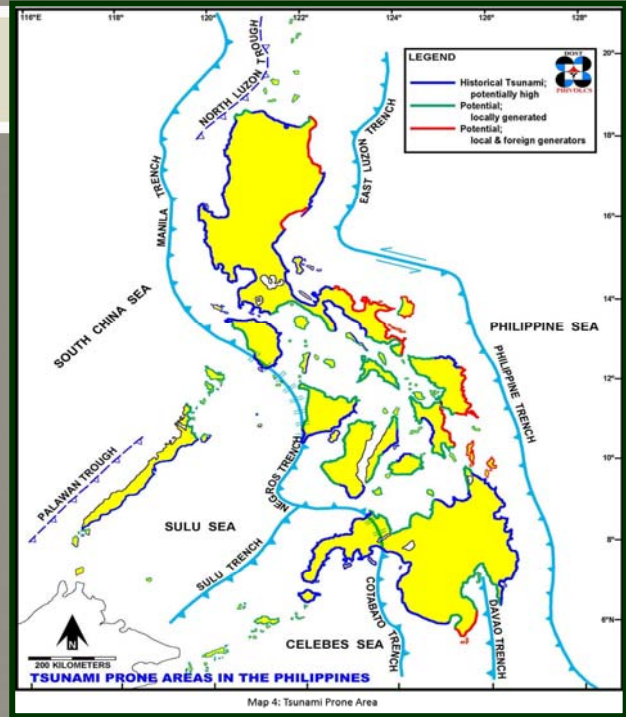
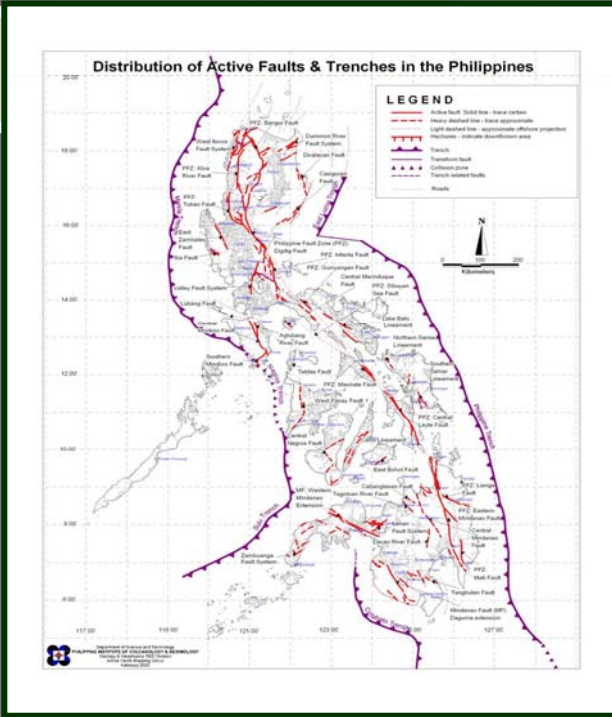
Photo-credit: <rappler.com> Last retrieved on 07February 2014

## DISASTER RISK PROFILE



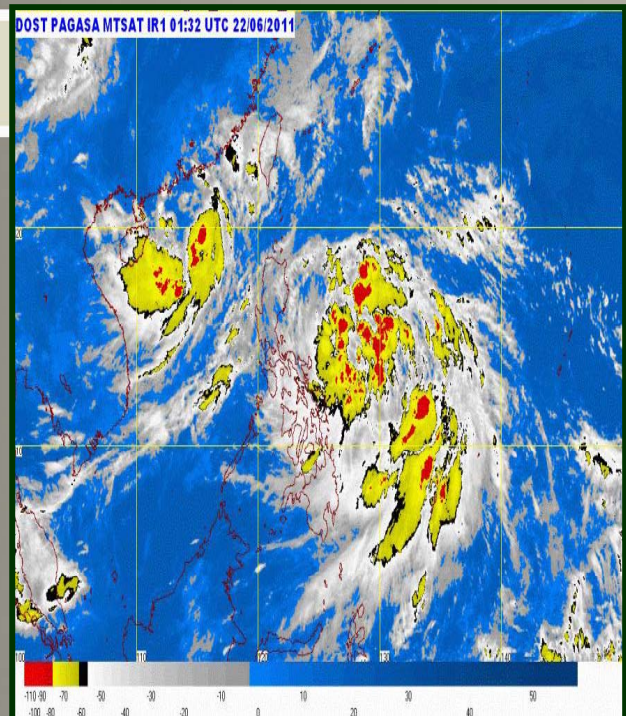
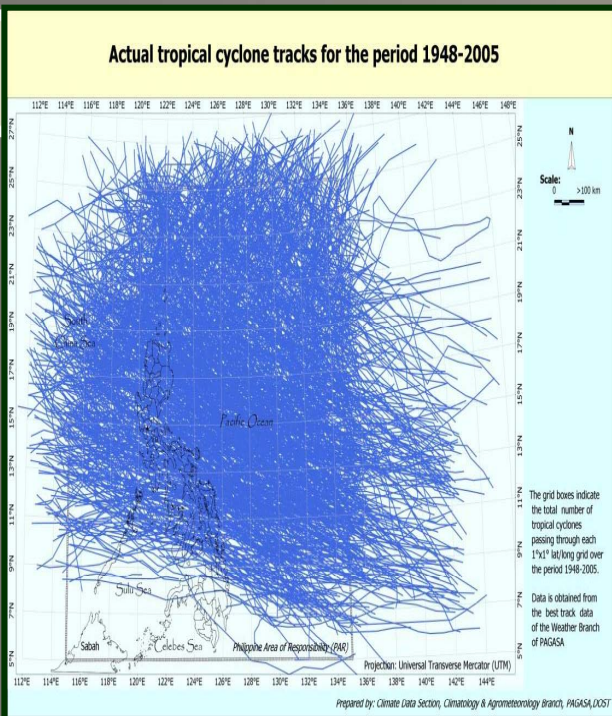
The Philippines is vulnerable to almost all types of natural hazards because of its geographical location





