Towards a Culture of Resilience and Adaptation: Building Back Better (3Bs) Post Pablo Communities, Ecosystems and Economy in Eastern Mindanao

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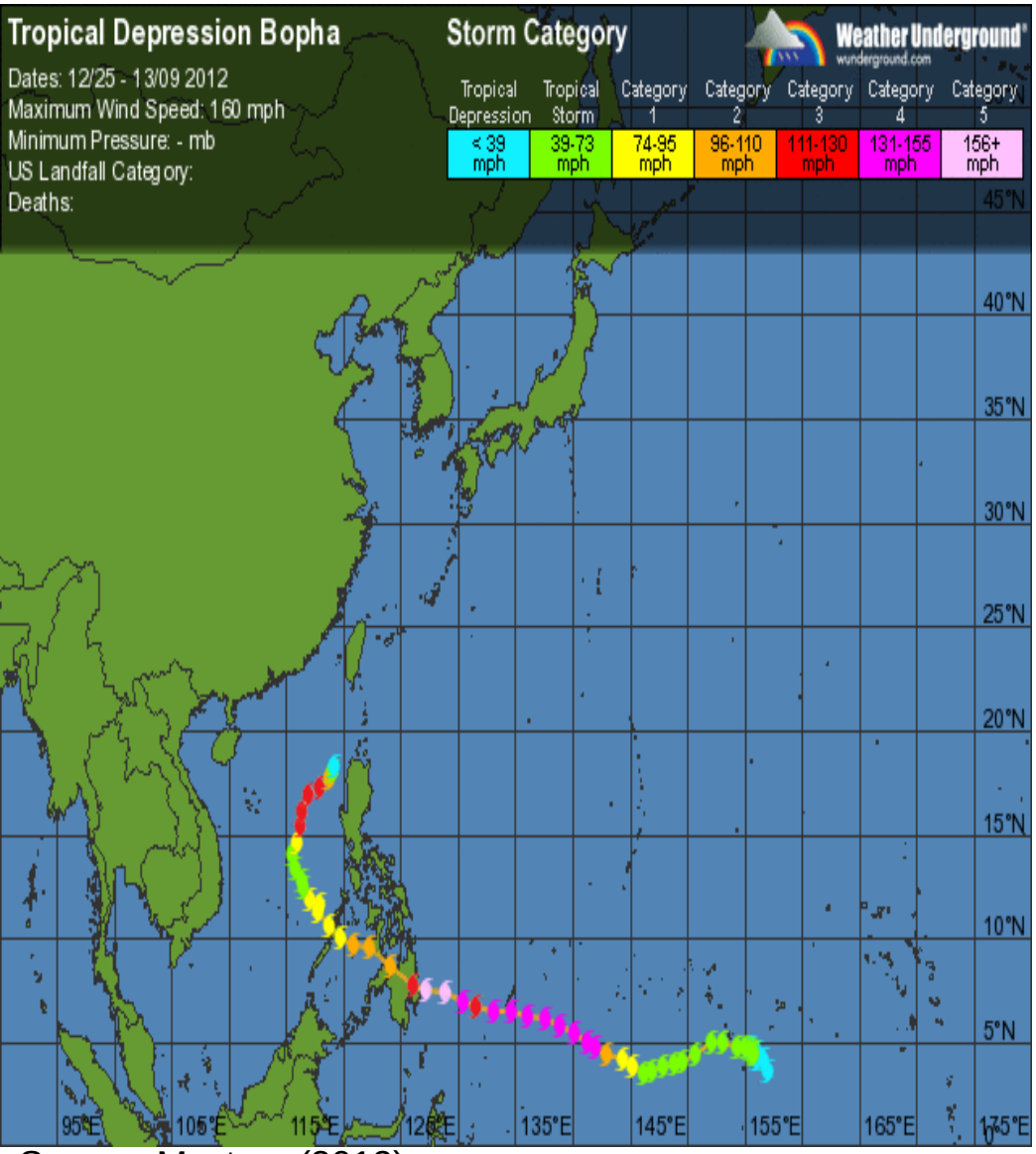
Typhoon Pablo (Bopha)



Source: Masters (2012)

