

Integrating Climate Change In Development Planning

MARINO DEOCARIZA
Environmental Planner

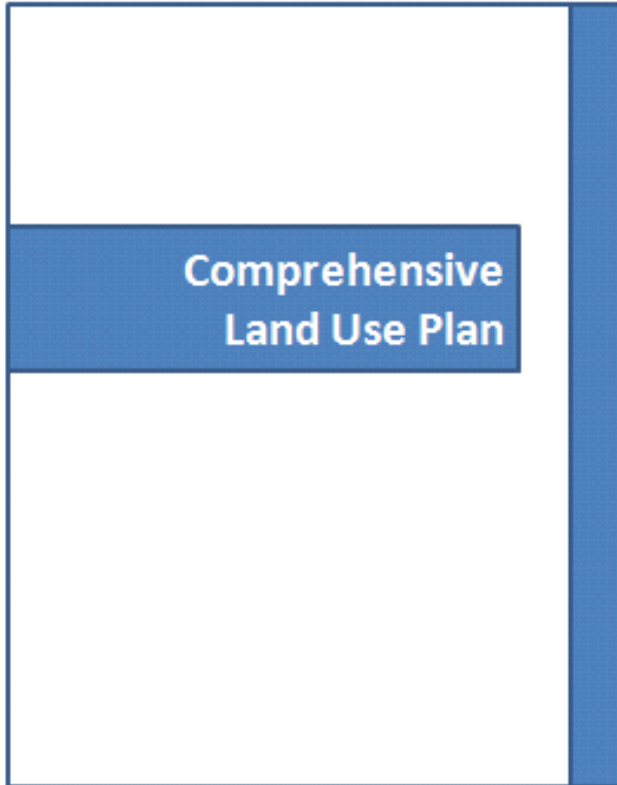
Outline

- Development Plans in the Philippines
- The Local Plans (CLUP and CDP)
- The Concept of Mainstreaming
- Climate Change Information
- CCA Strategies in Local Plans
- CCA in the CLUP of Tabaco City, Albay

Development Planning in the Philippines

National	• NPFP National Physical Framework Plan • PFP Philippine Development Plan
Regional	• RPFP Regional Physical Framework Plan • RDP Regional Development Plan
Province	• PPFP Provincial Physical Framework Plan • PDP Provincial Development Plan
City / Municipal	• CLUP Comprehensive Land Use Plan • CDP Comprehensive Development Plan

Local Level Plans



The CLUP - Comprehensive Land Use Plan

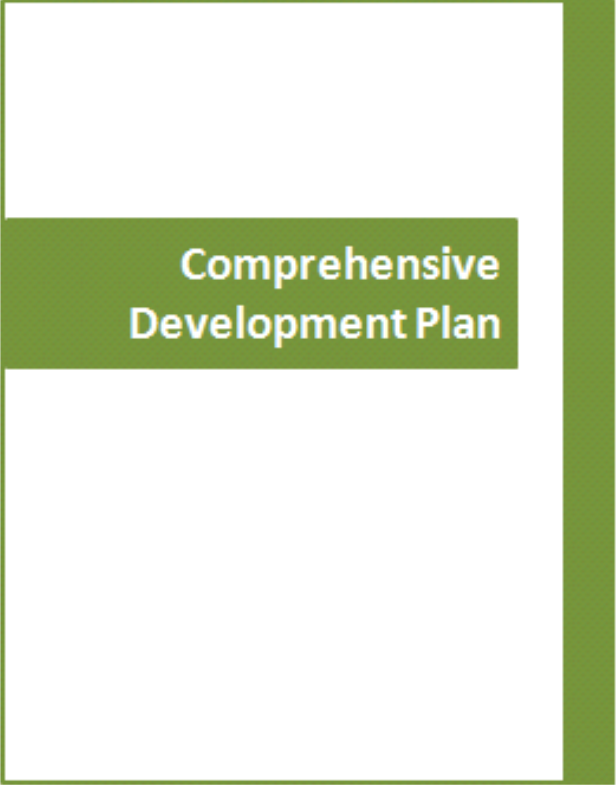
A Long term Plan (10-15 years)

Guide for the town's physical growth and development

Tool for managing land and natural resources

CLUP aims to allocate resources for different activities in a rational and judicious manner

Local Level Plans



Comprehensive Development Plan

The CDP - Comprehensive Development Plan

Medium term plan (3-6 years)

