

SUSTAINABILITY AND RESILIENCY SCIENCE-BASED LOCAL GOVERNANCE: CASE OF DEL CARMEN, SIARGAO ISLAND

by

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DISCUSSANT

NAST Regional Scientific Meeting

March 12-13, 2018, Cagayan de Oro City

OUTLINE

- Overview
- My Opinion
- Sharing Personal Experience
- What Matters!

Overview

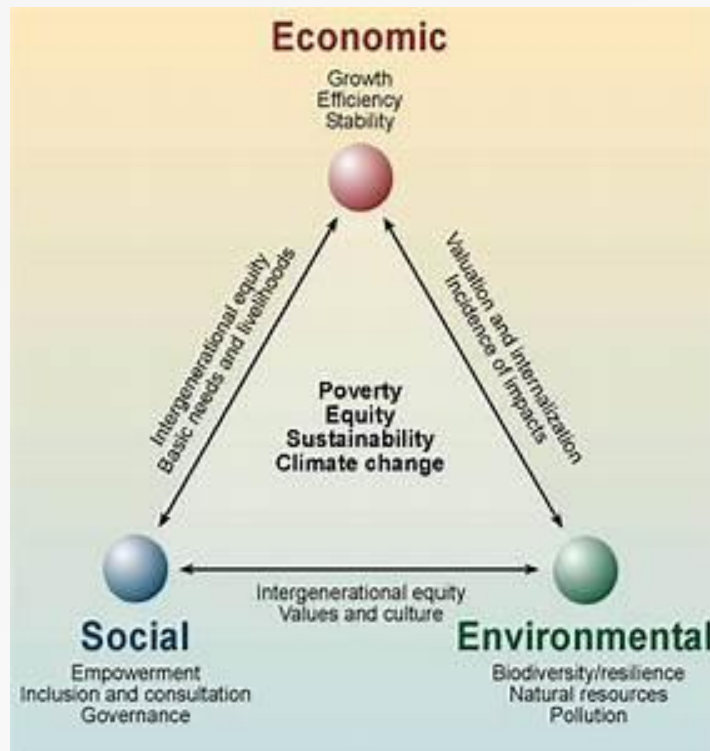
The Case of Del Carmen uses several models of local governance approaches in planning the growth and development of the municipality.

Governance is capitalizing on climate change as an opportunity to empower leaders, empower communities and empower innovation.

Sustainability and Resiliency



Elements for Sustainability



Ecological/Environmental Sustainable Development means using, conserving and improving natural resources so that the ecological processes on which life depends can continue in the future.

Main principles:

- * precautionary principle

- * principle of intergenerational equity

- * conservation of biological diversity and ecological integrity

- * improved valuation, pricing and incentive mechanisms such as the “polluter pays” principle.

Principles based on the UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (Rio de Janeiro, 3-14 June 1992)



DEVELOPMENT OF ECOTOWN

A. Understanding Vulnerabilities

- ❖ Natural hazards
- ❖ Poverty Incidence

B. Understanding Biodiversity

- ❖ Mangroves
- ❖ Coral Reef
- ❖ Other Important Species



Influenced planning process and major decisions

ECO-TOURISM MAIN INTERVENTION

International Tourism Society

Ecotourism is now defined as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES, 2015)

What's the science behind these local governance approaches?

