

# Using ICM to Strengthen the Management Effectiveness of MPAs in EAS Region

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# Trends of Global and Southeast Asian Biodiversity

Global increase in PA coverage of PAs

management effectiveness of existing PAs remains variable.

78% (>6 m ha) of the 82 identified areas of critical importance to marine biodiversity unprotected in ASEAN.

Loss of mangroves has slowed significantly, except in Asia

## Status and trends of the components of biological diversity

	Trends in extent of selected biomes, ecosystems, and habitats
	Trends in abundance and distribution of selected species
	Change in status of threatened species
	Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance
	Coverage of protected areas

## Ecosystem integrity and ecosystem goods and services

	Marine Trophic Index
	Connectivity – fragmentation of ecosystems
	Water quality of aquatic ecosystems

## Threats to biodiversity

	Nitrogen deposition
	Trends in invasive alien species

## Sustainable use

	Area of forest, agricultural and aquaculture ecosystems under sustainable management
	Ecological footprint and related concepts

## Status of traditional knowledge, innovations and practices

	Status and trends of linguistic diversity and numbers of speakers of indigenous languages
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## Status of access and benefit sharing

	Indicator of access and benefit-sharing to be developed
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## Status of resources transfers

	Official development assistance (ODA) provided in support of the Convention
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Global Biodiversity Outlook, 2010

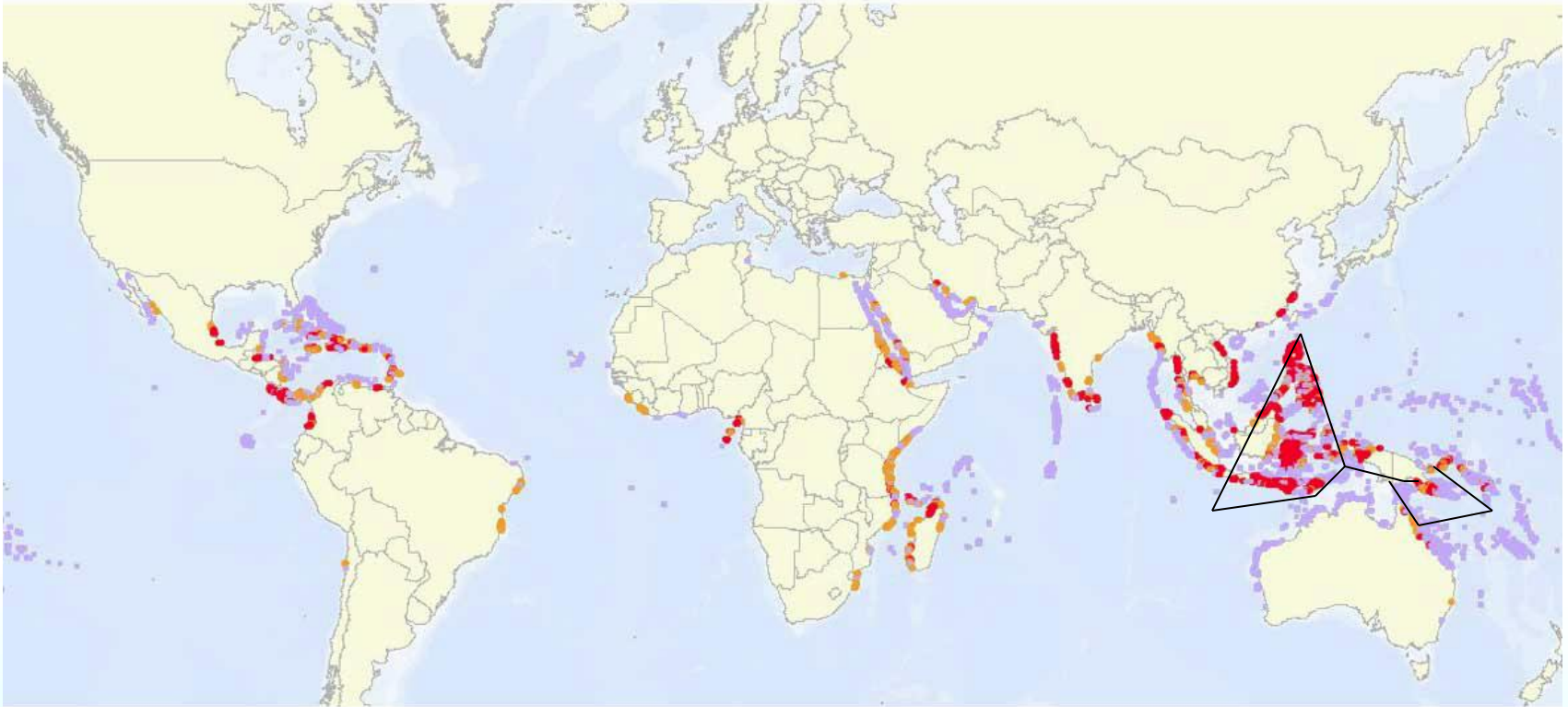
# Threats to Coastal and Marine Biodiversity Are Often Come Outside the Boundaries of MPAs