Socio-economic well-being

Covers key development sectors

- Social
- Economic
- Environment
- Infrastructure
- Institutional

Development Sectors

1.Environment



Rich in natural resources

2.Social



Inadequate socio-cultural facilities

3.Economic



High rate of unemployment

4.Infrastructure



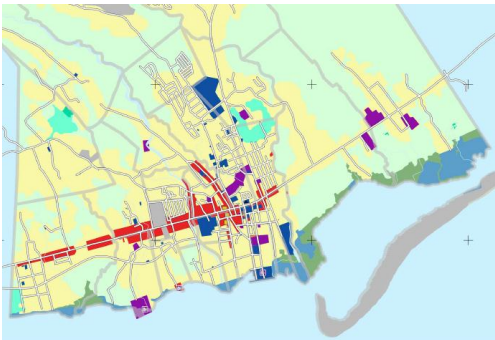
Lack of alternative roads

5.Institutional



Low budget allocation

Comprehensive Land Use Plan / Comprehensive Development Plan



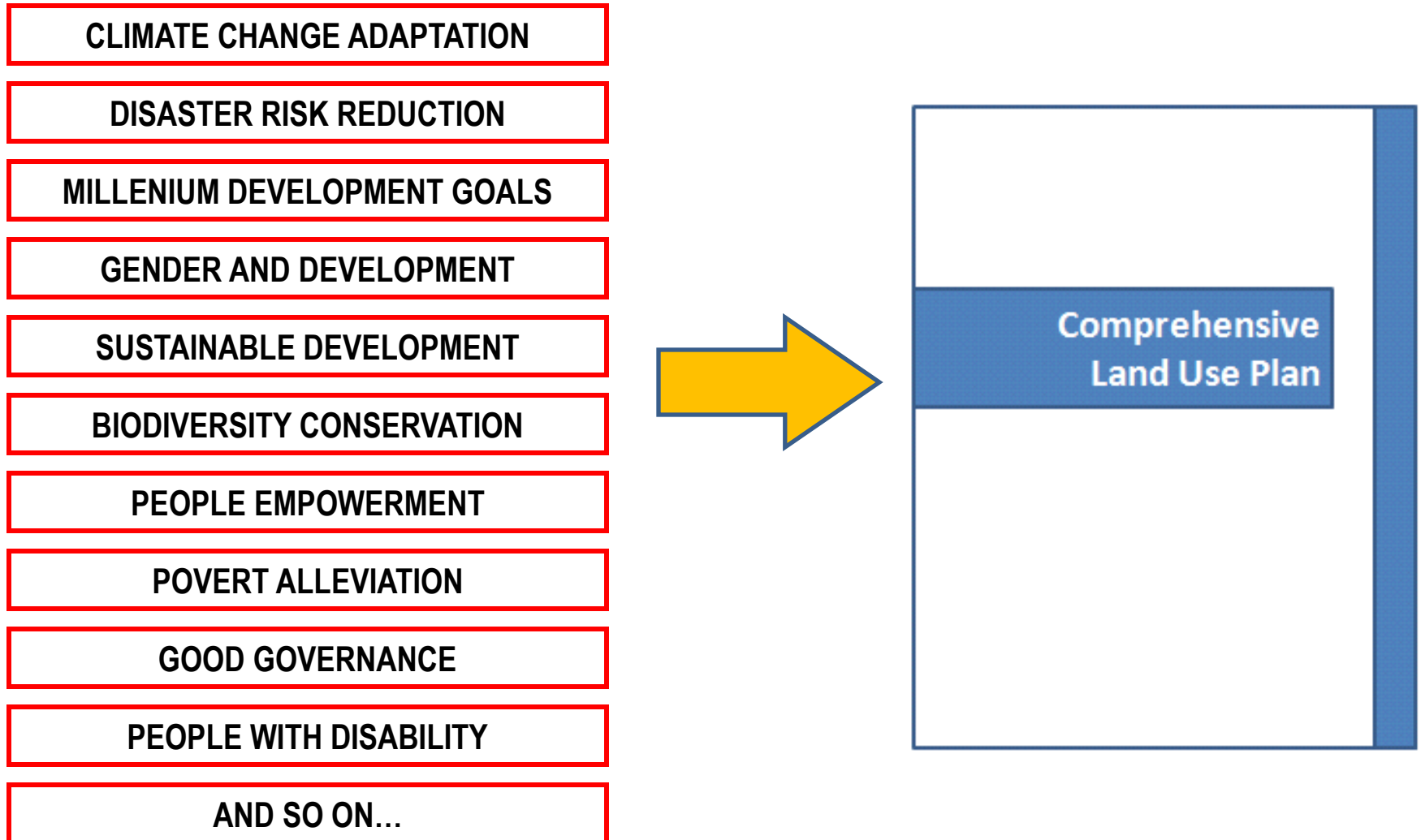
Mainstreaming

Mainstreaming means the inclusion or integration of a concept or principle into existing **structures, processes, plans, and systems**.

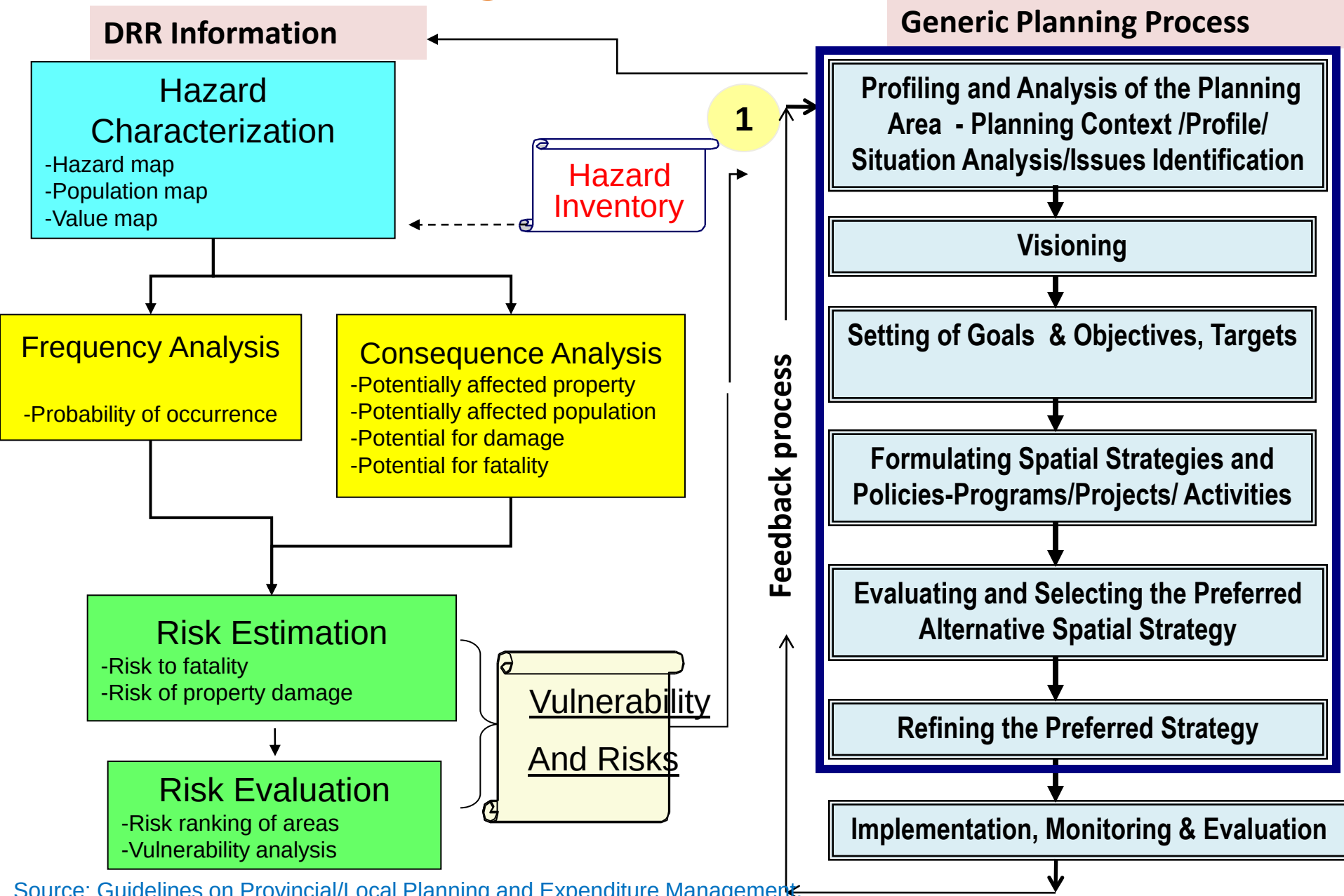
Mainstreaming does not require the creation of new systems but enhances existing ones.

Entry Points	Example: DRRM
Structure	Creation of Local DRRM Office
Process	DRRM-Sensitive Planning
Plan	DRRM-Sensitive CLUP & CDP
System	Policies, Budget, Permits