2 Dec 2012 – Pablo (Bopha) entered PAR @ 6 PM

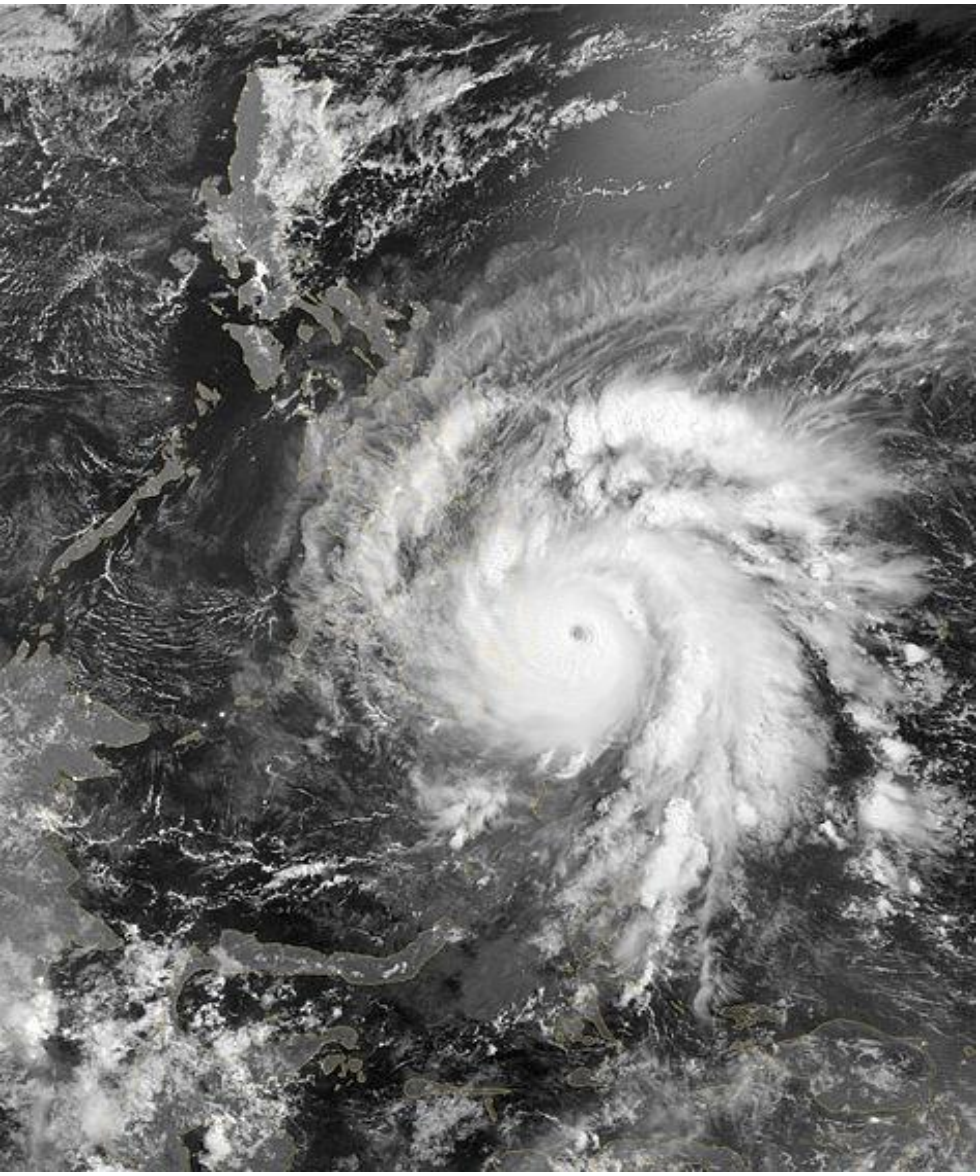
3 Dec 2012- Bopha rapidly intensified into a Category 5 Super Typhoon late on 3 Dec

4 Dec 2012- Pablo made landfall over Baganga in Davao Oriental, as a Category 5 Super Typhoon @ 4:45 AM

5 Dec 2012- Pablo struck the island of Palawan

6 Dec 2012- Pablo weakened into a tropical storm

Typhoon Pablo (Bopha) , 4 December 2012



Source: NASA (2012)

World's deadliest storm in 2012 (strong winds- 260 km per hour and heavy rainfall- 500 mm in 24 hours);

Reportedly the most powerful storm to hit southern Mindanao in more than 100 years.

Area affected: Eastern Mindanao (Regions XI & XII); Davao Oriental and ComVal mostly affected

Affected 6.2 million people
1,146 people reported dead
834 people remain missing
233,190 houses totally or partially affected

Source: LWR Situation Report, 2 July 2013

Scenes of Destruction (Pablo)

Devasted Banana Plantation in Compostela Valley
(Courtesy of Rex Rola, Ateneo de Davao University)

Devastated Coconut Plantation in Cateel, Davao Oriental
(Courtesy of Vincent Oskam, Ateneo de Davao University)

Source: Otadoy et al., 2014

Devastated Fish Cages in Panabo, Davao del Norte
(Courtesy of Glenn Depra, Ateneo de Davao University)

Homes Destroyed in Cateel, Davao Oriental

Source: Otadoy et al. (2014)

Homes and Livelihood destroyed in New Bataan, ComVal Province

Coconut Farms destroyed in Cateel, Davao Oriental

Costs of Destruction (Pablo)

DA estimated cost of damage at more than PhP 30 billion (USD 750 million)

Banana Industry:		PhP 20 Billion (USD 500 Million)
Coconut Farms	:	PhP7.22 Billion (USD 193 Million)
Rice	:	PhP 197 Million (USD 5 Million)
Maize:	:	PhP 362 Million (USD 9 Million)

Source: Emergency Food Security, Nutrition & Livelihood Assessment for Typhoon Pablo, January 2013.

Outline

- Why Build Back Better?
- Three Cases
- Towards a Culture of Resilience and Adaptation

Why Build Back Better?