Threats	Mangroves	Coral reef
Overuse or over-fishing	√	√
aquaculture	√	
Land-based pollution	√	√
Hydrological modifications	√	
Conversion to other land uses	√	√
Destructive fishing		√
Ocean acidification		√

Source: WRI/ICLARM/WCMC/UNEP, 1998



# Significant Threats to Coral Reef – Nutrients and Sediments



Source: WRI/ICLARM/WCMC/UNEP, 1998

Land-based sources of pollution and sediment are a significant threat to coral reefs, both through smothering coral with sediments and through increased nutrients and other pollutants, which create favorable conditions for algae and disease. Land clearing and agricultural activities contribute to this threat.

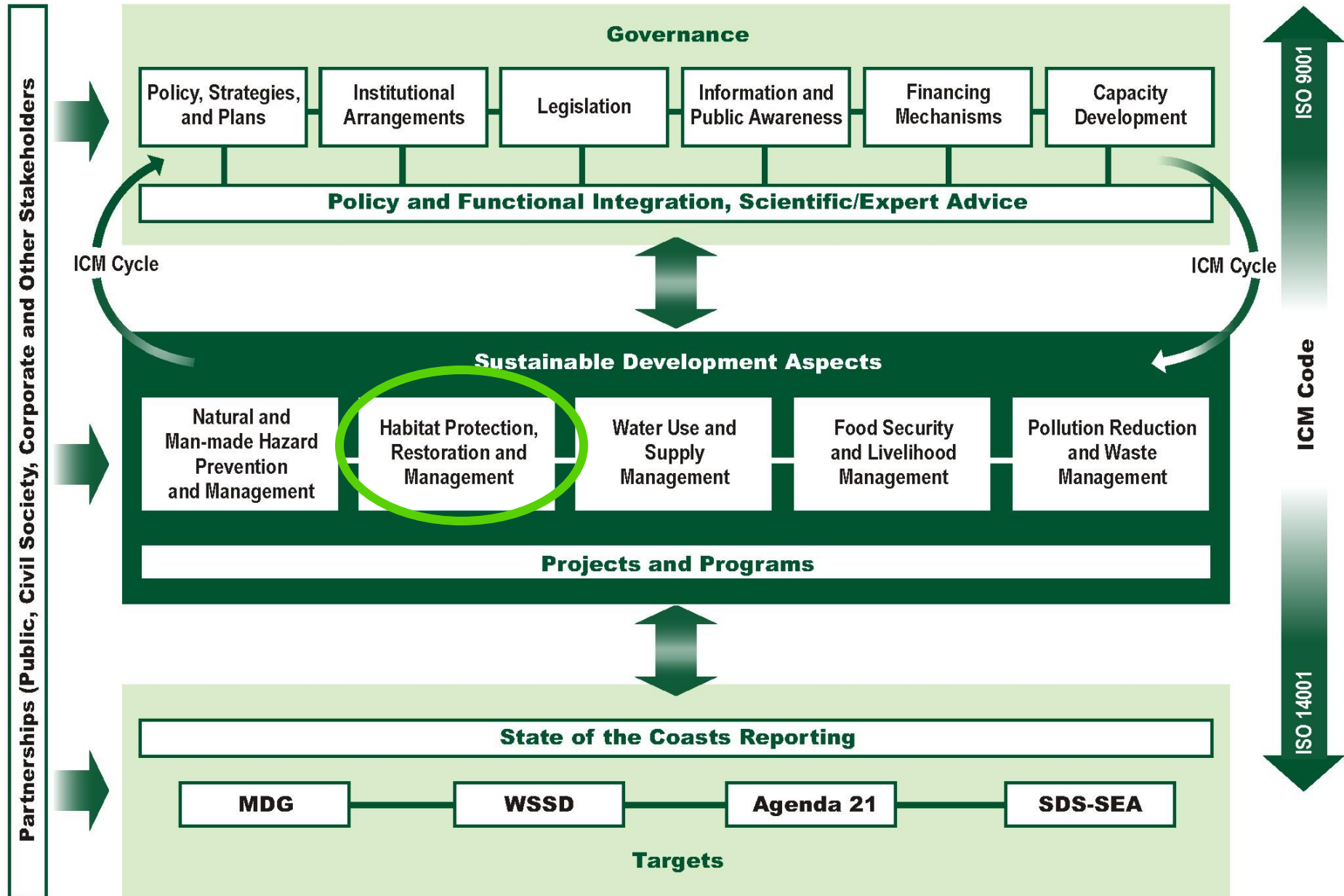
# CBD Aichi Target 11

10% coverage of coastal and marine areas by MPAs, especially areas of particular importance for biodiversity and ecosystem services:

- 1) effectively and equitably managed;
- 2) ecologically representative and well connected;
- 3) managed through other effective area-based conservation measures; and
- 4) integration into wider landscape and seascapes.