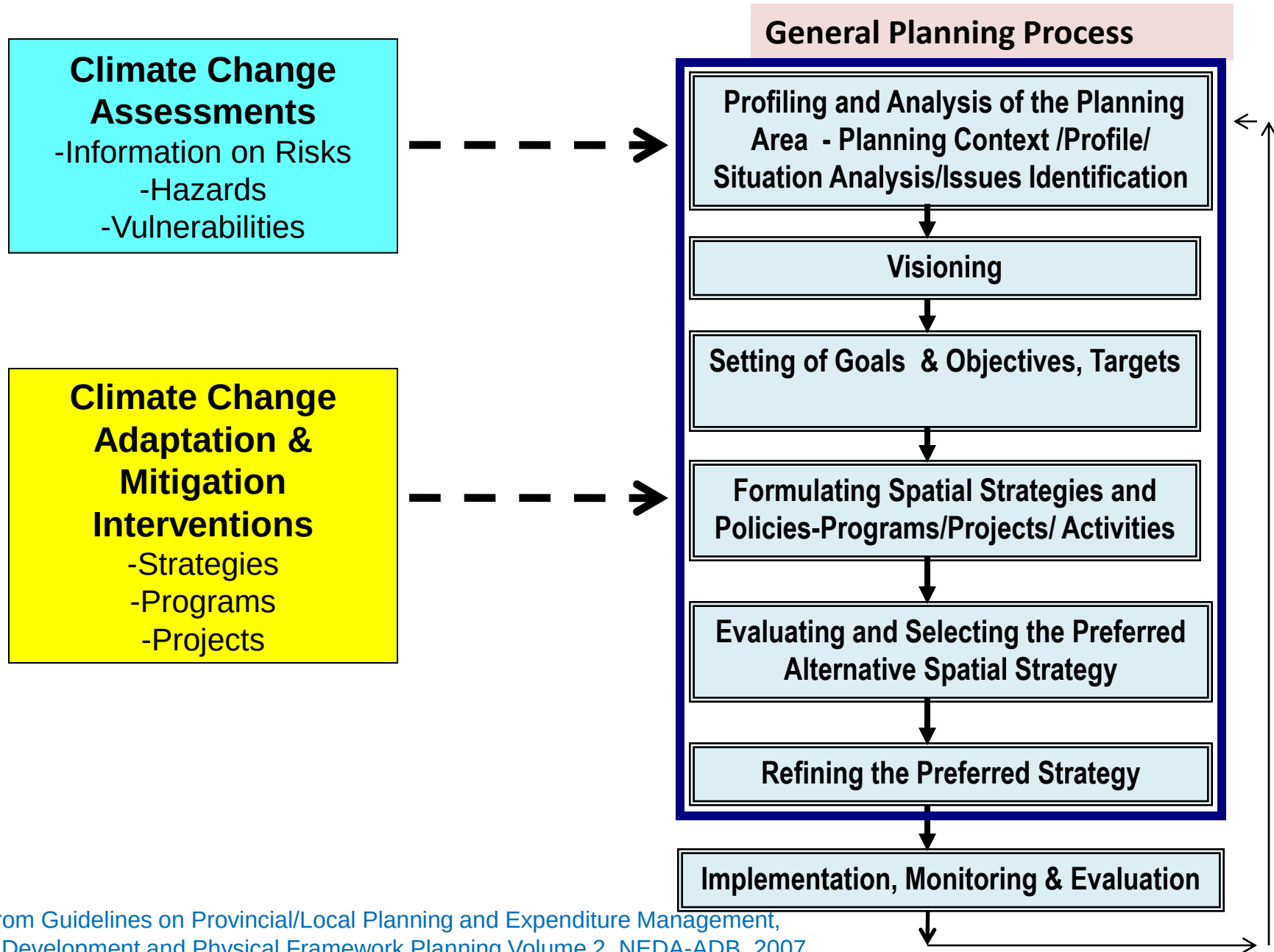
Mainstreaming Everything into CLUP



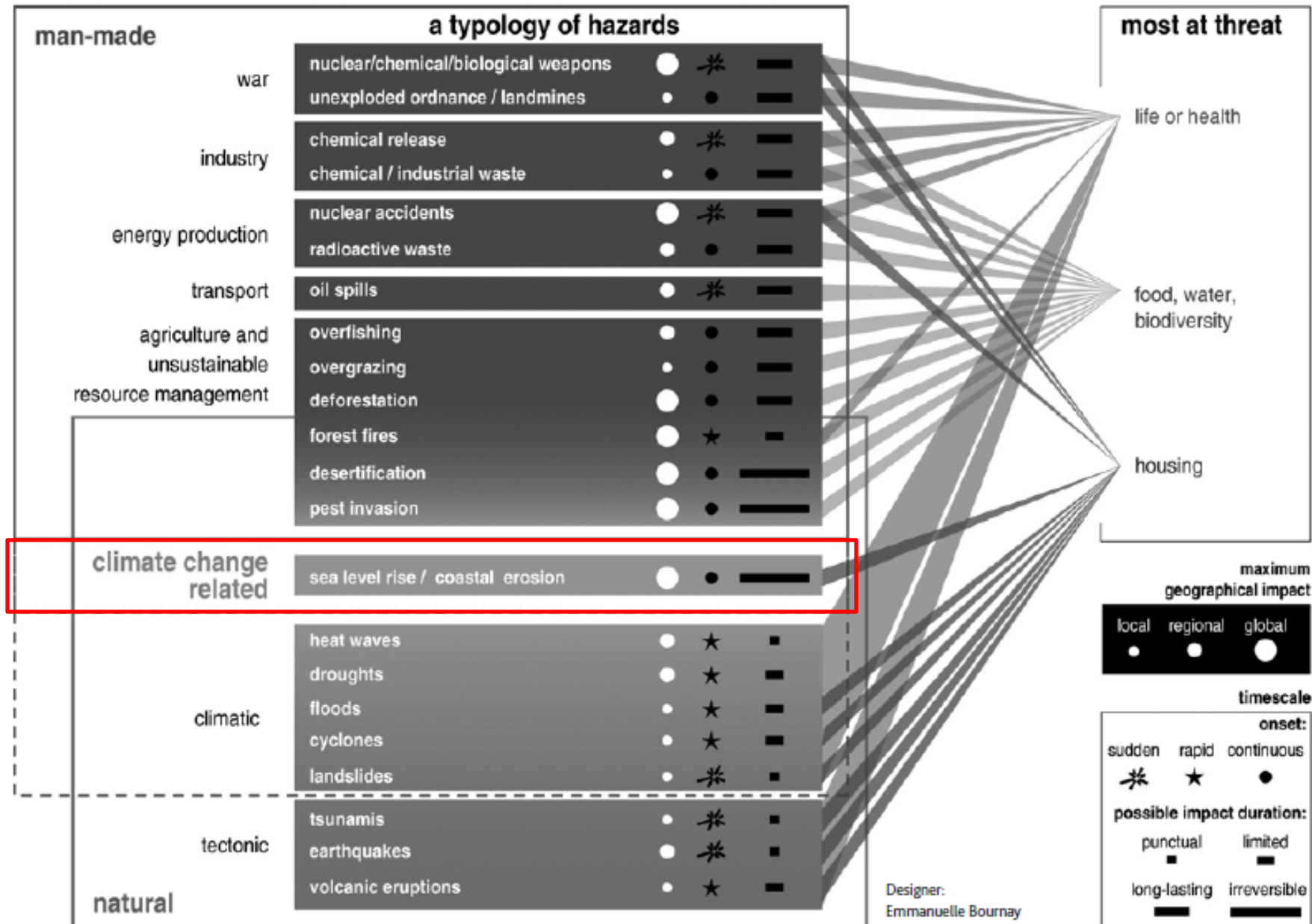
Mainstreaming DRRM into Planning Process



Mainstreaming Climate Change



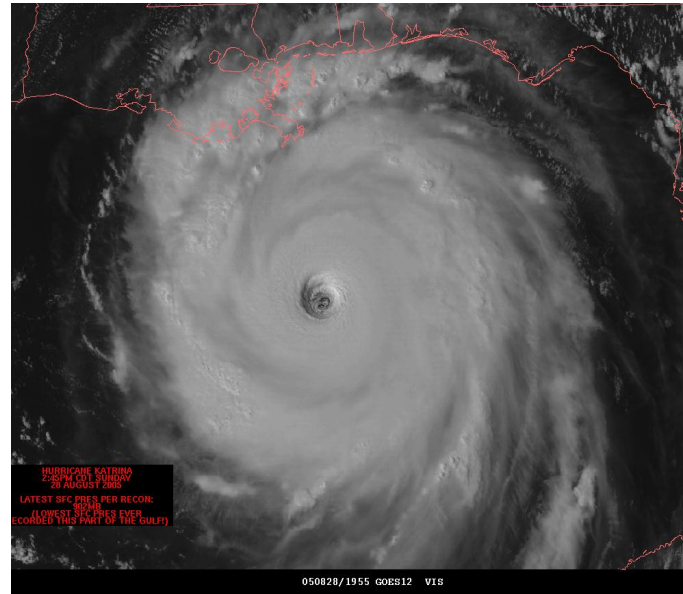
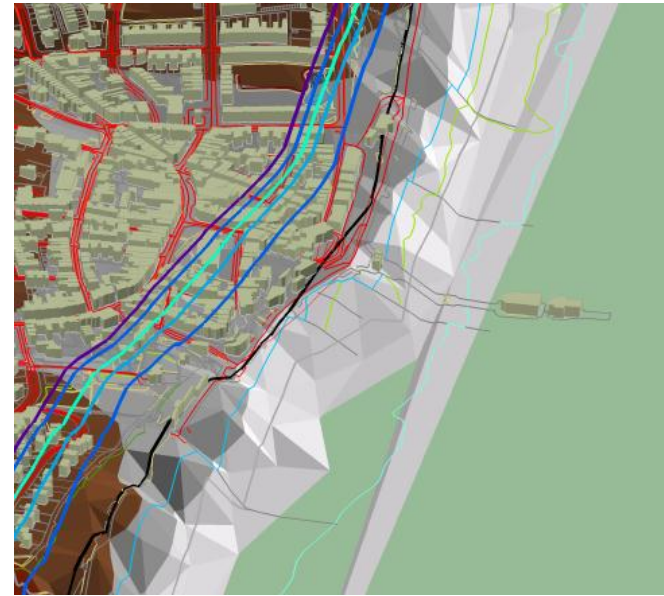
Climate Change Information