- Geographical location of the Philippines
- Changing Climate Regime
- Vulnerable Conditions

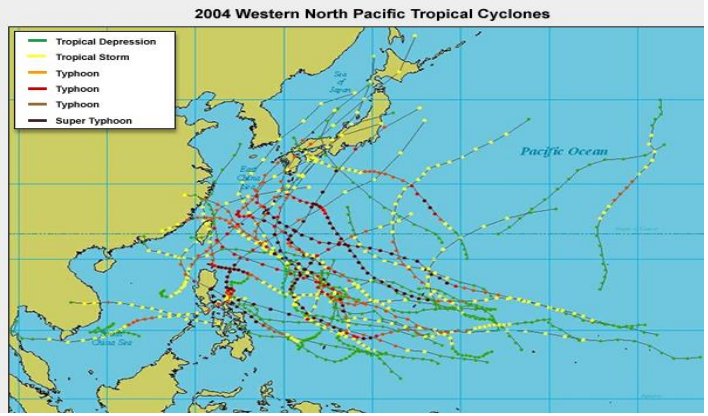
Natural Geophysical Location

- Situated in the Pacific Ring of Fire

Mt. Pintubo eruption

Bohol earthquake

- Located in the Western North Pacific typhoon belt (on average 20 typhoons a year)



Source: Otadoy et.al. (2014)

Table 1. Change in the number and percentage of hurricanes in categories 4 and 5 for the 15-year periods 1975–1989 and 1990–2004 for the different ocean basins.

Basin	Period			
	1975–1989		1990–2004	
	Number	Percentage	Number	Percentage
East Pacific Ocean	36	25	49	35
West Pacific Ocean	85	25	116	41
North Atlantic	16	20	25	25
Southwestern Pacific	10	12	22	28
North Indian	1	8	7	25
South Indian	23	18	50	34

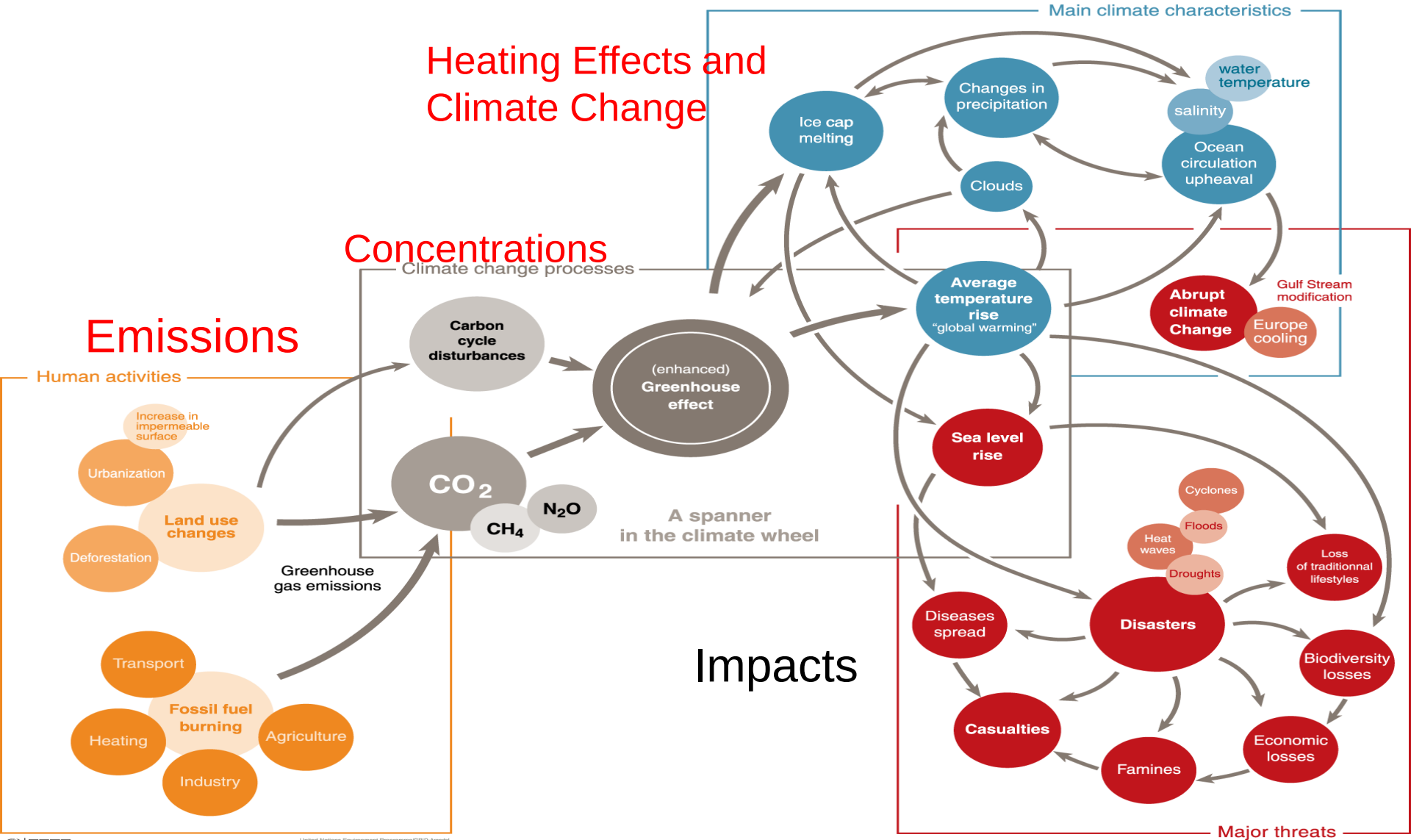
Science 1844(Vol.309, No.5742, 2005)

Philippines: Land of Deadly Natural Disasters

- One of the top 5 countries that are highly vulnerable and susceptible to natural disasters (Guha-Sapir et al., 2013).
- Ranked second in the world in the number of people affected by natural disasters (CDRC, 2013).