# Process-oriented Common Framework for Sustainable Development of Coastal Areas through ICM Implementation.



# ICM Process

## 1 PREPARING

- Project management mechanism
- Workplan and budget
- Human and financial resource arrangements
- Stakeholder identification and preliminary consultation
- Training of core project staff
- Project monitoring program
- Assess requirements for ICM Code
- Assess requirements for State of the Coast (SOC)

## 2 INITIATING

- SOC baseline
- Issues identification and prioritization
  - biodiversity/habitat protection
  - land- and sea-based pollution/waste
  - climate change/hazard
  - fisheries/food security
  - water use and supply
- Initial risk assessment
- Integrated information management system
- Public awareness
- Stakeholder consensus building/communication plan preparation
- Coastal strategy
- Capacity development

## 3 DEVELOPING

- Policy and institutional arrangements
- Refined risk assessment
- Coastal Strategy Implementation Plan
- Issue-specific and area-specific action plans
  - natural and manmade hazard prevention and management
  - habitat protection, restoration and management
  - water use and supply management
  - food security and livelihood management
  - pollution reduction and waste management
- Sustainable financing mechanisms/ investment options
- Integrated environmental monitoring
- Stakeholder participation/communication plan implementation

## 4

## ADOPTING

- Organizational and legal mechanisms
- Coastal policy, strategy and 3-5 year action plans
- Funding mechanisms

## 6 REFINING and CONSOLIDATING

- Review institutional setup
- Program monitoring and evaluation
- Revision of strategies and action plans
- Scaling up strategy
- Planning for next program cycle
  - Updating SOC
  - Targeting ICM Recognition/Certification

## 5

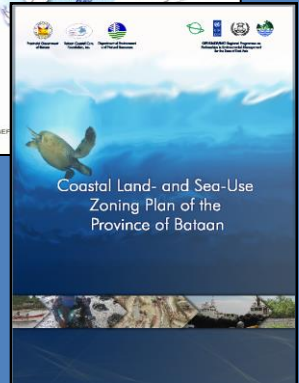
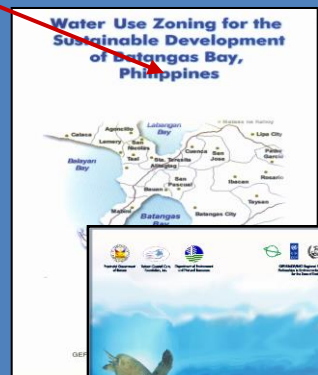
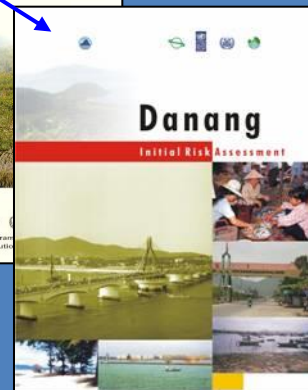
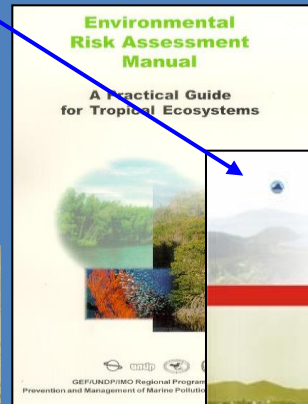
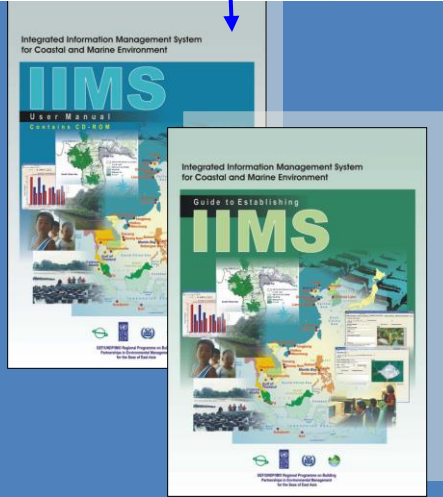
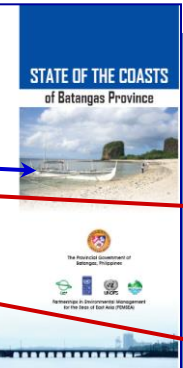
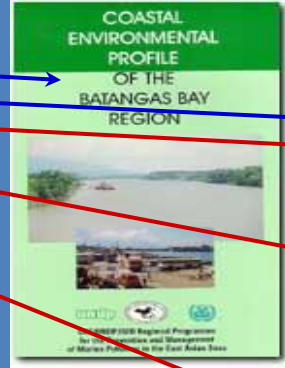
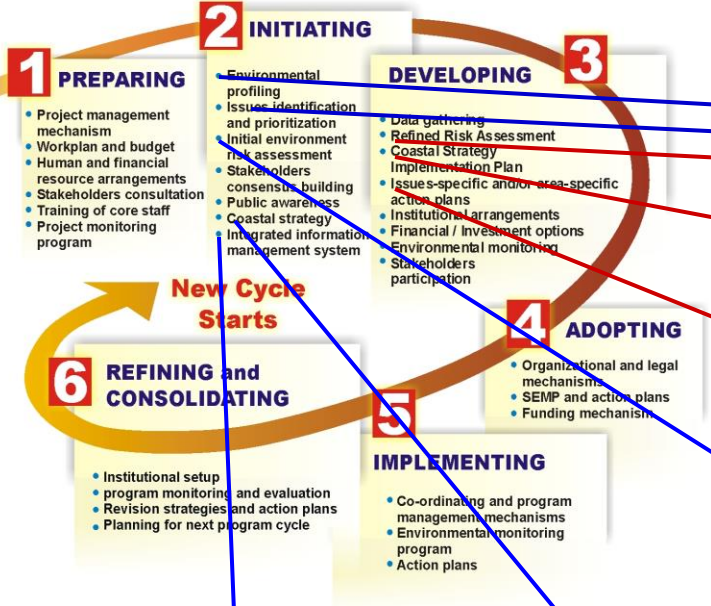
## IMPLEMENTING