Sea Level
Rise

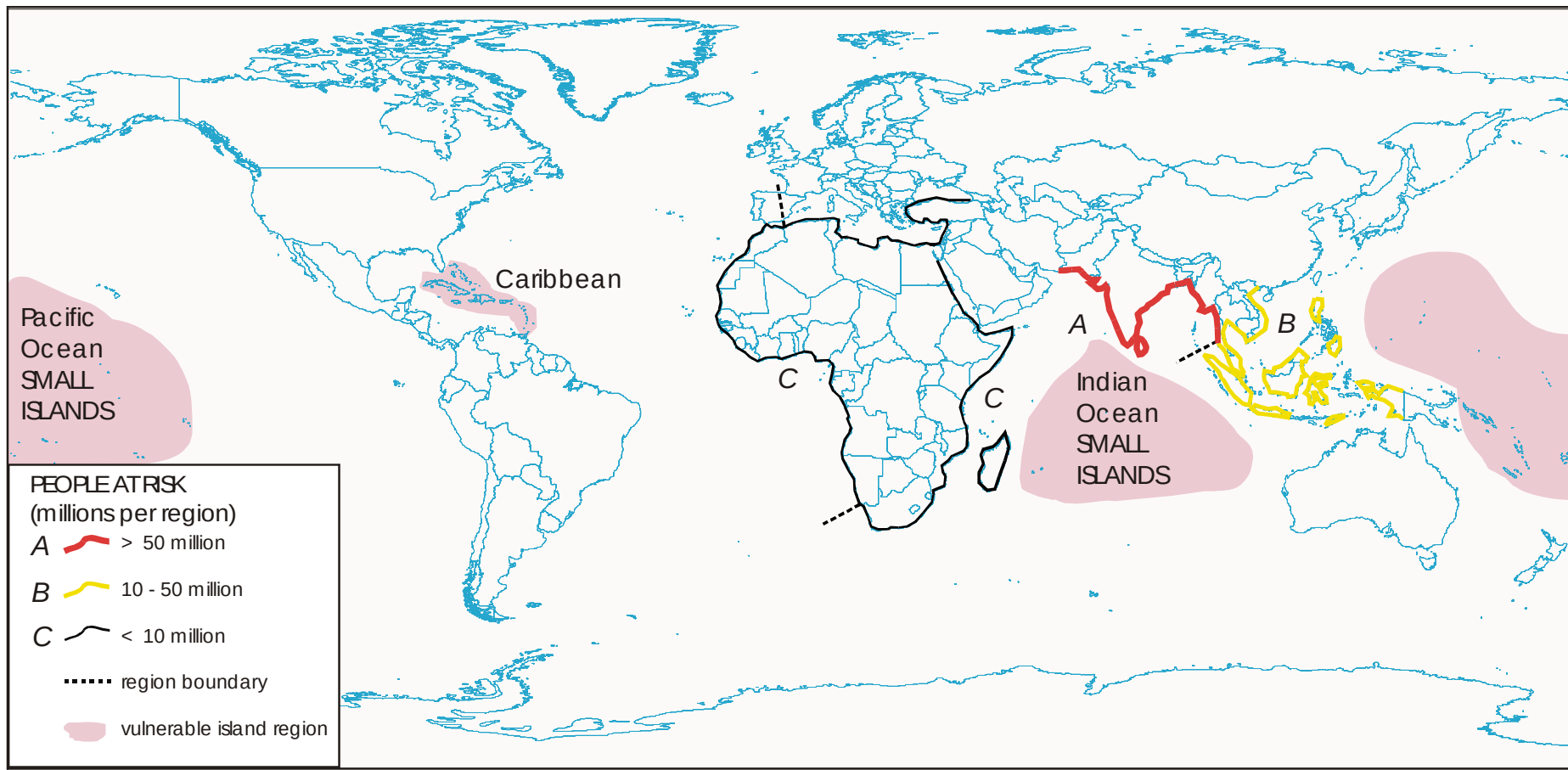
Coastal
Erosion

Extreme
Weather
Events

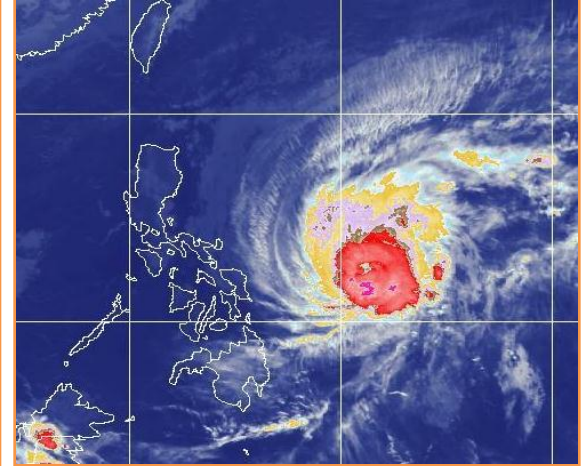


Vulnerable Regions

Mid-estimate (45 cm) by the 2080s



Typhoon



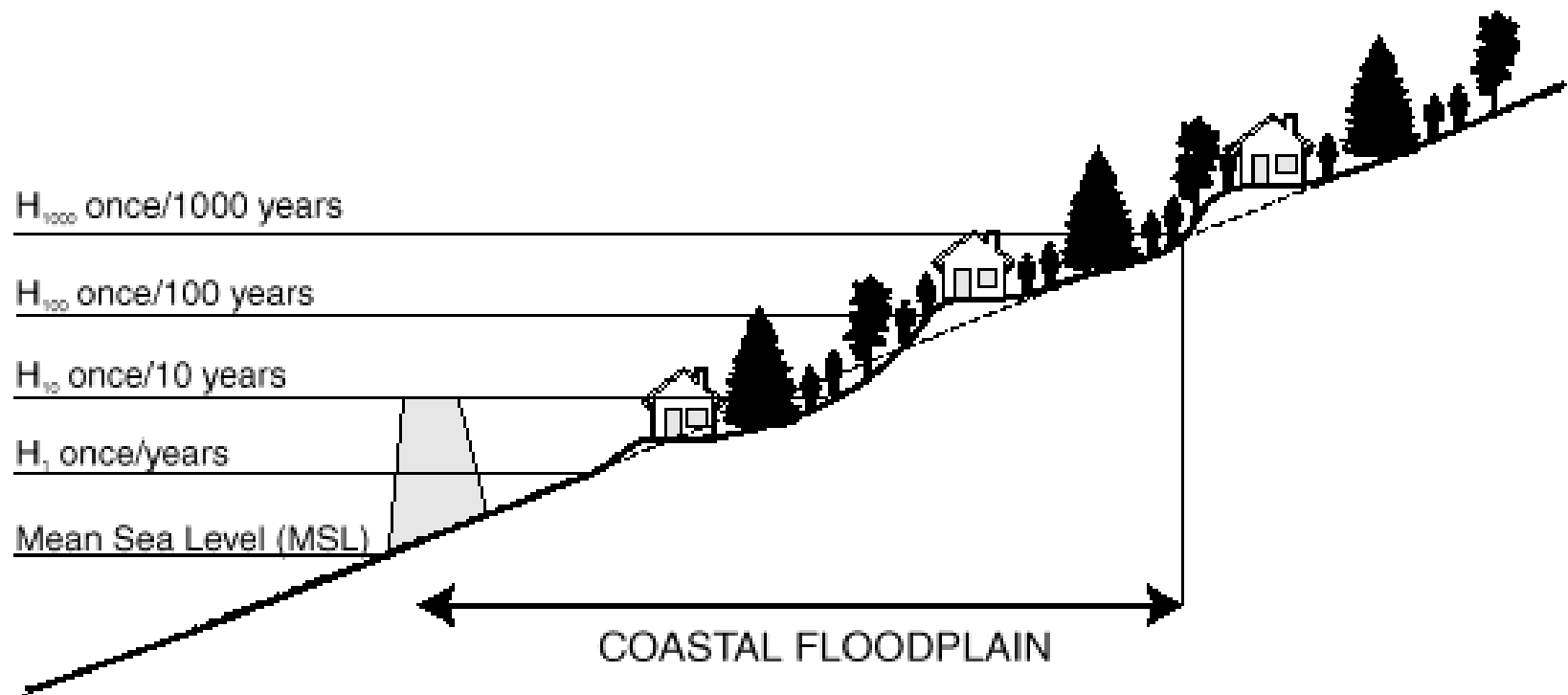
Flooding



Landslides



Coastal Flood Plain



CCA Strategies in CLUP

Plan Elements

Vision, Goal, Objective (VGOs), Strategy, Program s, Project, Activities (PPAs)