Source: Otadoy et. al. (2014)

Climate Change: Processes, characteristics and threats



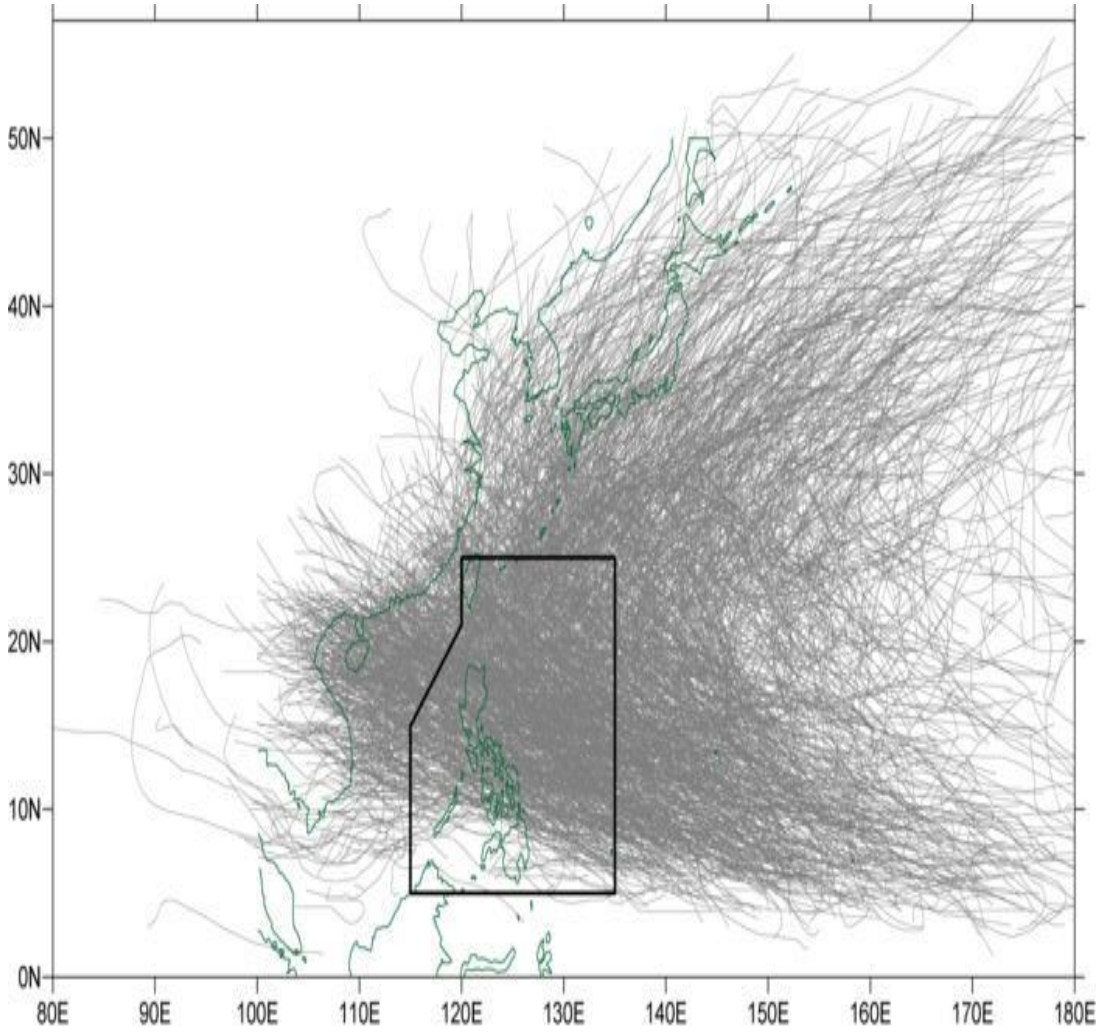
Source: *Source: UNEP/GRID–Arendal, 'Climate change: processes, characteristics and threats', designed by Philippe Rekacewicz, UNEP/GRID–Arendal Maps and Graphics Library, 2005,*http://maps.grida.no/library/files/storage/climate_change_processes_characteristics_and_threats.png (last accessed: 21 January 2008)

National Scenario:

Is the Philippines affected?	Yes	No
Increasing ocean temperature	√	
Changing rainfall trends	√	
Sea level rise	√	
Extreme events (typhoons, floods, drought, heavy precipitation events)	√	

Source: McNamara (2012)

Extreme Events



Source: E G Anglo

Climate change will result in the increase on the frequency and intensity of extreme weather events, as well as significant impacts for more gradual and creeping change (Turnbull et al. 2013).