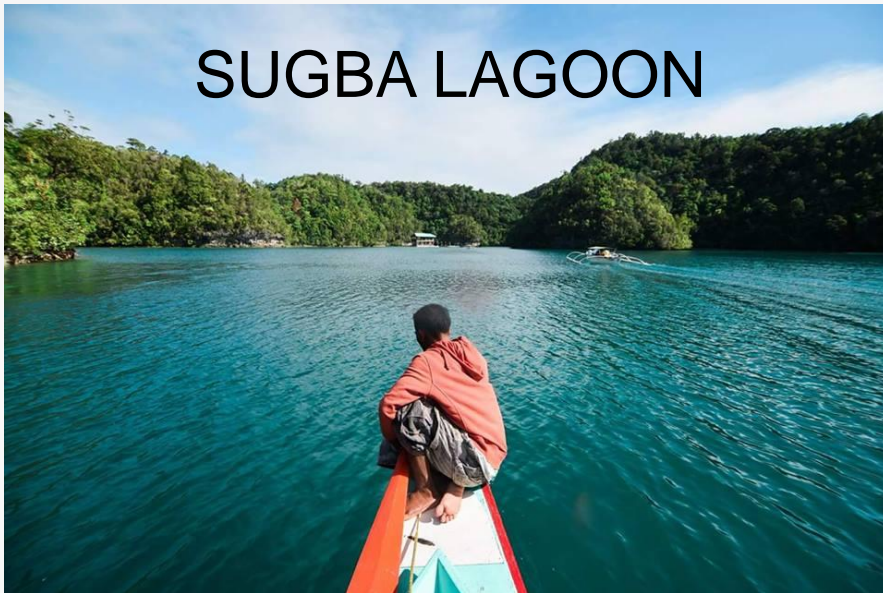
1. Eco-Tourism and Livelihoods

Surfing Capital of the Phil



Its market is dependent on the presence of strong waves/climatic conditions

SUGBA LAGOON

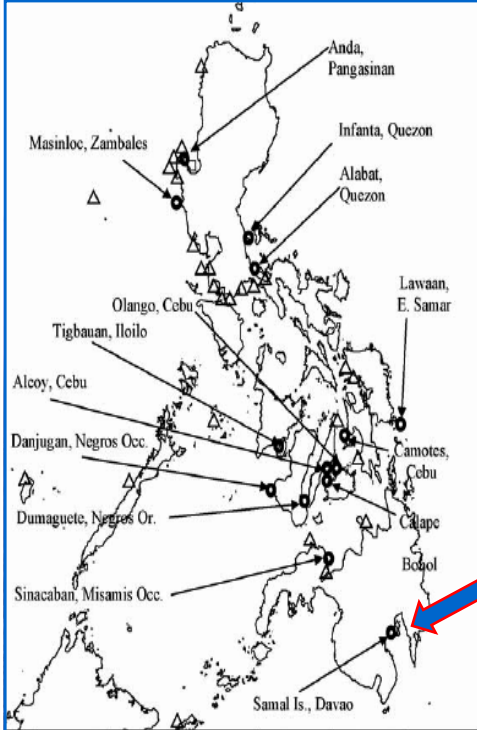
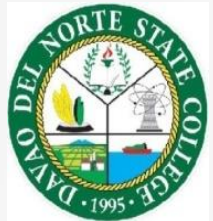


Clean Technology:
Eco-Tourism
Promotion
to generate low
carbon emitting jobs.

Enhancing Adaptive Capacity - Resiliency

My Experience in Samal Island: Taklobo Tours

Marine Reserve Park 5 species (more than 2000 pcs) of giant clams



Source: Gomez and Licuanan 2006

Taklobo Tours: Conservation and Livelihood in Samal Island

Experience in Samal Island: Taklobo Tours

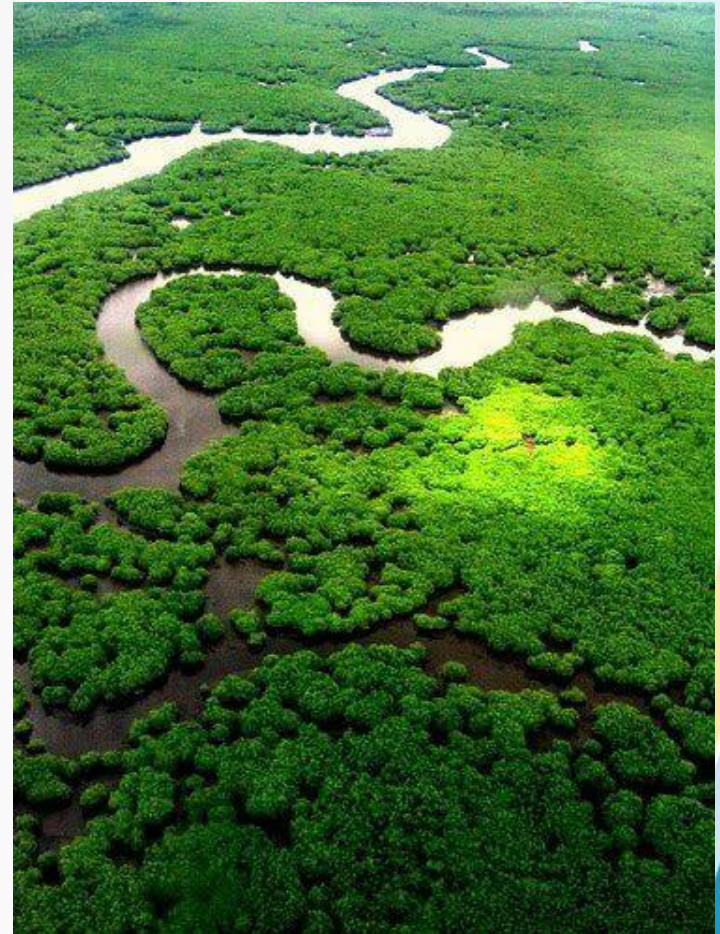
Snorkeling Only : 1 hour viewing of endangered species, giant clams



