Improving biodiversity conservation and resilience to climate change through integrated coastal and marine protected areas management in the ASEAN region

Sheila G Vergara
ASEAN Centre for Biodiversity
A Presentation of Two Proposals

• Achieving the Aichi Biodiversity Targets through Integrated Coastal Management.

• Improving biodiversity conservation and climate change resilience through better informed coastal and wetland site management
Drivers of Marine Biodiversity Loss

Habitat change/ Habitat Destruction

- Forest (terrestrial and mangroves) conversion
- Pollution and mismanagement of inland waters
- Marine and Coastal habitats modified through the use of destructive fishing gear and practices

Infrastructure development

- Large scale intensive aquaculture
- Use of explosives
- Use of bottom trawls

Hotels, Housing

Roads
Drivers of Marine Biodiversity Loss

- Climate Change
  - Temperature Increase
  - Variability in precipitation
  - Sea Level Rise
  - Ocean acidification
Drivers of Marine Biodiversity Loss

- Pollution
  - Industrial waste
  - Domestic waste
  - Agriculture
  - Increase in CO₂
  - Livestock waste
  - Insecticide/fertilizer run-off
  - Climate change
Drivers of Marine Biodiversity Loss

- Limited Access to Resources
  - Under / unemployment
  - Limited access to institutional support
  - Limited capacities
  - Limited resources
  - Limited Options
Drivers of Marine Biodiversity Loss

- Over Exploitation
  - Overharvesting of natural stocks
  - Ineffective enforcement
  - IUU Fishing
  - Poaching
- Fishing below sizes of first maturity
Drivers of Marine Biodiversity Loss

- Invasive alien species
  - Intentional introductions
    - Aquaculture industry
    - Aquarium industry
  - Unintended introductions
    - Ballast water
    - Hitch hikers
Achieving the Aichi Targets through Integrated Coastal Management

A Regional Proposal
Prepared Jointly by PEMSEA and ACB
With support from LifeWeb and GIZ
Project Objectives

**Component 1:**
Build the science basis to scale up the necessary geographic coverage of marine conservation and the means to improve their effectiveness through the implementation of NBSAPs

**Component 2:**
To develop and implement ICM programs focused on biodiversity conservation

**Component 3:**
To develop and implement a region-wide coastal and marine knowledge management (KM) strategy mainstreaming commitments and public and private sector investments in achieving the 2020 Aichi Targets
Bio Physical Issues

Changes / Deterioration of Habitat Quality

- Over Exploitation
  - High Population, poverty, over harvesting, conflicting uses and demands, ineffective enforcement
  - Illegal
  - Unregulated
  - Unreported

- IUU Fishing
  - Domestic, Agri & Industry
  - Sedimentation

- Pollution
  - Deliberate and Inadvertent
  - Gaps in Policy, Capacity and Practice

- Invasive Species
  - Temperature, precipitation, SLR and Ocean Acidification

- Climate
Institutional Issues

Gaps in comprehensive approach

- Policy
  - Marine KBAs not officially recognized nor adopted into policy
  - Identification of future PAs not anchored on KBA process

- Capacity
  - Inadequate resources (funds, equipment, facilities) & skills to match the targets

- Science
  - Inadequate information on species and ecosystem services in PAs; Results of analyses not communicated

- Governance Practice
  - LGUs have not totally mainstreamed into the process
  - DRR not yet introduced
  - Inadequate funding
Component 1

- Organize project operations: team, partnerships, networks
- Acquire available scientific reference
- Identify KBAs / MPA Networks
- Engage Stakeholders

![Bar chart with area in km² for 2000 and 2010, showing categories: Wetlands, Coastal/Marine, Terrestrial]
Mangroves, Coral Reefs and Seagrasses in the ASEAN Priority Marine habitats for conservation as nursery areas

Unsworth, et. al. 2008. “Fish abundance and species richness in seagrass beds in close proximity to mangroves was at least 2x that found in seagrass beds that were distant from mangrove habitats”