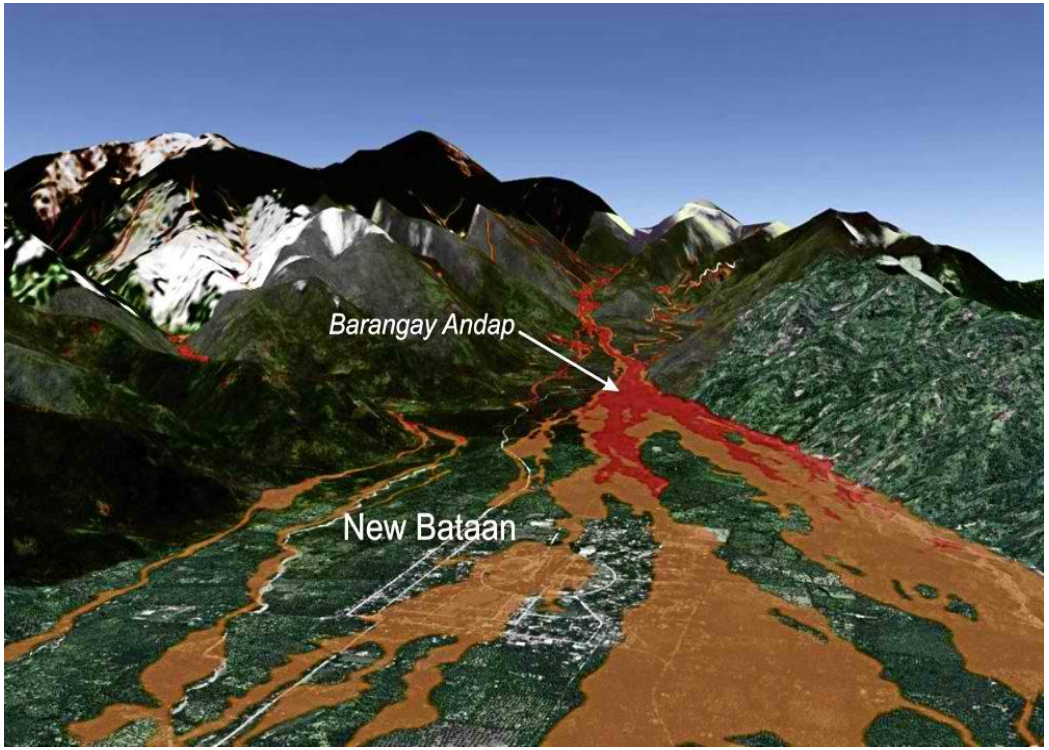
Anthony Oliver-Smith in "*The Angry Earth: Disaster in Anthropological Perspective*" (1999)

Disaster- as "failure of a society to adapt successfully to certain features of its natural and socially constructed environment in a sustainable fashion"

-"is made inevitable by the historically produced pattern of vulnerability, evidenced in the location, infrastructure, sociopolitical structures, production patterns and ideology, that characterized a society."

DISASTERS ARE NOT THE NECESSARY RESULT OF NATURAL HAZARDS BUT OCCUR ONLY WHEN THESE NATURAL HAZARDS INTERSECT WITH POORLY LOCATED AND POORLY CONSTRUCTED DEVELOPMENT OR BUILT ENVIRONMENT, AS WELL AS SOCIAL, ECONOMIC AND OTHER ENVIRONMENTAL VULNERABILITIES.

Source:Lopez (2012)



Participatory Rural Appraisal (PRA) in Andap, New Bataan

Possible reasons of extreme flooding:

- Rainfall was too high (swollen rivers)
- Landform change due to human habitation, bad mining practices, agriculture, etc.
- Forest denudation

Source: Magcale-Macandog (2013)

pre Pablo Vulnerability

•Food insecurity in Eastern Mindanao is between the range: medium to high level (FAO and WFP 2013)

•Davao Oriental and ComVal have acute and chronic malnutrition rates that are or above national average (DOST 2011)

•Davao Oriental and Agusan del Sur are two of the poorest provinces in the Philippines (NSCB 2009)

•Eastern Mindanao- dubbed the “timber and mining corridor of the Philippines- is environmentally vulnerable (CIP 2013)

The Challenge

The recovery and reconstruction processes provide an opportunity to strengthen the capacities of the communities and the government to cope with the impacts of Super Typhoon Pablo while reducing the people's vulnerability to future hazards and shocks.

Two Cases

- Reconstruction and Development Framework 2013-2016 of the Municipalities of Baganga, Cateel and Boston

- Disaster Proofing and DRR-CCA Mainstreaming Action Plan of New Bataan Water Services Cooperative (NEBAWASCO)