Vision	Goal	Objective/ Target	Strategy	Program	Project
•Long term •Aspirational •Summarizes the ideal state	•Medium-long term •Intersectoral •Desired outcome •Broad statement	•Short term •Sectoral •Responds to a specific problem •Specific •Measurable •Achievable •Realistic •Timebound	•States how goal/obj is to be achieved •Guides PPA identification and implementation	•Sectoral/intersectoral •Location specific •Translates strategy into action •Multi-project action	•Sectoral •Location specific and objective specific actions •Subset of program

Climate Adaptive Siting Principles

- **Protection of investment and people from hazards** – selection of safe sites should consider setback from flood lines, prohibition of development in areas with fire hazards or unstable shorelines or hillsides.
- **Protection and management of valuable and natural resources and environmental processes** - identify the ecosystem and apply standards or guidelines to preserve and manage plant covers, infiltration and run-offs, erosion, sedimentation, etc.
- **Protection and management of natural resources for economic reasons (tourism)** - density of the development should be controlled and preserve underground water supply against pollution by septic discharges and landfills.

CCA / CCM Strategies

- Restricted development (no development) in hazard-prone and environmentally critical areas (coastal zones, flood plains, slopes, etc.).
- Hazard mitigation measures (if feasible) in hazard-prone areas
- Removal or relocation of buildings in floodplains to safer grounds
- Protect critical facilities, such as schools and government buildings (e.g., elevate them or prohibit their construction in hazard-prone areas).
- Economic incentives (such as tax relief) that encourage or discourage development in high hazard areas.
- Government acquisition/buying out of properties, especially those in hazard prone areas.
- Climate adaptive farming (calendar, technologies, crop varieties, etc.)
- **Green Growth** (Green technologies, green energy, eco-tourism, etc.)
- **Smart Growth** (Compact development, walkable cities, transit-oriented development, etc.)

