

# RISK MANAGEMENT STRATEGIES: THE PHILIPPINE EXPERIENCE



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# BACKGROUND:

- *The Philippines is among the most disaster prone countries being in the circum Pacific Ring of Fire*
- *Has a wide range of multi-hazards- seismic, hydrometeorological*
- *Has regulatory system(s) in place using QRA as basis for decisionmaking (e.g. EIA system)*



# CURRENT INITIATIVES EMPHASIZING USE OF RISK ASSESSMENT/MANAGEMENT

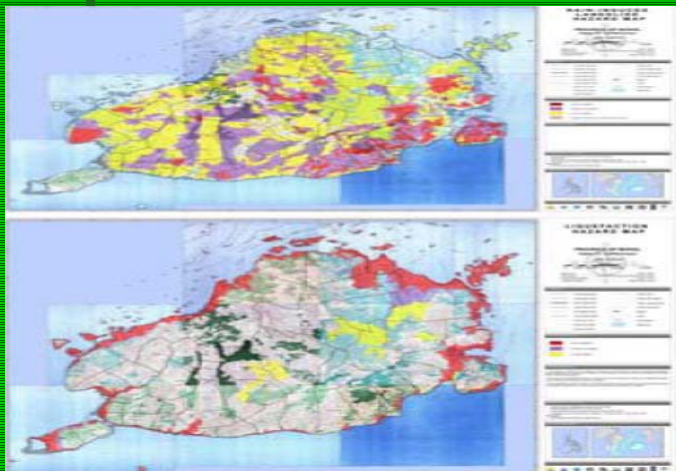


- **Disaster Risk Management Framework**

- **Strategic National Action Plan on Disaster Risk Reduction (SNAP)**

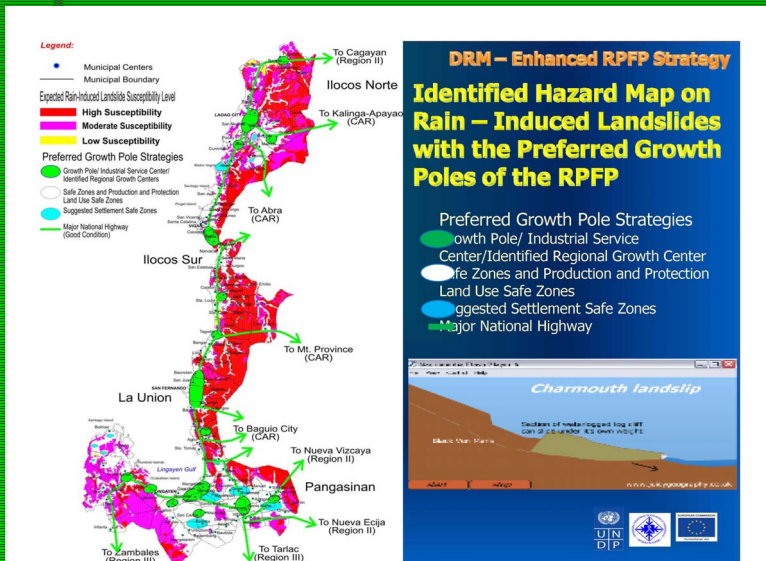
- **Multi-hazard mapping & community-based early warning systems**

- **DRM/CRM mainstreaming into land use/dev't. planning**



# SUMMARY: APPROACH TO RISK MANAGEMENT

- Risk assessment/quantification
- Drawing up risk management options- avoidance, mitigation, transfer/sharing, risk resilient recovery



- Mainstreaming risk management options into land use/dev't. planning/implementation



# IMPLICATIONS IN TERMS OF BALI PLAN IMPLEMENTATION

1. *Responding to technical requirements & financial costs of developing risk-based planning & programming processes at the nat'l. & local levels.*

*Per the Phil. experience, approximately US\$ 11 million is needed for the shift in the planning paradigm. Such an exercise will also require information & tech. transfer (e.g. use of GIS based models, maps). In terms of time frame, everything can reasonably be completed within 2-3 years.*

## PLANNING ENVIRONMENT

*Top 10 Areas with Estimated Risk to Fatalities due to Flooding*

Rank	Municipality/ City	Province	Estimated Fatalities	Priority
1	Butuan City	ADN	0.6896	1
2	Surigao City	SDN	0.1294	1
3	Magallanes	ADN	0.1123	1
4	San Francisco	ADS	0.0863	1
5	Bayugan City	ADS	0.0581	1
6	Placer	SDN	0.0515	1
7	Cabadbaran City	ADN	0.0500	1
8	Bislig City	SDS	0.0442	1
9	Bunawan	ADS	0.0399	1
10	Tago	SDS	0.0361	1