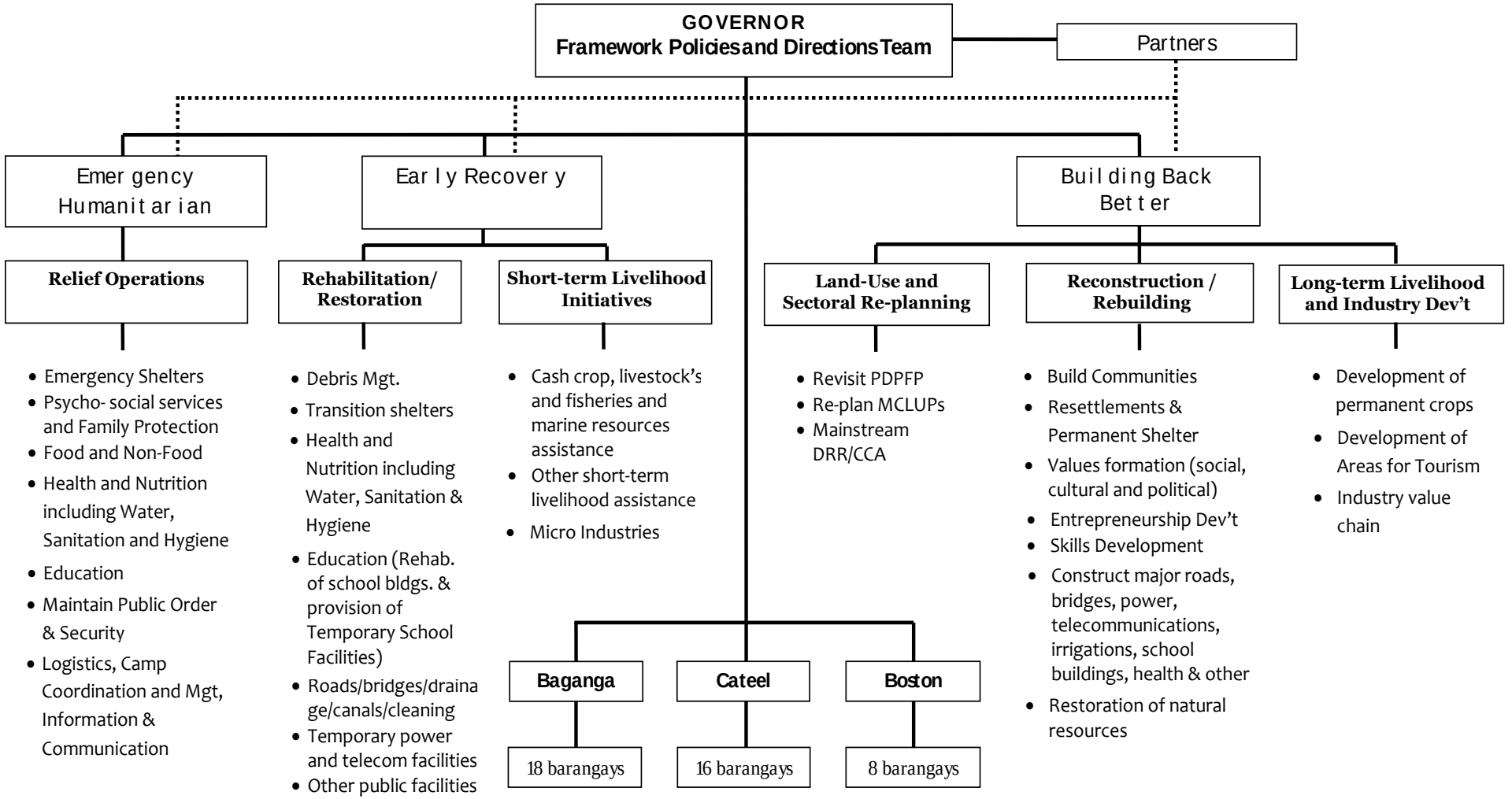
Reconstruction and Development Framework 2013-2016 of the Municipalities of Baganga, Cateel and Boston

Stages	Action Agenda	Timeline
Emergency Humanitarian Response	• Relief Operation	Dec 2012- June 2013
Early Recovery	• Rehabilitation and Provision of Food	Jan 2013- Dec 2013
Build Back Better	• Land Use and Sectoral Planning (Mainstreaming DRR-CCA) • Reconstruction • Livelihood and Industry Development	Jan 2013- Dec 2016

Building Back Better Stage

Tasks	Goods and Services
Revisiting the approved Provincial Development and Physical Framework Plan (PDPFP)	• Data updating, land use modification and rezonification
Replanning the Municipal Comprehensive Land Use Plan (MCLUP)	• Mainstreaming DRR-CCA • Identification of opportunities for development (e.g., agriculture, industry, tourism and environment)
Pursuing appropriate legislative actions	• Adoption of an updated land use plan • Zoning ordinances
Project Development	• Project Proposals
Provision of goods and services for agriculture, industry, and tourism development	• Development of agricultural areas for permanent cops • Development of industry value chain • Development of areas for toursim

Convergence Framework



Disaster Proofing and DRR-CCA Mainstreaming Action Plan of New Bataan Water Services Cooperative (NEBAWASCO)

• A Barangay Water Program – Rural Waterworks and Sanitation Association assisted by MLG-USAIDE and it was turned-over to Local Government Unit and renamed in June 2012- New Bataan Water Services Cooperative.

•Water distribution facilities were destroyed by Pablo

•Received financial assistance from PEF for rehabilitation of water infrastructure

NEBAWASCO's Vision, Mission and Goals

Vision – A leading provider of quality water in Compostele Valley Province.

Mission – To become a self sustaining water service provider with a well defined system of operations and advocating environment friendly development approaches for the improvement of quality of life of the people.

Goal – Adequate, reliable and potable water by the end of 2017. Better financial position, improved management system and consumers services.