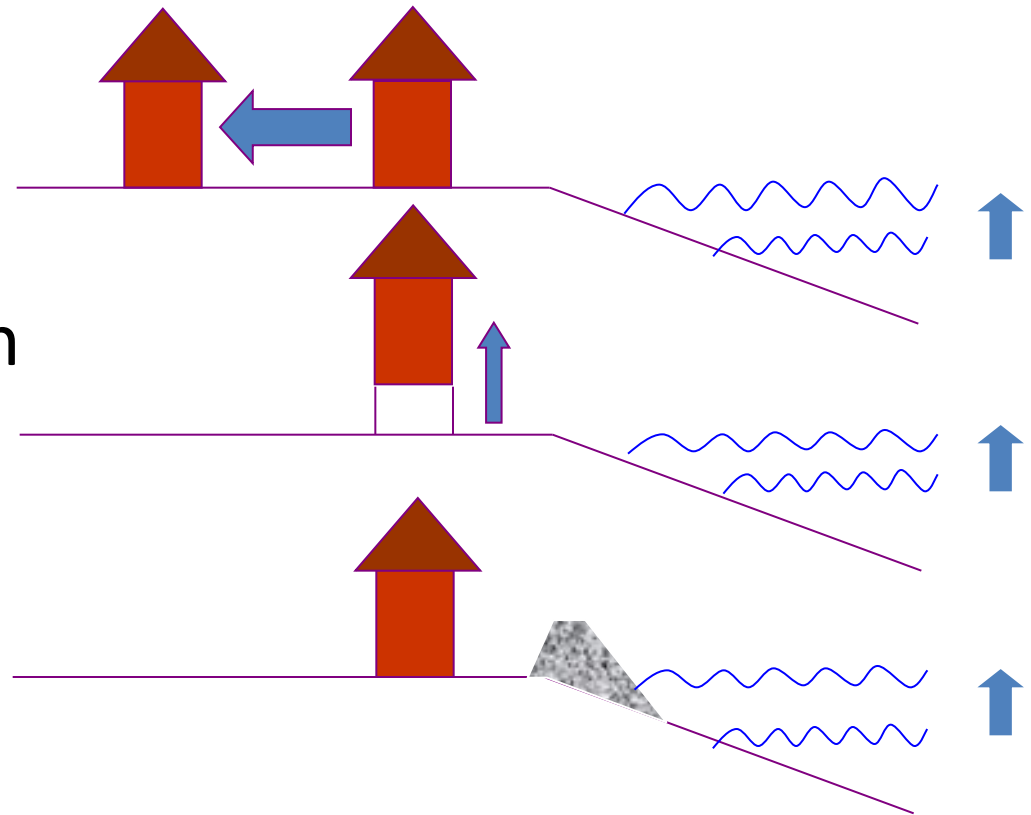
Strategies on Coastal Change

- Retreat

- Accommodation

- Protect

- Soft
- Hard



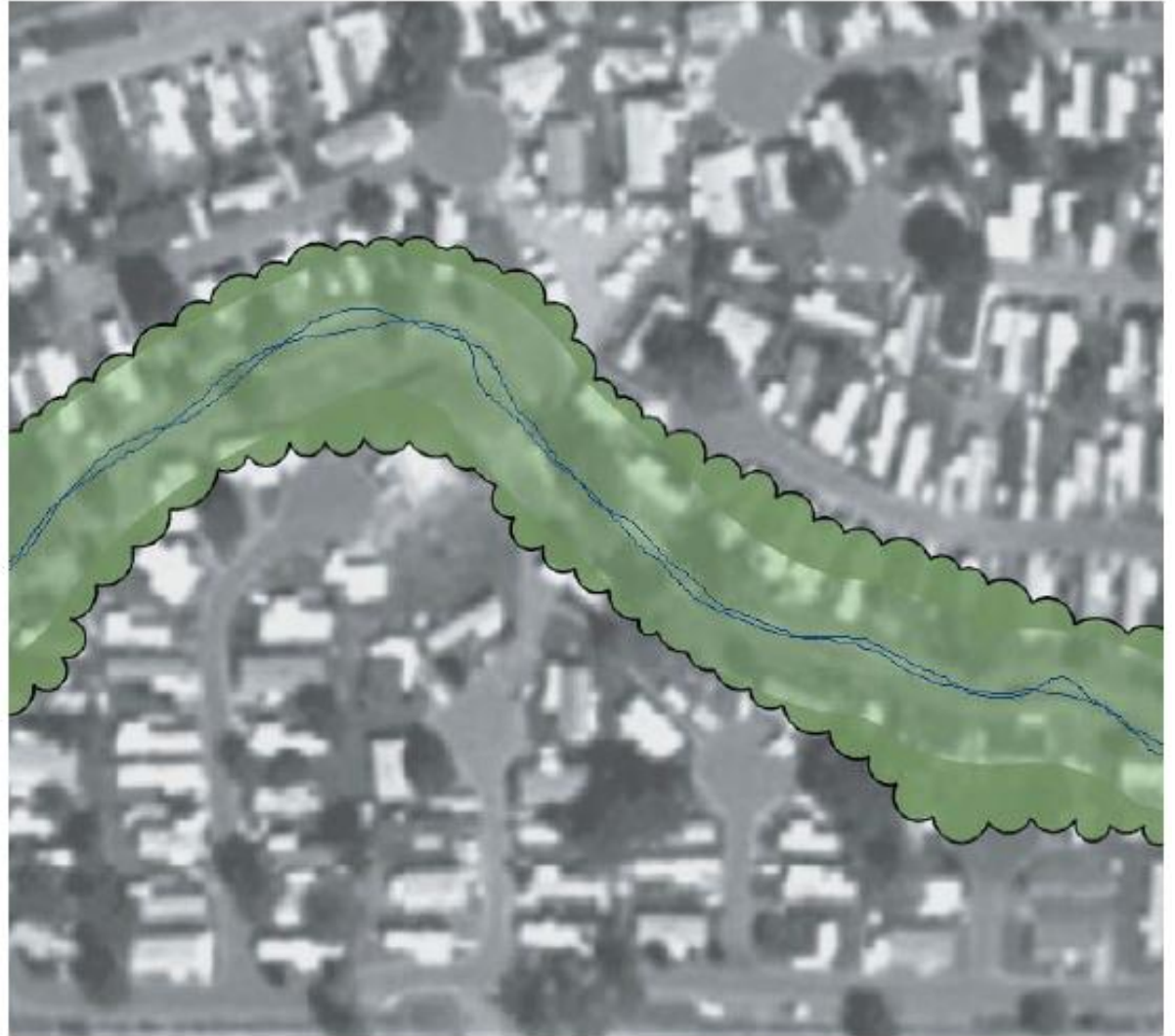
River Easements

River Easements

3 meters on both sides
in urban areas

20 meters in
agricultural areas

50 meters in forest
areas



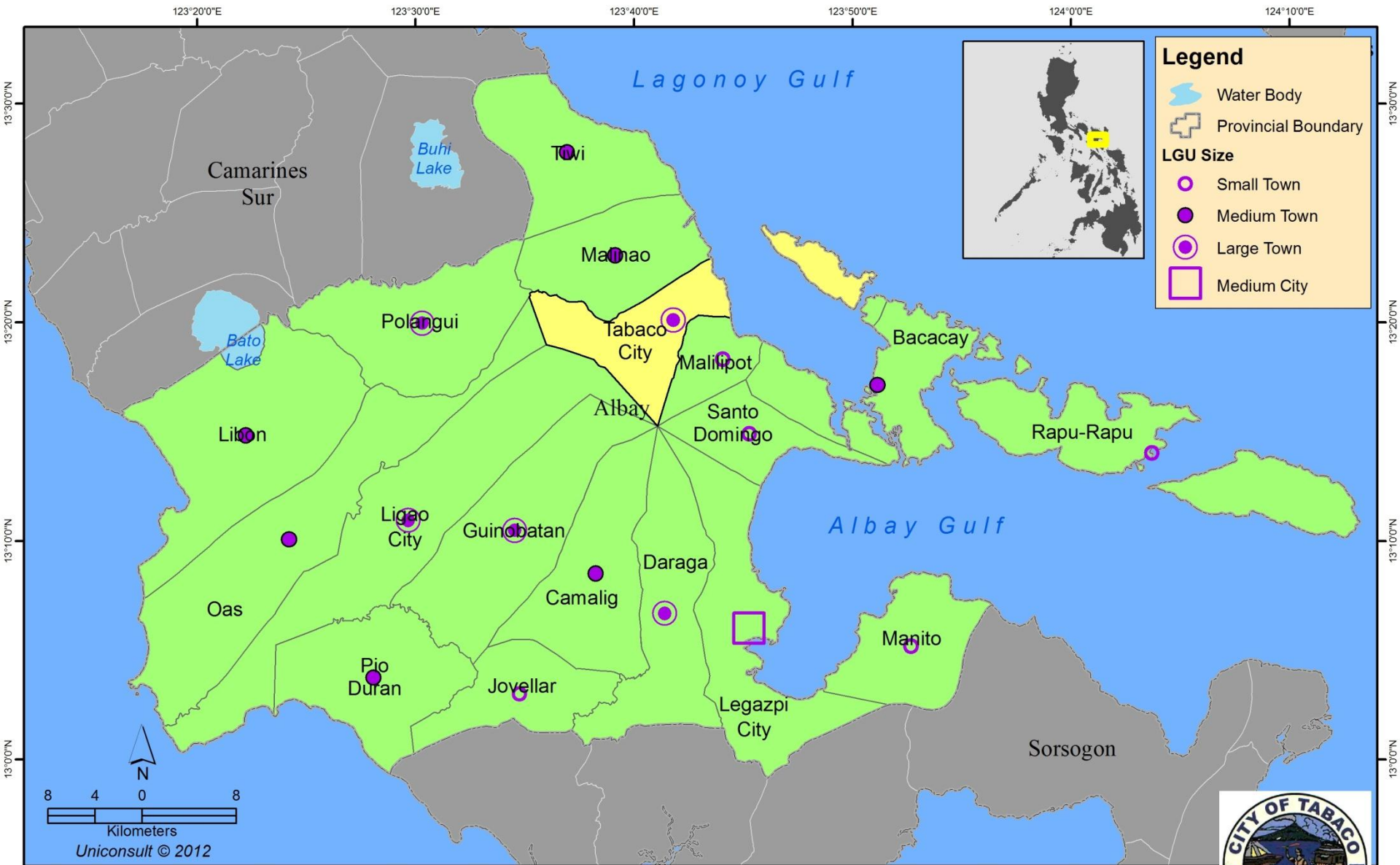
Plan Implementation Tools

1. Zoning ordinance
2. Local Budgeting (LDIP/AIP)
3. Building codes and subdivision regulations
4. Site and development controls
5. Capital improvement plans
6. Parks and open spaces network
7. Land acquisition
8. Retrofitting
9. Planned Unit Development
10. Transfer of Development Rights
11. Financing ?????