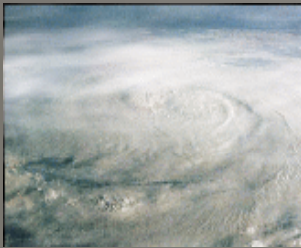
The Philippines is situated along a highly seismic area lying along the **PACIFIC RING OF FIRE** where two major tectonic plates (Philippine Sea and Eurasian) meet and is highly-prone to earthquakes & volcanic eruptions.

Source: PHIVOLCS Website, <http://www.phivolcs.dost.gov.ph/>



Tropical storms or typhoons accompanied by heavy rain and/or strong winds that may result in floods, landslides and storm surge are the most prevalent types of hydro-meteorological hazards in the country.

# Natural Hazards



▪ TYPHOONS



▪ FLOODS



▪ VOLCANIC  
ERUPTIONS



▪ CLIMATIC  
VARIABILITIES

▪ EARTHQUAKE

▪ TSUNAMI

▪ LANDSLIDE

▪ GROUND RUPTURE



# Human-Induced Hazards



▪ FIRE  
INCIDENTS



▪ SEA  
ACCIDENTS



▪ AIR  
ACCIDENTS



▪ LAND  
ACCIDENTS



▪ OIL SPILLS

▪ CIVIL  
STRIFE

▪ POLLUTION

▪ INDUSTRIAL  
ACCIDENTS

▪ TERRORISM

▪ RED TIDE



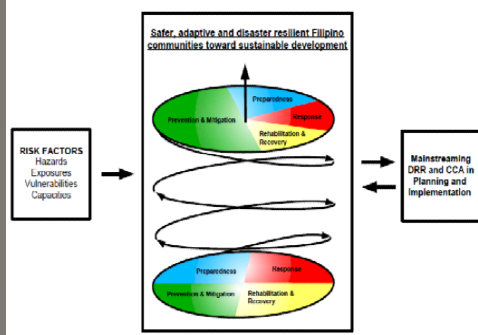


In the past 20 years, at least 31,835 Filipinos have reportedly been killed and 94,369,462 people have been affected by natural disasters and calamities



[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



NATIONAL  
DISASTER  
RISK  
REDUCTION and  
MANAGEMENT  
PLAN

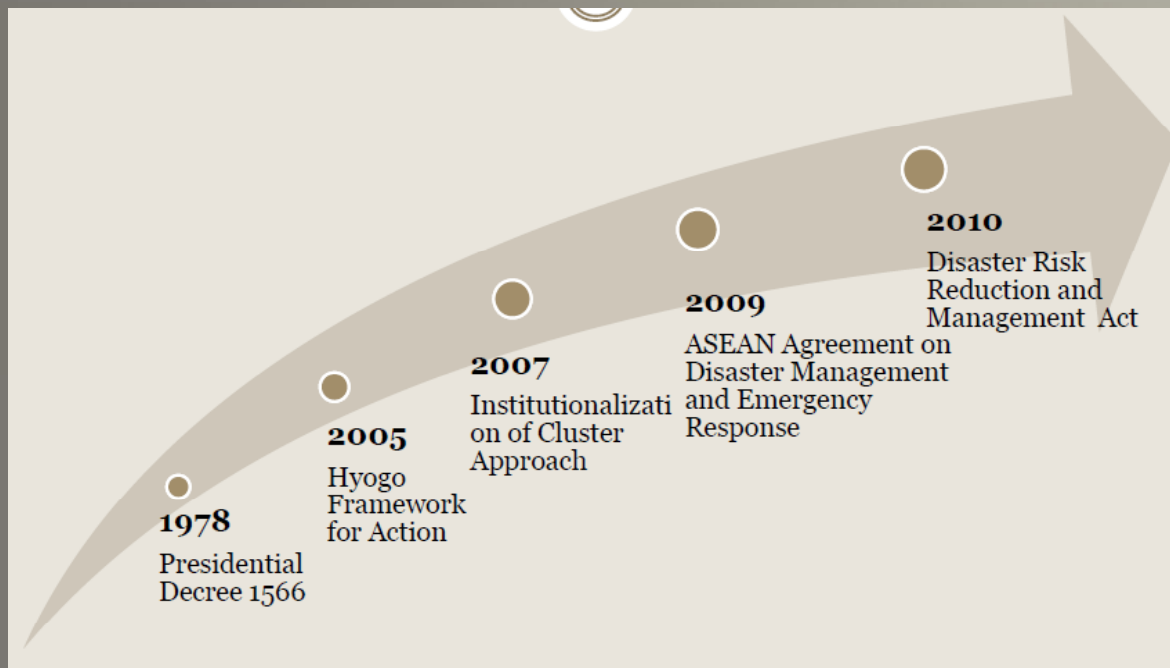
2011-2028



Part III

A PARADIGM SHIFT IN DISASTER  
MANAGEMENT: THE PDRRMS

# Policy Environment



## Philippine Disaster Management System

- **PRESIDENTIAL DECREE No. 1566 June 11, 1978**
- **“Strengthening the Philippine Disaster Control and Capability & Establishing the National Program on Community Disaster Preparedness”**
- **Focus is disaster preparedness and response**
- **Primary responsibility for Disaster Management is placed upon agencies of the government**
- **Disasters traditionally viewed as one-off events responded to by governments and relief agencies**
- **No strong institutional basis, especially at the LGU level**