NEBAWASCO's **Enhanced (Proposed) VMG and Programs**

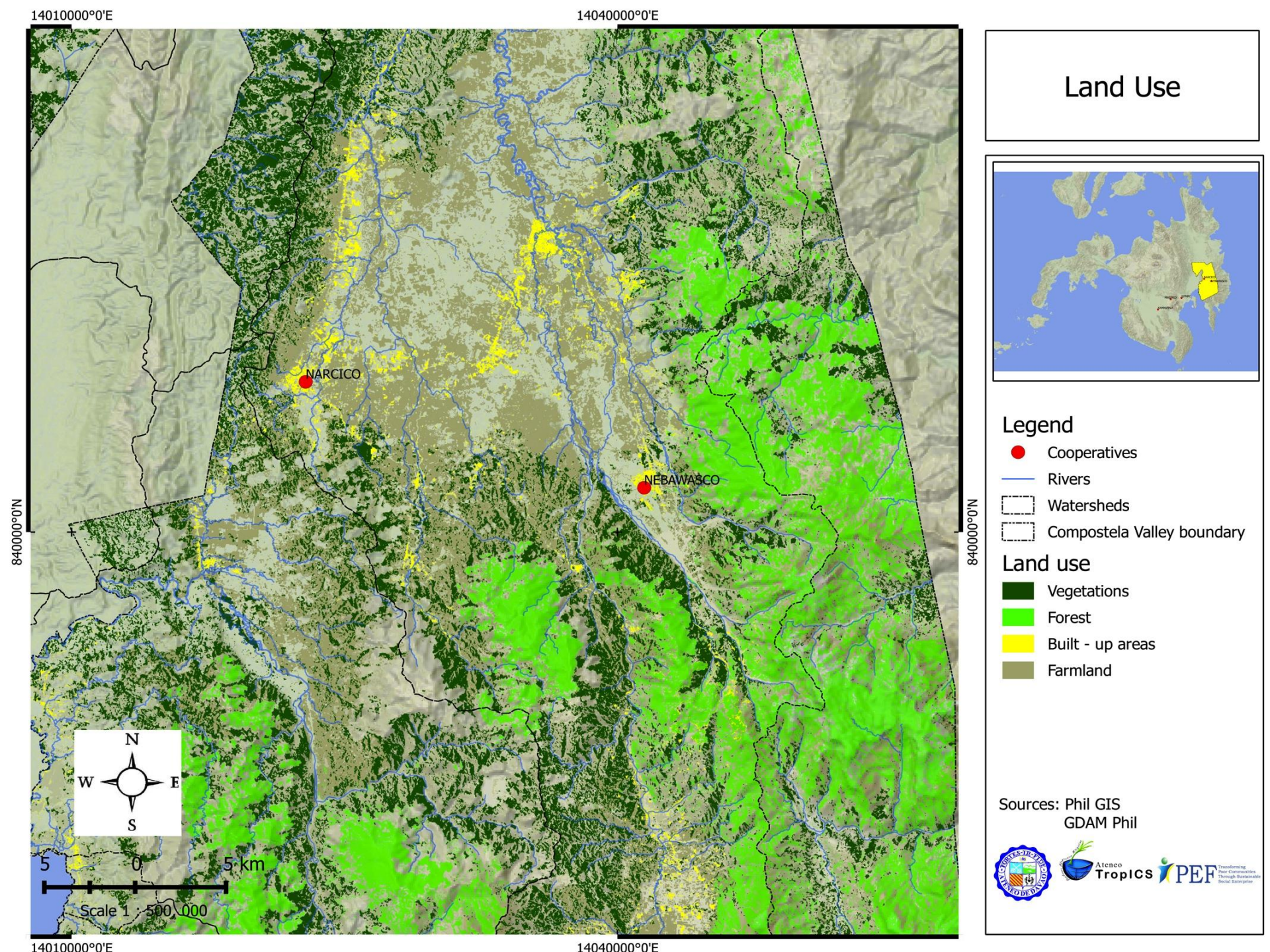
Vision

Sustainable provider of quality water in Compostela Valley... Disaster Resilient... Preserving the gift of Nature through Cooperative way of Life.

Goals

•A designed and better implementation of watershed development and management plan up to 2020.