Fisher Tour Guide: Species, Biology of Giant Clams and the Indispensable Role of MPA in Giant Clam Conservation

2. Mangrove Management

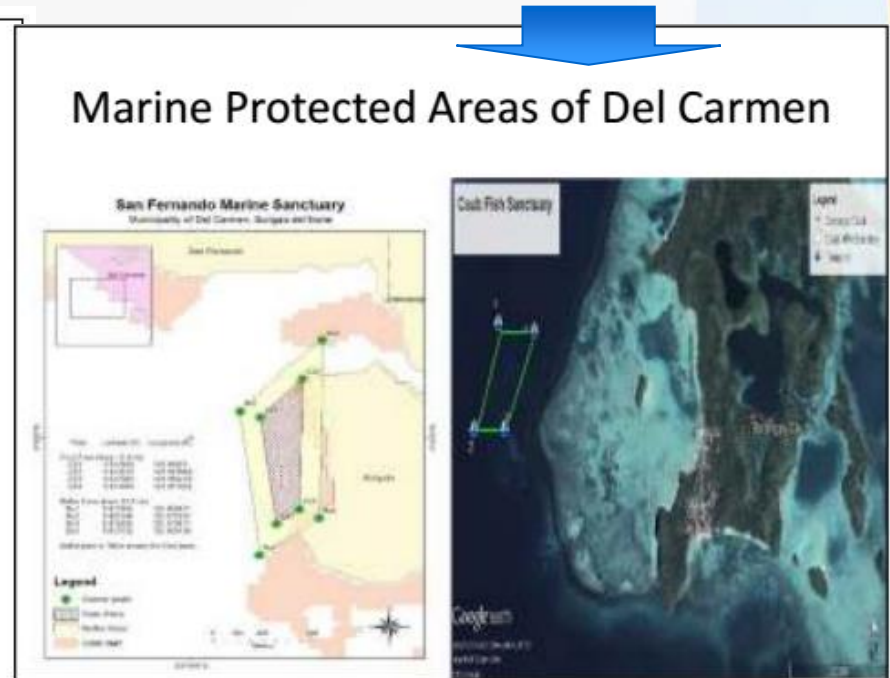
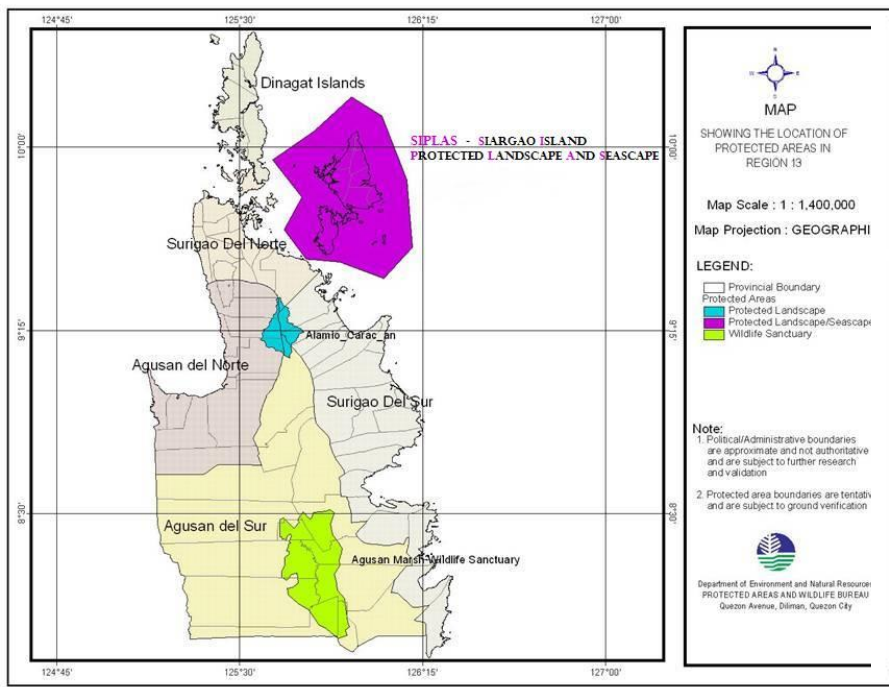
- ❖ chosen as a priority protected area primarily due to its important bio-physical features such as the extensive expanse of mangrove forest.
- ❖ Climate Proof Tourism