# Hyogo Framework for Action Priorities

## 1 Make Disaster Risk Reduction a Priority

Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation

## 2 Know the Risks and Take Action

Identify, assess, and monitor disaster risks - and enhance early warning

## 3 Build Understanding and Awareness

Use knowledge, innovation, and education to build a culture of safety and resilience at all levels

## 4 Reduce Risk

Reduce the underlying risk factors

## 5 Be Prepared and Ready to Act

Strengthen disaster preparedness for effective response at all levels

# Cluster Approach

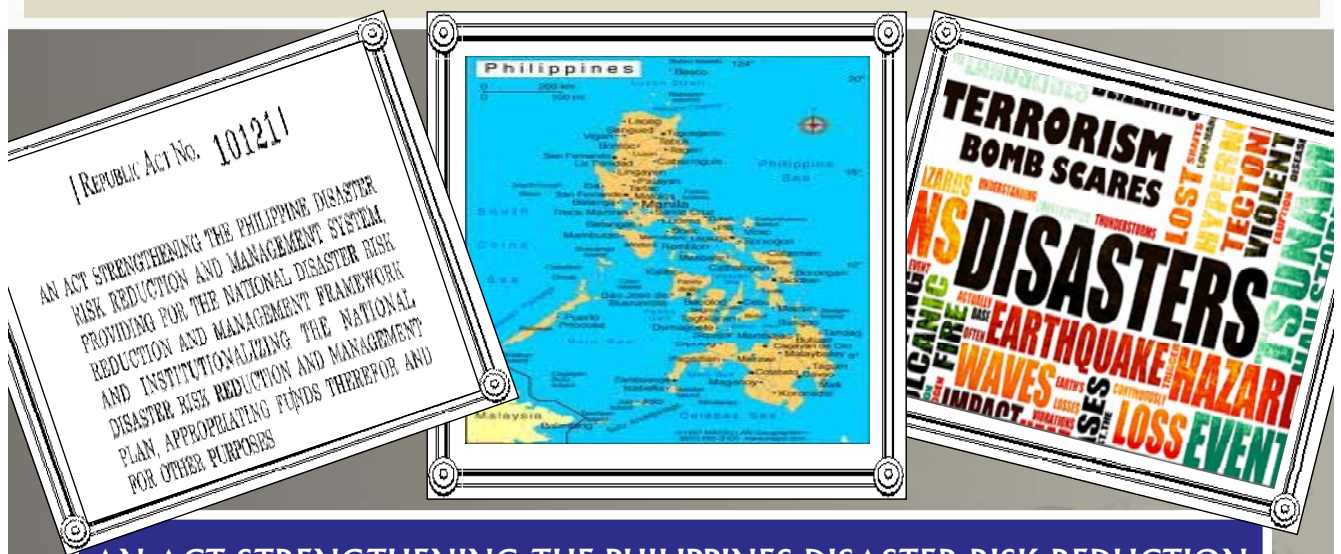
The Philippines adopted the “UN Cluster Approach” as a coordination tool to ensure a more coherent and effective delivery of humanitarian assistance by mobilizing groups of agencies, organizations and NGOs to respond in a strategic manner across all key sectors or areas of activity.

CLUSTER	GoP Lead	UN-IASC Lead
Food and Non-Food Items	DSWD	WFP
Camp Management	DSWD	IOM
Shelter and Livelihood	DSWD	IFRC
WASH, Health, Nutrition, & Psychosocial Services	DOH	UNICEF, WHO
Logistics and Emergency Telecommunications	OCD	WFP
Education	DepEd	UNICEF
Agriculture	DA	FAO
Early Recovery	OCD	UNDP

# AADMER

- ASEAN Agreement on Disaster Management and Emergency Response (AADMER) was signed by ASEAN Foreign Ministers in July 2005.
- The Agreement contains provisions on disaster risk reduction, monitoring and early warning, prevention and mitigation, preparedness and response, rehabilitation, technical cooperation and research, mechanisms for coordination and establishment of an ASEAN Coordination Center for Humanitarian Assistance on disaster management (AHA Center).
- On 14 September 2009, the Philippines was the last of the ten ASEAN Member States to have ratified the AADMER. The AADMER entered into force on 24 December 2009.

## RA 10121



AN ACT STRENGTHENING THE PHILIPPINES 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 THEREFORE AND FOR OTHER PURPOSES

# MILESTONES IN DRRM...



- PDRRM LAW OR REPUBLIC ACT 10121 dated 27 May 2010
- Implementing Rules and Regulations of RA 10121 dated 27 Sept 2010



- NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT FRAMEWORK (NDRRMF) approved on 16 June 2011



- NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT PLAN (NDRRMP) approved on 7 February 2012

## Legal Basis



**PD 1566**

June 11, 1978

- Strengthens the Philippine Disaster Control Capability
- Establishes the National Program on Community Disaster Preparedness



**RA 10121**

May 27, 2010

- Strengthens the PDRRM System
- Provides for the NDRRM Framework
- Institutionalizes the NDRRM Plan
- Appropriates Funds