Areas where all three habitats overlap (coral reef + seagrass + mangroves)
Coral reefs
Seagrasses
Mangroves

INTER-HABITAT

Ecosystem integrity, function and processes

From Mags Quibilan
Improve ecological and social resilience from Corridors to Seascapes through networks of MPAs

Source: Quibilan, Mags
Marine Protected Areas

Larval and egg distribution

Protected area

Recruitment

Spillover

Global Targets Local Benefits
Network of effectively managed MPAs in the ASEAN Region
Component 2: ICM Implementation

- Stakeholder empowerment:
  - Build core capacities & knowledge
- Establish effective / functional MPA networks
- ICM implementation in 9 sites:
  - Management plans,
  - sustainable financing mechanism(s)
  - Monitoring /reporting systems in place
Stakeholder Empowerment
Map – based selection of potential project areas
Planning Areas for Potential Project Areas
Component 3: Knowledge Management

- Products packaged: Good ICM practices
- Fora organized
- Policies recommended
- ICM Social Networks organized
- Incentive / recognition systems
Alignment with Aichi Targets

1. Sustainable management of aquaculture and associated habitats

2. Management of fish and invertebrate stocks

3. Consering marine habitats

4. Threatened marine species particularly those important to completing their life cycles unharmed will contribute to the persistence of coastal biodiversity

5. Effectively governed marine protected areas will provide resilience to coastal habitats and assure the base of local resource-based livelihoods

6. MPA focused ICM approach will mobilize local action and result in reduced direct anthropogenic pressures in the E/SEAsian Regions

7. As a secondary outcome of this project, increase in mangrove restoration and seagrass conservation efforts will improve the carbon storage capacity of coastal ecosystems

Global Targets Local Benefits

Setting the Sustainable Development Agenda for the Seas of East Asia beyond 2015

16-21 November 2015 • Danang, Vietnam
Ideal Outcomes

- Geographic coverage of effectively governed networks of marine protected areas in the region meet the Aichi Target 11
- Pressure on coastal and intertidal habitats significantly reduced
- Local capacities for ICM Established
- Degraded coastal habitats restored
- Coastal and marine knowledge readily available
Improving biodiversity conservation and climate change resilience through better informed coastal and wetland site management

A Regional Proposal Prepared among ACB, The East Asian – Australasian Flyway Partnership and Asia-Oceania Ramsar Secretariat
Minimum 50 million individuals of 200 waterbirds species

the highest number of IUCN threatened bird species: 33

Highest number of declining species (annual declines of 9% for some shorebirds)

Slide by: Spike Millington
East Asian-Australiasian Flyway
The critically endangered Spoon-billed Sandpiper is one of the Flyway’s most threatened birds.
Project Objectives

- Create and establish a functional and responsive Southeast Asia Partnership Network on migratory waterbirds and their habitats
- Develop a strategic plan that embodies climate resilience and knowledge management strategies for the conservation of nearshore habitats that serve as staging areas for the EAAF
- Improve the management capacities of site managers and local stakeholders in managing nearshore and intertidal habitats
- Implement a comprehensive knowledge campaign to support local staging sites conservation, and
- Spur and support the development of local conservation actions directed at the conservation of migratory shorebirds and their habitats

Flyway Network Sites (123)

Important Potential sites (Approx. 950)
Ideal Outcomes

• Created and **established a functional and responsive Southeast Asia Partnership Network**

• Developed a **strategic plan** that embodies climate resilience and knowledge management strategies for the conservation of nearshore habitats that serve as staging areas for the EAAF

• **Improved the management capacities** of site managers and local stakeholders in managing nearshore and intertidal habitats
Ideal Outcomes

- Implement a comprehensive knowledge campaign to support local staging sites conservation

- Spurred and supported the development of local conservation actions directed at improving the resilience of staging areas to climate change and the conservation of migratory shorebirds
Thank You!

Workshop Title: Good Practices, Innovations and Impacts in ICM applications for MPA and MPA Networks