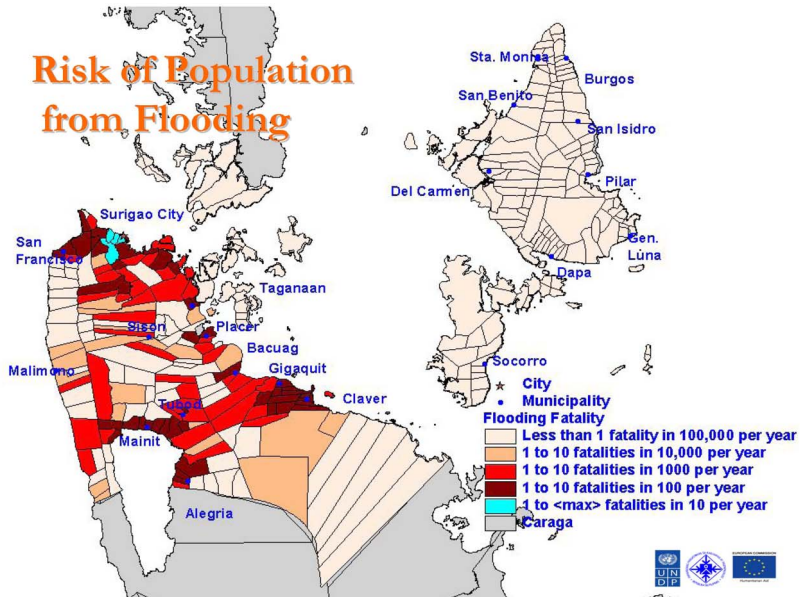
LEGENDS  
 Provincial Boundary  
 Municipal Boundary  
 Estimated Flood Risk to Population:  
 Less than 1 fatality in 100,00 per year  
 1 to 10 fatalities in 10,000 per year  
 1 to 10 fatalities in 1,000 per year  
 1 to 10 fatalities in 100 per year  
 1 to <math>infty</math> fatalities in 10 per year



Fourth Project Governing Board Meeting, October 21, 2008, Astoria, Oregon

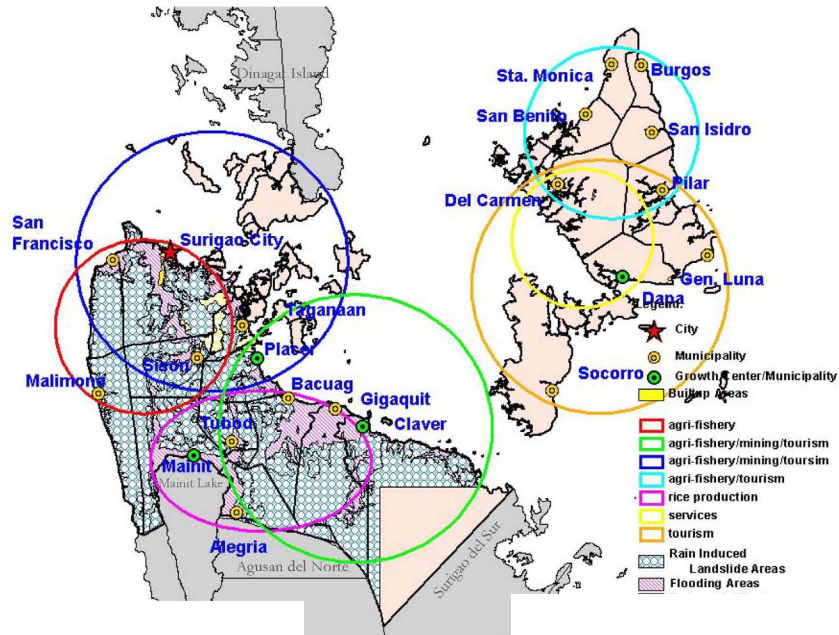
# IMPLICATIONS IN TERMS OF BALI PLAN IMPLEMENTATION cont...

## Risk of Population from Flooding



2. Responding to the technical and financial needs of implementing the results of risk-based planning in (1).

■ *The Phil. experience indicates that serious consideration of alternative dev't. options (not BAU) will have to be resorted to. Cost implications will be in terms of technology shifts, infrastructure change, capacity dev't., new financial mechanisms for economic diversification, insurance etc..).*



## Goal-Objective-Strategy-PPA Matrix

### A. Settlements

DEVELOPMENT ISSUES & CHALLENGES	GOAL	OBJECTIVE /TARGETS	STRATEGIES /POLICIES	PROGRAMS/PROJECTS/ ACTIVITIES
Potential for high fatality in urban areas and other medium towns against Rain Induced Landslide (RIL), Earthquake Induced Landslide (EIL), liquefaction and flooding	Reduce risk of fatality	<ul style="list-style-type: none"> <li>Reduce fatality to a tolerable level in high risk areas/ clusters identified.</li> <li>Ensure resiliency of population/ communities during emergencies.</li> </ul>	<ul style="list-style-type: none"> <li>Encourage the establishment of settlement in low/no risk areas.</li> <li>Discourage basic services support in high risk areas.</li> <li>Institutionalize Community-Based Disaster Risk Management.</li> </ul>	<ul style="list-style-type: none"> <li>Relocation of informal settlement in coastal areas and public easement high risk to storm surges.</li> <li>Rapid seismic assessments of buildings and structures, vulnerability assessments of site conditions.</li> <li>Hazard Micro zoning activities for LGUs in cooperation with PHIVOLCS, PAGASA and MGB.</li> <li>Expansion of Emergency Response Network</li> <li>IEC on Disaster Preparedness Program</li> </ul>



### D. Infrastructure

DEVELOPMENT ISSUES & CHALLENGES	GOAL	OBJECTIVE/ TARGETS	STRATEGIES/ POLICIES	PROGRAMS/ PROJECTS/ ACTIVITIES
Exposure of critical infra support to natural hazards.	To provide adequate infrastructure support to catalyze economic growth.	Ensure safe and efficient road slope/coastal protection facilities.	<ul style="list-style-type: none"> <li>Construct appropriate drainage structures along major roads.</li> <li>Construct structure to protect road slopes from landslides.</li> <li>Construct structure to protect coastal areas from erosion and storm surges.</li> </ul>	<ul style="list-style-type: none"> <li>Hydrologic risk assessments for roads and bridges.</li> <li>Lake Mainit Circumferential Road</li> <li>Construction of seawalls / natural and artificial buffers in storm surge prone areas.</li> <li>Stabilization of landslide-prone slopes along major roads.</li> </ul>



**Thank you!**