# Paradigm Shift

*Disaster Relief & Response*

**Disaster Risk Reduction & Management**

Top-down & centralized disaster management

Bottom-up & participatory disaster risk reduction process

Disasters as merely a function of physical hazards

Disasters mainly a reflection of people's vulnerability

Focus on disaster response & anticipation

Integrated approach to social & human development to reduce disaster risks

*REACTIVE*

*PROACTIVE*



**Chairperson  
Secretary of National Defense**

**Vice Chairperson  
Sec. DOST  
Disaster Prev. & Mitigation**

**Vice Chairperson  
Sec. DILG  
Disaster Preparedness**

**Vice Chairperson  
Sec. DSWD  
Disaster Response**

**Vice Chairperson  
Sec. NEDA  
Disaster Rehab & Recovery**

14 Line  
Departments

11 Other Gov't  
Agencies

2 Gov't  
Financial Inst.

1 Quasi-Gov't  
Agency

4 Leagues & 1  
Union of LGUs

4 Civil Society  
Orgs.

1 Private  
Org.

OCD, Administrator  
Exec. Dir. NDRRMC



# Four (4) Vice-Chairpersons



DOST

*Disaster Prevention and Mitigation*



DILG

*Disaster Preparedness*



DSWD

*Disaster Response*



NEDA

*Rehabilitation and Recovery*

# Network of DRRMCs



1  
National  
DRRMC



17  
Regional  
DRRMCs



81  
Provincial  
DRRMCs



140  
City  
DRRMCs



1,494  
Municipal  
DRRMCs

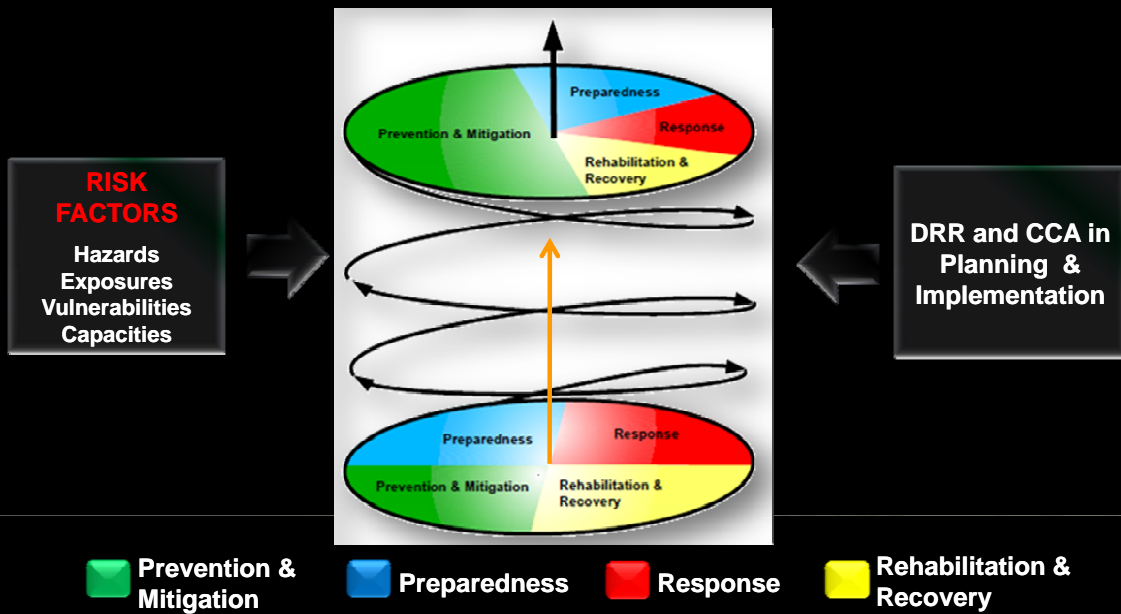


42,026  
Barangay  
DCs

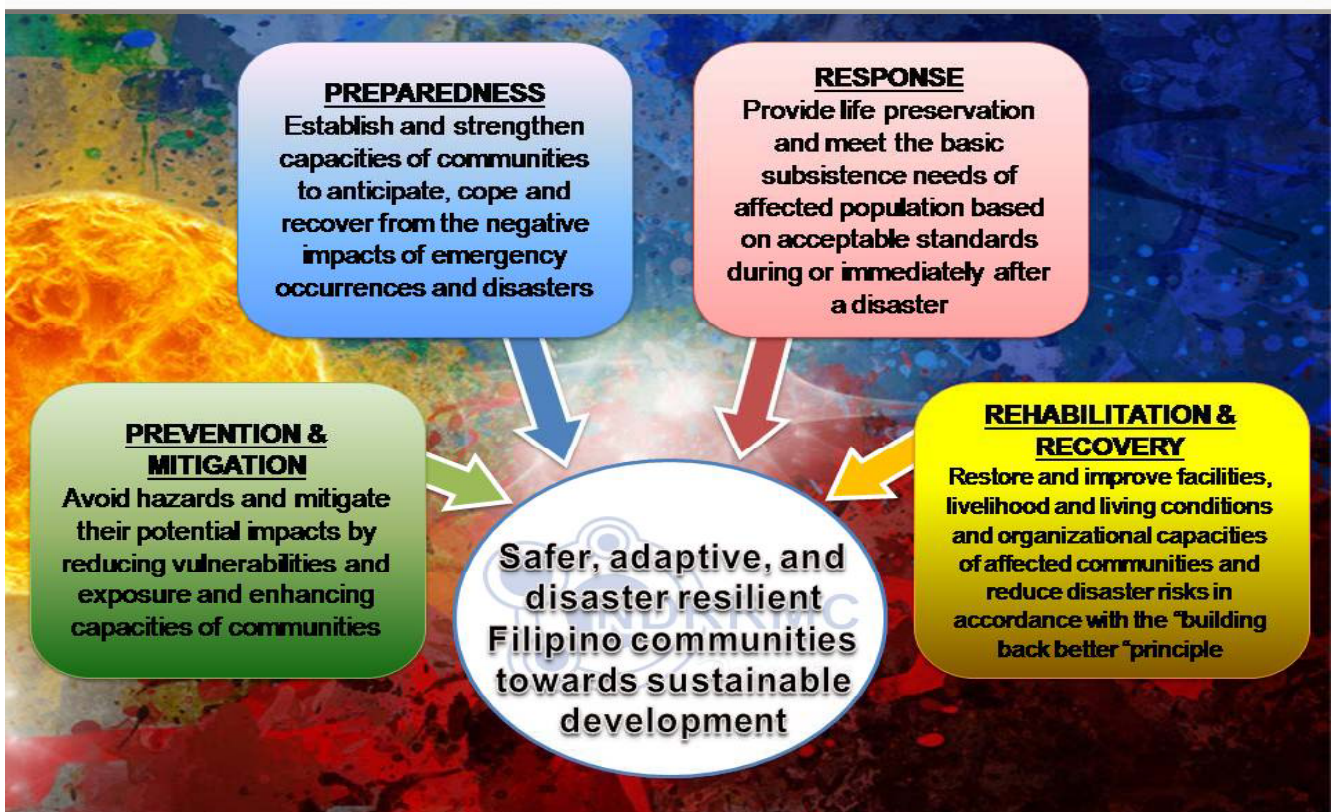


# NDRRM Framework, June 2011

Safer, adaptive and resilient Filipino communities toward sustainable development

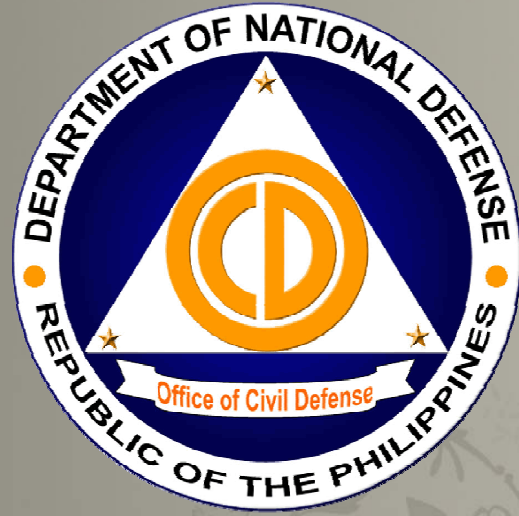


# NDRRM Plan 2011-2028, Feb 2012



# Office of Civil Defense (OCD)

- One of the five (5) bureaus of DND
- Established on July 1, 1973
- Acts as the Executive Arm and Secretariat of the NDRRMC
- Leads in coordinating the activities and functions of the N/RDRRMC member agencies



## OCD Battle Cry

“We

**ORCHESTRATE**

Disaster Management Activities with Utmost

**COMMITMENT**

in order to

**DELIVER**

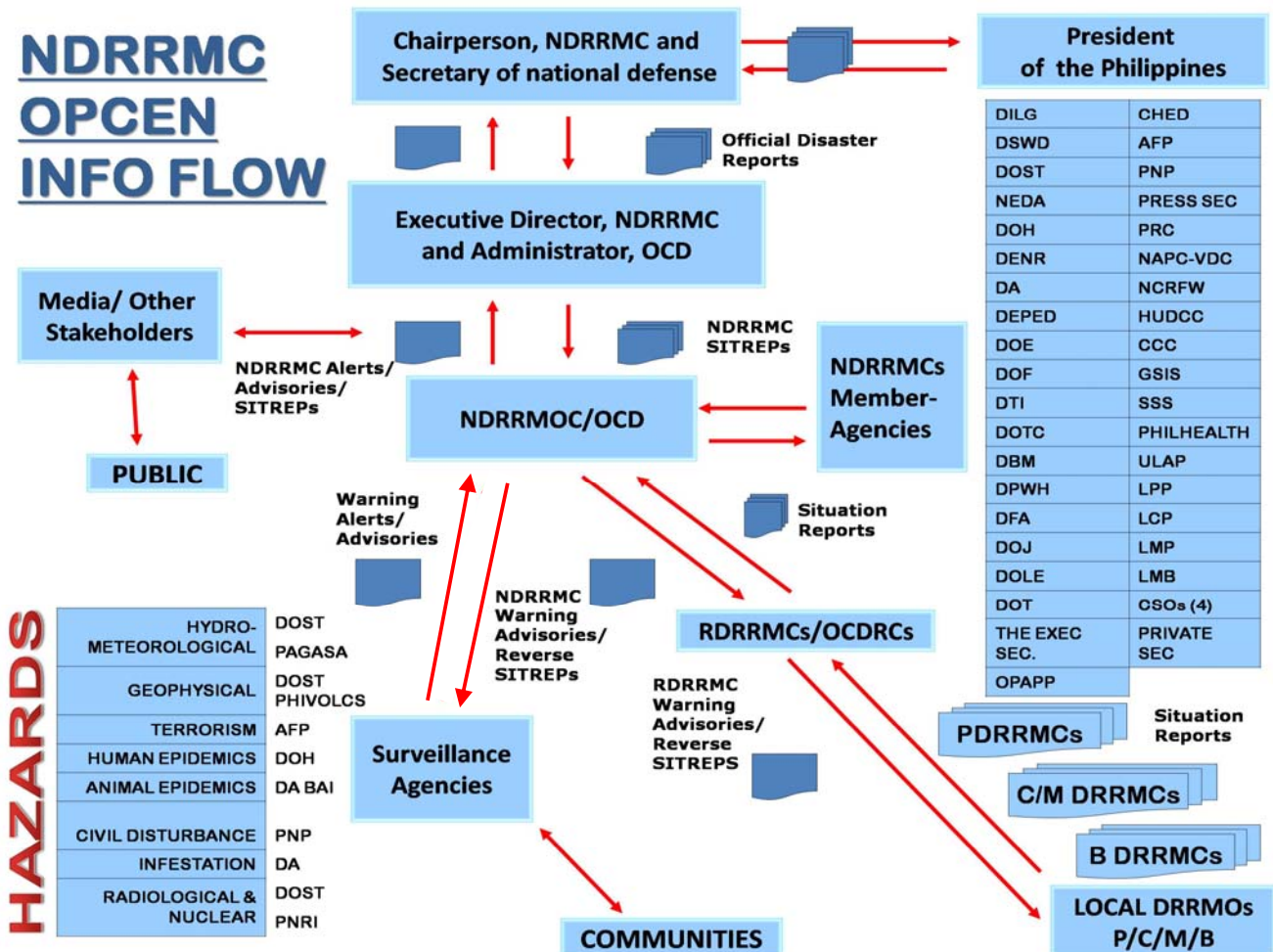
what is Best for the Country and our People”