Tabaco City CLUP 2012-2027

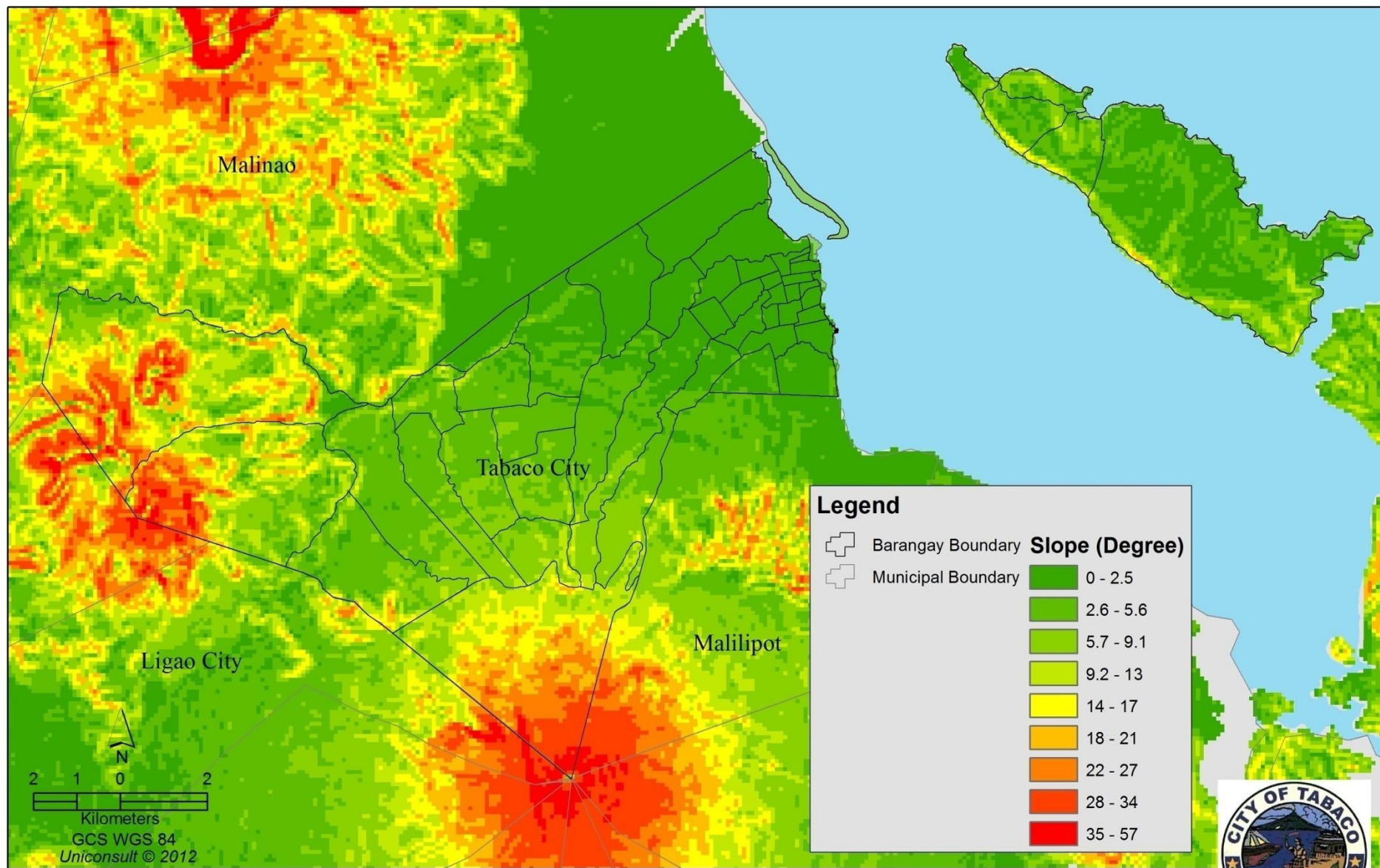




Relative Town/City Sizes, Albay



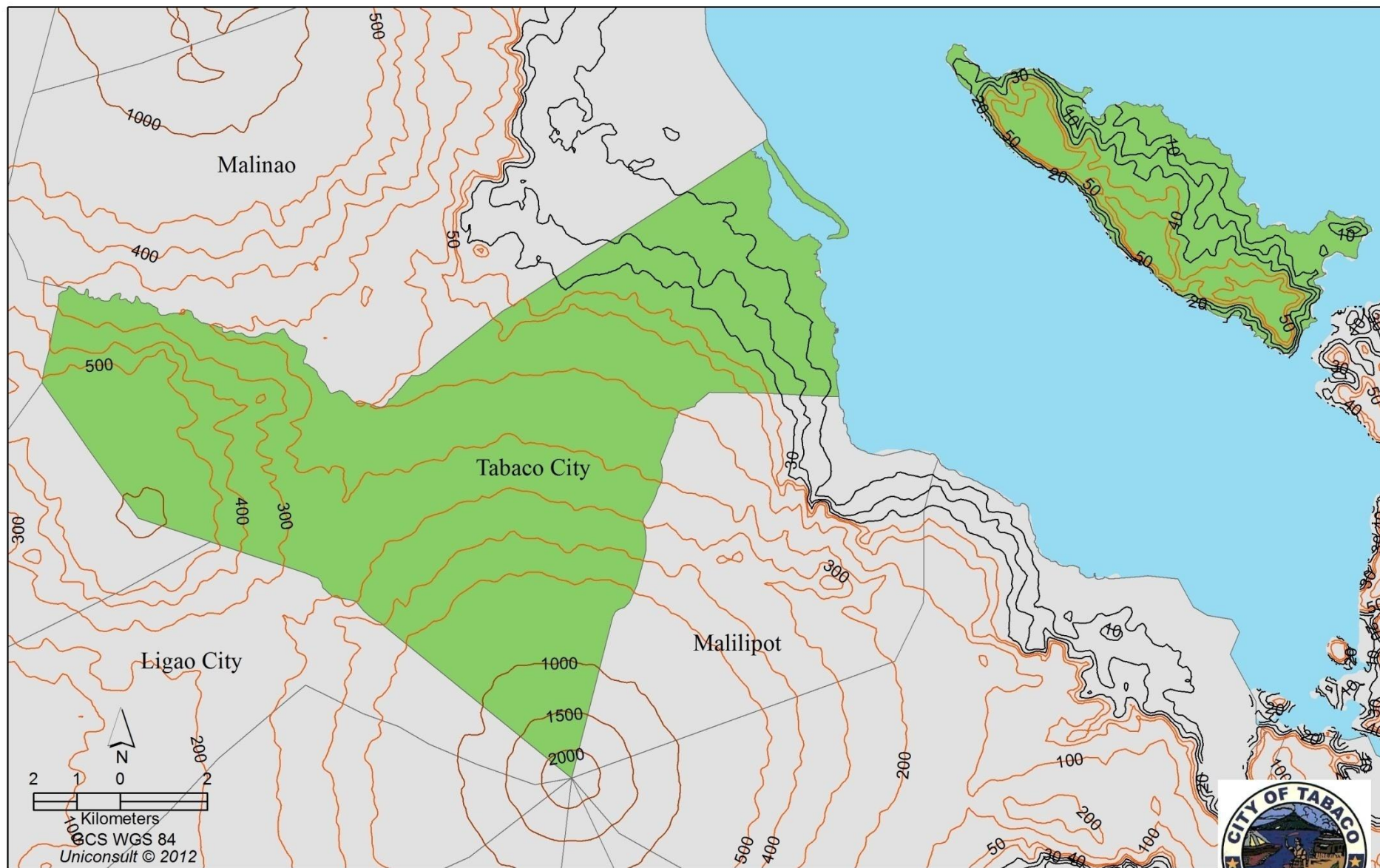
CLUP 2012



Slope Map, Tabaco City



CLUP 2012



Contour Map, Tabaco City

CLUP 2012

Tabaco City Vision Statement:

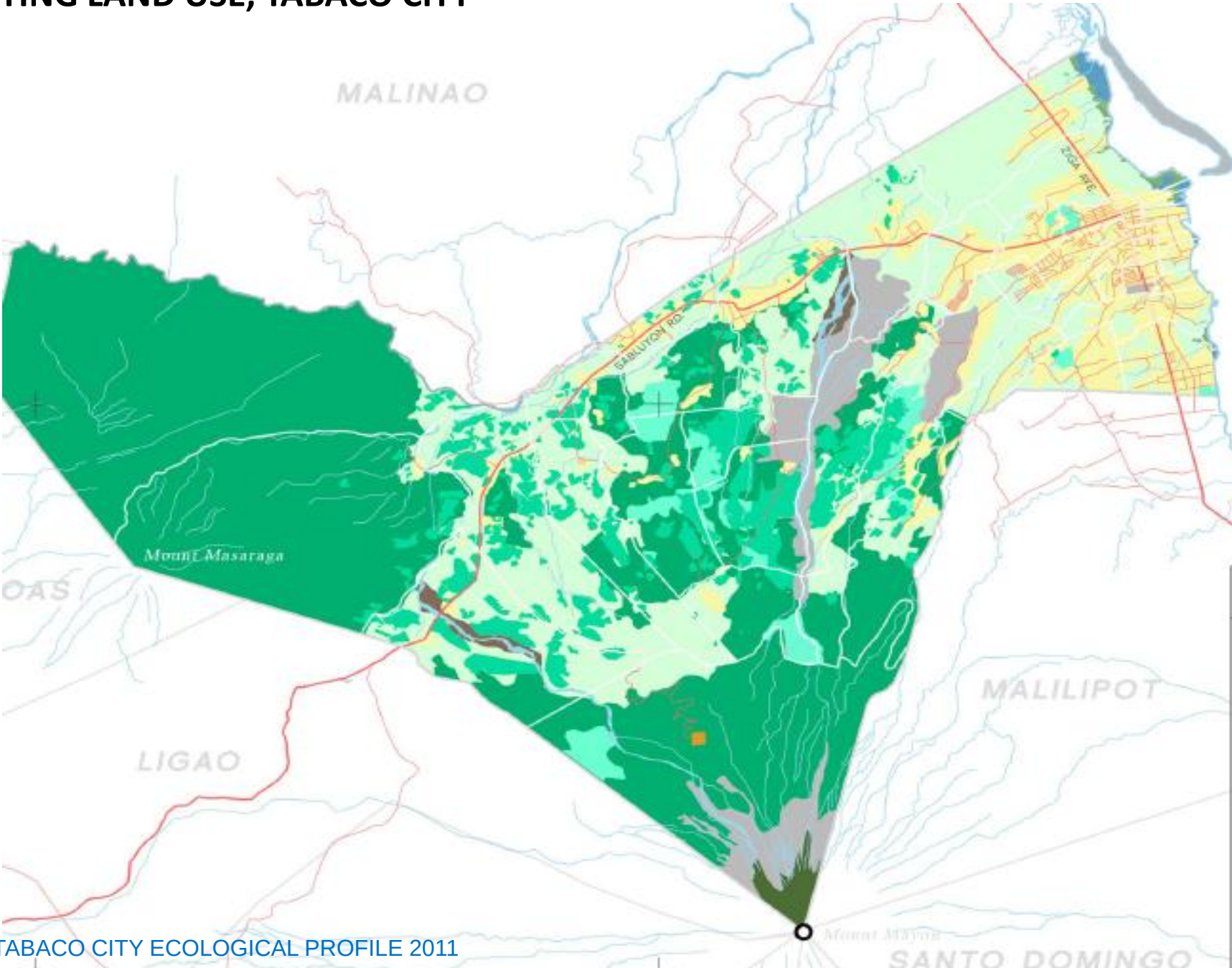
By 2027, we see Tabaco, the City of Love as the gateway of international and domestic trade and tourism, the agro-industrial center of Bicolandia, with a globally competitive economy and the home to a God-centered, progressive, healthy, disciplined and empowered people living in a safe and well-managed environment, led by strong and dynamic leadership, supported by competent, client friendly civil servants, all committed to the principles of good governance, sustainable growth and balanced development.