More efficient in capturing CO₂ (Primavera, 2018)

Note: Proper Zonation Pattern should be followed for Rehabilitation sites

2. The Siargao Island Protected Landscape and Seascape (SIPLAS) included Marine Protected Areas in Del Carmen

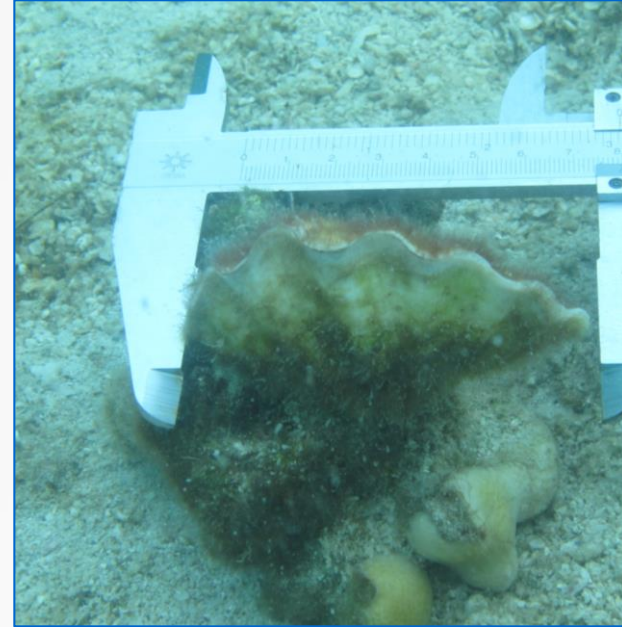


- ❖ MPAs increase fish biomass, density and species richness
- ❖ Good coral cover with moderate to high rugosity provides 15 metric tons of fish per/sqkm/yr so MPAs need more expansion (Trono, Alcalá and Gomez, 2015)
- ❖ Increases fishermen's catch near Apo Is. Marine Reserves (Alcalá & Russ, 1995)
- ❖ MPAs are getting popular with 1,800 -Philippines (Cabral, et al, 2014)

Recruitment is real! Marine Protected Areas in Samal Island-Marine Reserve Park



Chromis viridis



Tridacna derasa

Protected Areas Enhance Biodiversity

Biodiversity



Resilience

STATUS OF BIODIVERSITY: VULNERABILITY AND RESILIENCY

Degradation of Coral Reefs means loss of economic good and services, livelihood, ecosystems services, loss of food security and employment of coastal people (Edwards and Gomez, 2007)

Lower coral cover may have lower species and abundance so habitats with low quality may be more Vulnerable (Mamauag et al.,2013)

Resilience of corals to bleaching had been attributed to high coral cover, abundance of highly bleaching resistant corals. (España, Licuanan and Alino, 2015).

3. Partnerships with different Sectors : Local and International)

SUCs/HEIs

- ❖ mandated to do Instruction, Research and Extension and works closely with local government units.
- ❖ provide scientific data and could even translate the research data to useful forms through extension projects in partnership with LGUs.

KEY INFLUENCER OF SUSTAINABILITY

- ❖ RA 7160. Local Government Code of 1991
Decentralization whereby local government units (LGUs) are given more powers, authority, responsibilities, and resources.
- ❖ Sustainability of every municipality/city rests on local governance.
- ❖ It is therefore necessary that the decision of Local Chief Executives should be made on the best available science.
- ❖

LOCAL GOVERNANCE

THE MAKING AND UN-MAKING

OF

SUSTAINABLE FUTURE

WHAT MATTERS!

SUSTAINABILITY SCIENCE: meeting the needs of present and future generations while substantially reducing poverty and conserving the planet's life support systems
(Robert W. Kates, 2011) ((PNAS))

PRINCIPLE OF INTER-GENERATIONAL

EQUITY in economic, psychological, and sociological contexts, is the concept or idea of fairness or justice between generations
UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (Rio de Janeiro, 3-14 June 1992)

THANK YOU!