# NDRRMC OPERATIONS CENTER

- Operates on a 24/7 basis
- Center for DRRM coordination
- Provides DRRM guidelines
- Disseminates reports, alerts and other communications
- Central command and control facility
- Documents and maintains the database of relevant DRRM information



## NDRRMC OPCEN INFO FLOW



## HAZARDS

HYDRO-METEOROLOGICAL	DOST PAGASA
GEOPHYSICAL	DOST PHIVOLCS
TERRORISM	AFP
HUMAN EPIDEMICS	DOH
ANIMAL EPIDEMICS	DA BAI
CIVIL DISTURBANCE	PNP
INFESTATION	DA
RADIOLOGICAL & NUCLEAR	DOST PNRI

## Tools that we use...



Website

[www.ndrrmc.gov.ph](http://www.ndrrmc.gov.ph)



Email

[region3@ocd.gov.ph](mailto:region3@ocd.gov.ph)



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Facebook

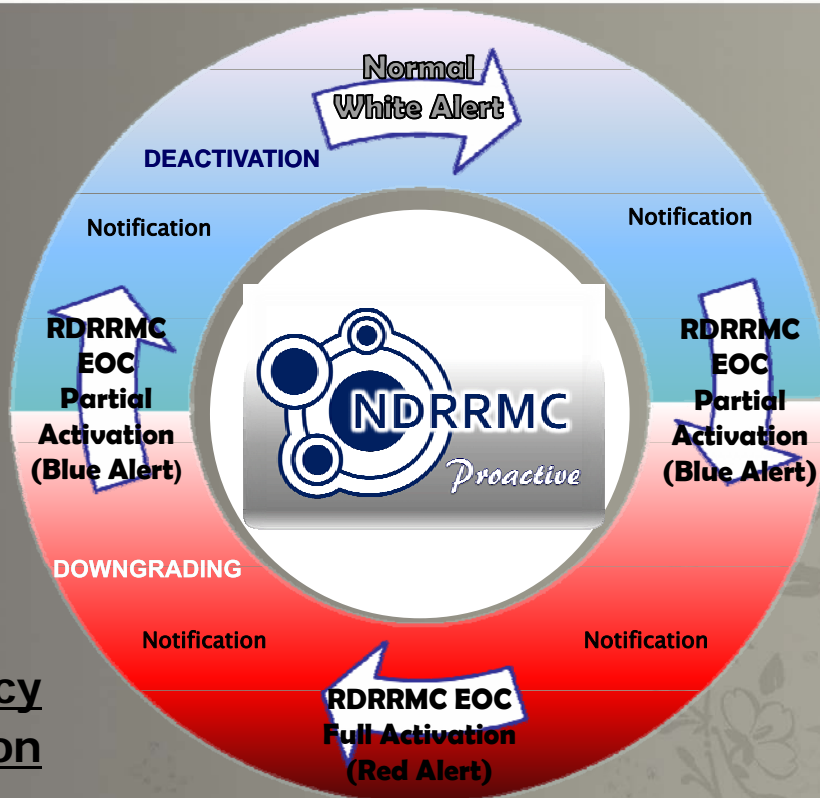
Civil Defense III

## Emergency Communication Kit



# Concept of Operations

Normal  
Condition



## Coordination During Emergencies

The LDRRMCs shall take the lead in preparing for, responding to, and recovering from the effects of any disaster based on the following criteria:

- The BDC, if a barangay is affected;
- The City/Municipal DRRMCs, if two (2) or more barangays are affected;
- The Provincial DRRMC, if two (2) or more cities/municipalities are affected;
- The Regional DRRMC, if two (2) or more provinces are affected; and
- The NDRRMC, if two (2) or more regions are affected

The NDRRMC and intermediary LDRRMCs shall always act as support to LGUs which have the primary responsibility as first disaster responders.