Slogan Vision Statement for Tabaco City CLUP 2027

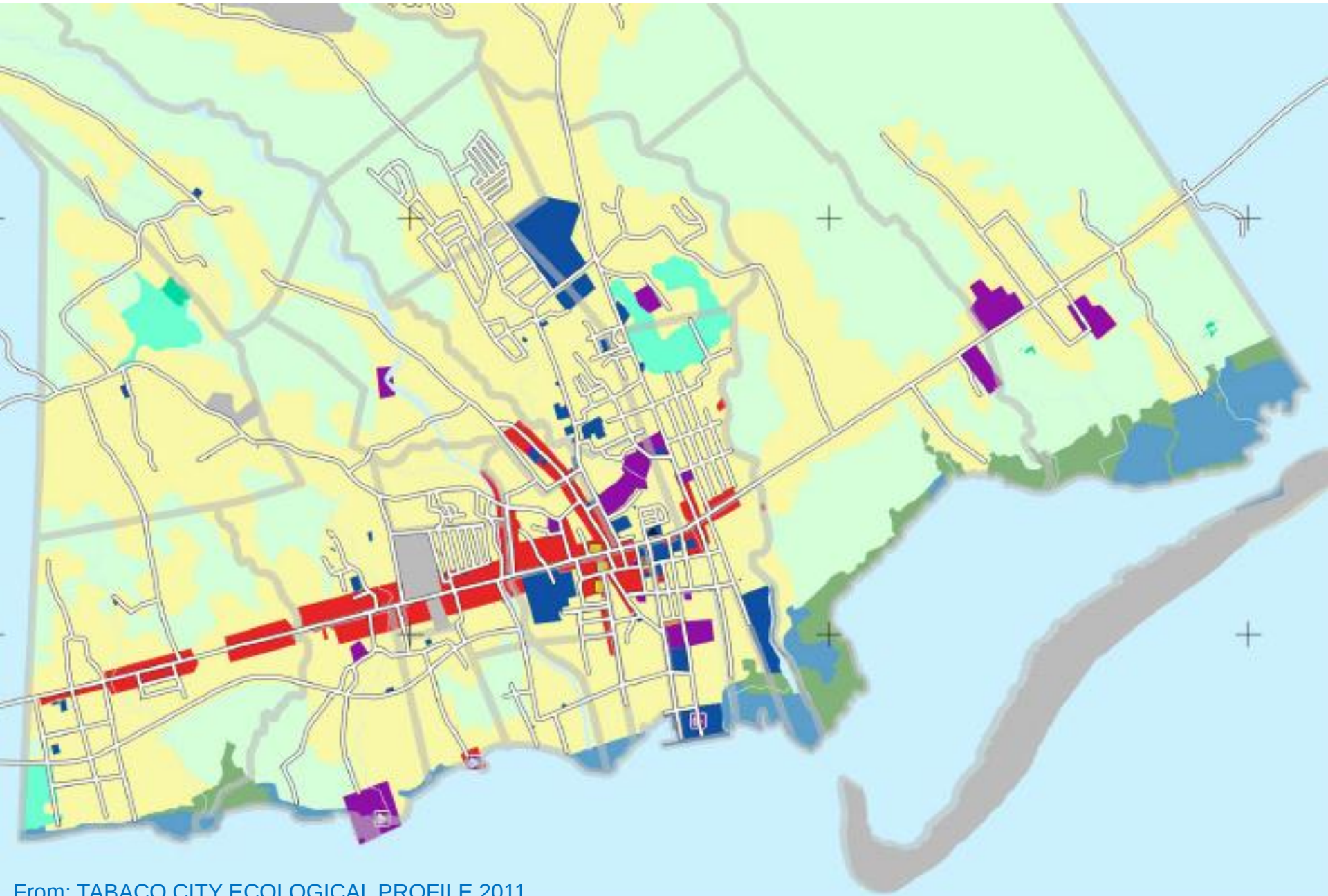
City of EXCELLENCE, COURAGE, LOVE

Excellence in Education, Health Care & Public Service
Courage in the Fight Against Poverty & Malnutrition
Love of God, Environment, Heritage & Culture

EXISTING LAND USE, TABACO CITY



URBAN LAND USE



LAND USE TREND, TABACO CITY

LAND USE	1999		2011		Proposed	
	Area (Has.)	Percentage	Area (Has.)	Percentage	Area (Has.)	Percentage
Built-Up	1,046	9%	1363.10	11.64%	4730.65	39.69%
Agricultural	8,966	77%	8550.90	73.00%	4503.25	37.78%
Forest	1,702	14%	1233.75	10.53%	2182.50	18.31%
Pasture & Grassland	--		231.25	1.97%	156.80	1.32%
Mining & Quarrying	--		285.00	2.43%	285.00	2.39%
Tourism	--		50.00	0.43%	60.80	0.51%
TOTAL	11,714.00	100%	11,714.00	100%	11,919.00	100%

CCA STRATEGIES, TABACO CITY CLUP 2012-2027

PROBLEMS/ISSUES	GOALS	OBJECTIVES	STRATEGIES
RISK FROM CLIMATE CHANGE	- IMPROVED CLIMATE ADAPTABILITY AND RESILIENCY OF TABACO CITY - REDUCED RISKS FROM CLIMATE CHANGE	- Improve the climate adaptability and resiliency of Tabaco City - Reduce risks from climate change, extreme weather events, sea-level rise, warming cooling, la nina. El nino, heat waves, etc.	- Formulation of Climate Change Adaptation and Resiliency Program - Conduct assessment of climate change impacts and risks to settlements, agriculture, fisheries sector, livelihoods, forests, watershed, human health, biodiversity, food security, industries, transport sector, etc. - Improve capacity, resiliency and climate adaptability of all sectors of the city - Introduce new, climate adaptive agricultural calendar, technologies, practices - Establish advanced early warning systems for extreme weather events for the agriculture sector - Relocation of settlements in coastal and low-lying areas in anticipation of sea-level rise (0.50 meters by 2080 IFCC)

CLUP STRATEGIES, TABACO CITY CLUP 2012-2027

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Thank You!