•Promote and develop the quality of potable water and partnership to the government concern agency, Indigenous people, and other sectors with common understanding for future development.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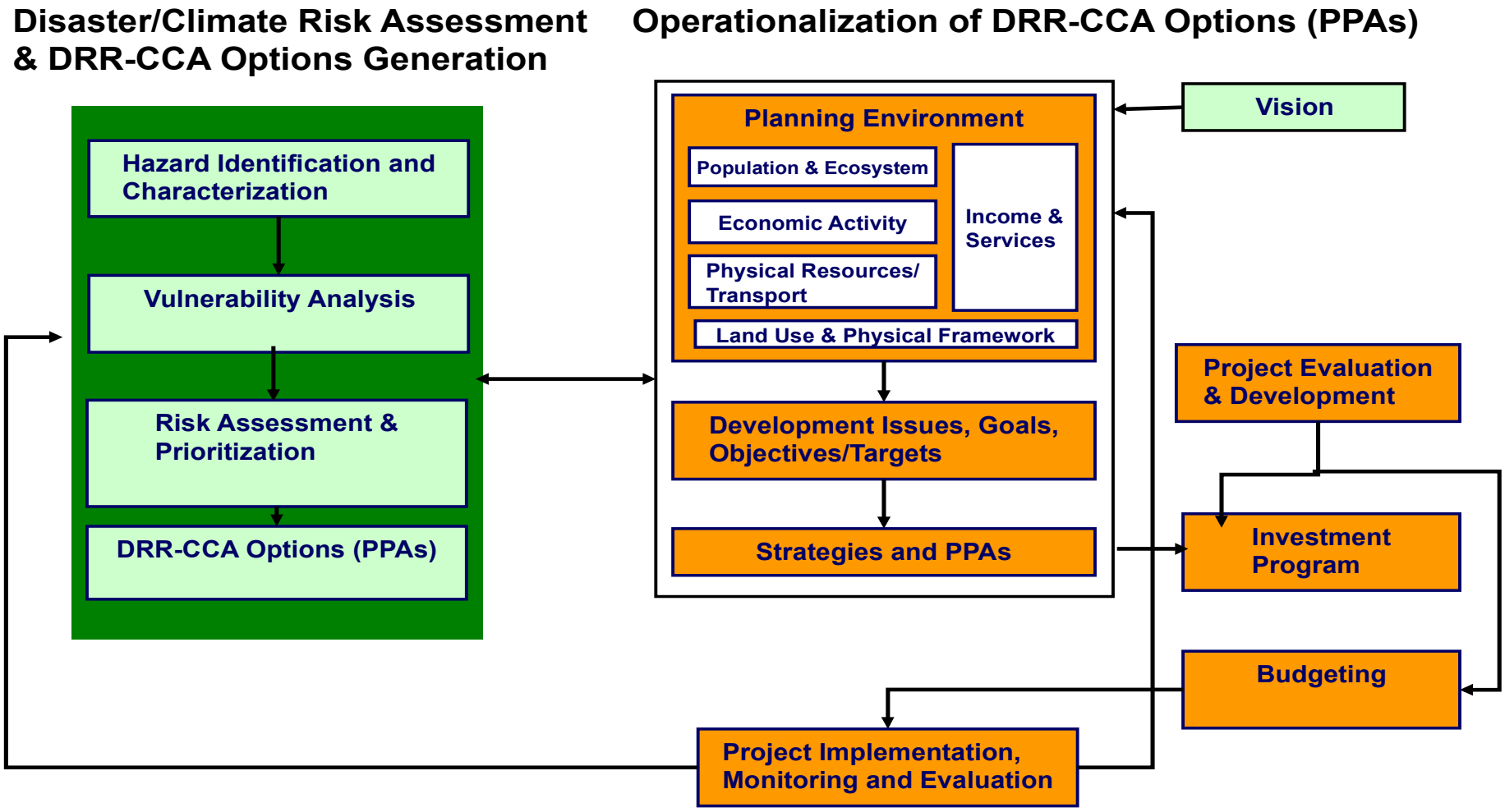
Land Use
Legend
Cooperatives
Rivers
Watersheds
Compostela Valley boundary
Land use
Vegetations
Forest
Built - up areas
Farmland
Sources: Phil GIS
GDAM Phil
Ateneo
TropICS
PEF

Mainstreaming Disaster Risk Reduction-Climate Change Adaptation in Local Planning: Framework and Processes



Source: Modified from NEDA

Integrating DRR and Climate Change Adaptation

- Impact of climate change on natural hazards
- Extent of climate change effects in areas of the country
- Vulnerability analysis (eg, population segments, sectors)

→ Local land use plans

- DRR/CCA considered in programming and prioritization of programs and projects
- DRR/CCA parameters in project development and evaluation
  - Risk analysis
  - Environmental and social impacts
  - Infrastructure design and standards
  - Economic costs

→ Local investment program (programs/projects)

- Local calamity fund for DRR/CCA projects
- Market-based instruments (clean development mechanism, local taxes, fees and charges)

→ Annual local budget

Source: ASOG (nd)

TAKE RESPONSIBILITY FOR RISK

Invest in risk reduction
Use cost–benefit analysis to target the risks which can be most efficiently reduced and which produce positive economic and social benefits

Take responsibility
Develop a national disaster inventory system to systematically monitor losses and assess risks at all scales using probabilistic models

Anticipate and share risks that cannot be reduced
Invest in risk transfer to protect against catastrophic loss, and anticipate and prepare for emerging risks that cannot be modelled

INTEGRATE DRM INTO EXISTING DEVELOPMENT INSTRUMENTS AND MECHANISMS

Regulate urban and local development
Use participatory planning and budgeting to upgrade informal settlements, allocate land and promote safe building

Protect ecosystems
Employ participatory valuation and management of ecosystem services and mainstreaming of ecosystem approaches in DRM

Offer social protection
Adapt conditional cash transfer and temporary employment schemes; bundle micro-insurance and loans; consider social floor and poverty line

Use national planning and public investment systems
Include risk assessments in national and sector development planning and investment

BUILD RISK GOVERNANCE CAPACITIES

Show political will
Place policy responsibility for DRM and climate change adaptation in a ministry with political authority over national development planning and investment

Share power
Develop decentralized, layered functions; use principle of subsidiarity and appropriate levels of devolution including budgets and to civil society

Foster partnerships
Adopt a new culture of public administration supportive of local initiatives and based on partnerships between government and civil society

Be accountable
Ensure social accountability through increased public information and transparency; use performance-based budgeting and rewards

Source: ASOG (nd)

Towards a Culture of Resilience and Adaptation

Gregory Bankoff, "LIVING WITH RISK; COPING WITH DISASTERS: Hazard as a Frequent Life Experience in the Philippines" (2007)

Culture of Disaster

Culture of Coping

Culture of Adaptation

Continuum of adaptation activities

Vulnerability focus — Impacts focus

Addressing the drivers of vulnerability

Activities seek to reduce poverty and other non-climatic stressors that make people vulnerable

Building response Capacity

Activities seek to build robust systems for problem solving

Managing climate risks

Activities seek to incorporate climate information into decision-making

Confronting climate Change

Activities seek to address impacts associated exclusively with climate change

Source: Closing the Gaps: Commission on Climate Change and Development (2009)


DAGHANG SALAMAT!