# AHA CENTER

Participation of OCD to the ASEAN Committee on Disaster Management (ACDM) as Philippine ACDM Focal Point. Highlights of ACDM achievements include the ff:

1. Signing of the ASEAN Humanitarian Assistance (AHA) Center on disaster management Agreement by the ASEAN Foreign Ministers, followed by the official launch of the Centre during the sidelights of the 19<sup>th</sup> ASEAN Summit in Bali, Indonesia on November 2011;
2. Facilitation of the annual contributions of the Philippines to the AADMER and AHA Centre Funds. The Philippines is committed to provide a voluntary contribution of US\$ 50,000 to the ADMER Fund, in addition to the annual and equal contribution to the AHA Centre Fund in the amount US\$ 30,000 effective this year, chargeable against DFA's International Commitment Fund (ICF).



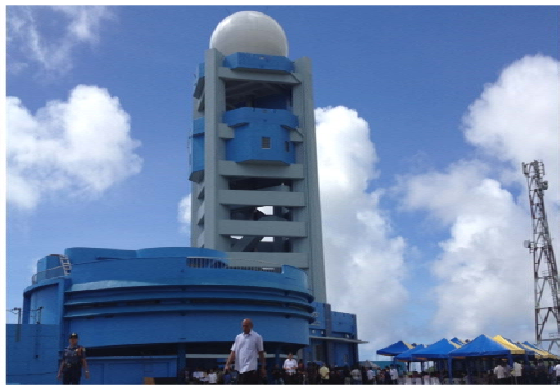
BPPT 1st Building, 17th floor Jl. MH. Thamrin no. 8  
Jakarta - 10340



Part IV

## THE DRRM EFFORTS

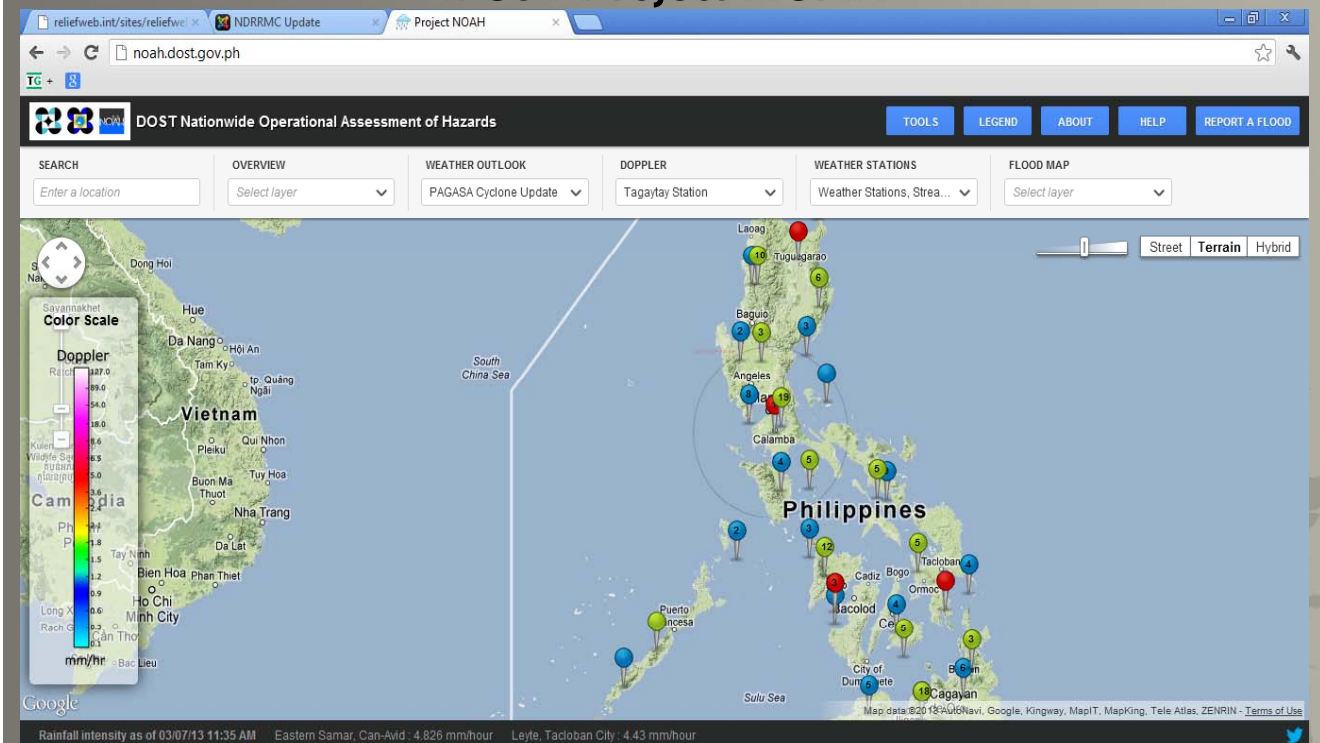
# Prevention & Mitigation



- Dev't of alarm & early warning systems
- Nationwide flood forecasting & monitoring
- Geo-hazard mappings
- Comprehensive land use planning, building & safety standards
- Engineering interventions
- Flood control structures

# Prevention & Mitigation

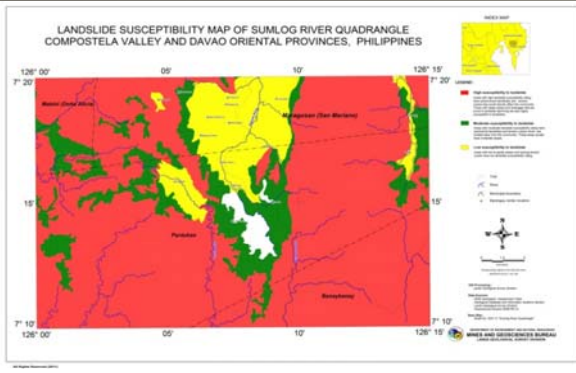
## DOST Project NOAH



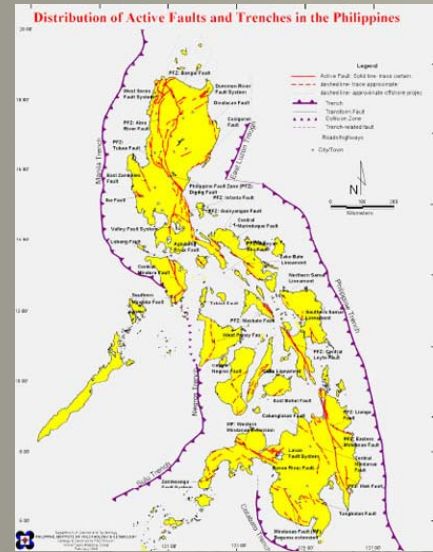


# Prevention & Mitigation

## Geo-hazard Maps

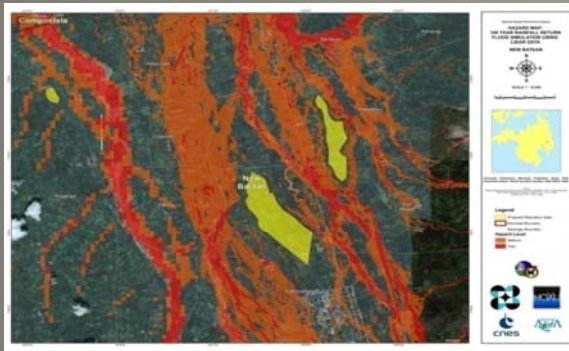


**Landslide  
Susceptibility  
Map  
(MGB-DENR)**



**Active Faults &  
Trenches  
(PHIVOLCS)**

**Rainfall  
Return Flood  
Simulation  
(PAGASA)**



## Preparedness



- Contingency planning
- Prepositioning of equipment & supplies
- Enhancement of operation & coordination centers
- Organizing, training & equipping responders
- Organizing & mobilizing community volunteers
- Conduct of disaster trainings & drills

# Response

- Search, rescue & retrieval operations
- Humanitarian aid, relief and health services
- Provision for temporary shelter, water, sanitation & hygiene
- Financial assistance to calamity victims
- Management of evacuation centers



# Recovery & Rehabilitation

- Early recovery & rehabilitation
- Reconstruction of damaged houses & buildings
- Resettlement
- Provision for livelihood
- Restoration & improvement of destroyed facilities



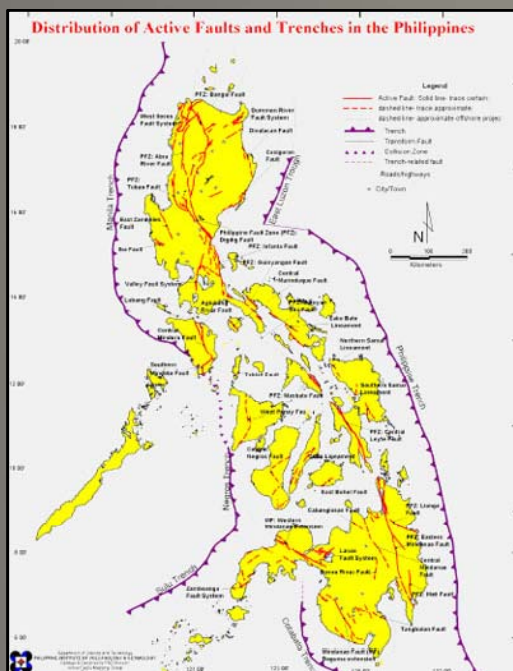
[“Build Back Better”](#)



Part V

## THE CHALLENGES

## Prevention & Mitigation



- Nationwide identification & assessment of hazards
- Common understanding of forecasting terminologies & systems
- Appreciation of risk factors at the local level
- Strict adherence to building codes
- Construction of flood control structures

# Preparedness

- Integration of hazards assessment into the CLUP
- Completion of Local DRRM Plans
- Organization of community volunteers
- Training & equipage of responders
- Enhancement of coordination centers



# Response

- Immediate establishment of ICS
- Deployment of trained & equipped responders
- Rationalization of humanitarian assistance & Rapid Needs Assessments among NGAs, LGUs & Int'l Donor Agencies



# Recovery & Rehabilitation

- Rationalization of access to Calamity Funds



# Policy Considerations

- Creation of Local Disaster Risk Reduction Management (DRRM) Offices
- Plantilla positions for Local DRRM Officers & Personnel
- Clarify provisions of Sec. 22 of RA 10121 vis-à-vis GAA reutilization of NDRRM Fund
- Completion of standard Local DRRM Plans
- “Laymanizing” DRRM terminologies
- Rationalization of Geo-hazard Map scales

Field of Research:

**“Dam Performance and Safety:  
A Comparative Study of Monitoring  
Dams in Japan and Philippines.”**

**THE PHILIPPINES  
SAYS THANK YOU.**



#PHthankyou

You're making all the difference.