- Coordinating and program management mechanisms
- Environmental monitoring program
- 3-5 year action plans

**New Cycle Starts**



# Knowledge Generation



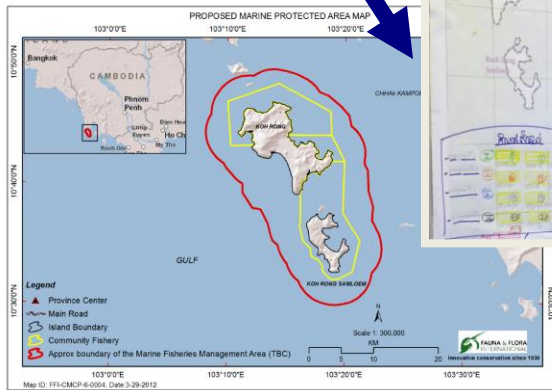
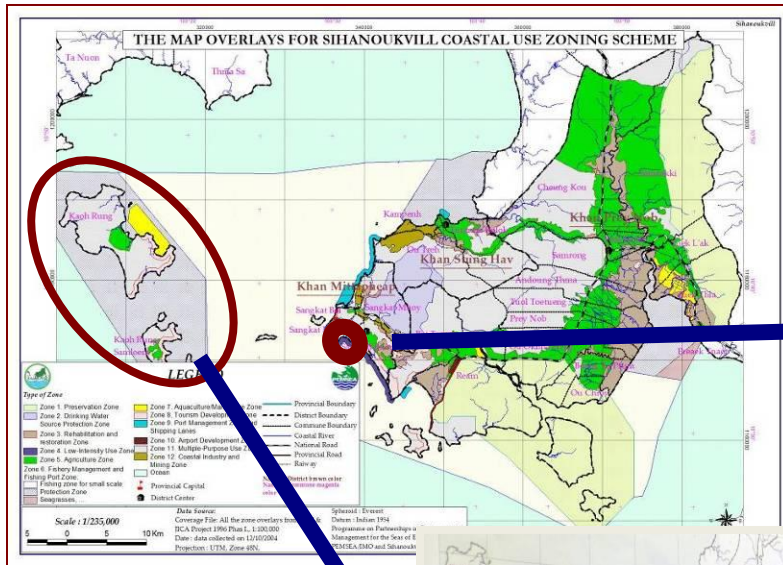


# Knowledge Transfer

Training Course	Course Title
<b>ICM Training Model Courses</b>	ICM program planning and development ICM program implementation ICM program sustainability ICM program assessment and refinement
<b>ICM Train-the-Trainers Course</b>	Need-based
<b>Special Skills Training</b>	Environmental profiling Coastal strategy and implementation planning Vulnerability and risk assessment Strategic environmental management planning Integrated information management system (IIMS) State of the coasts (SOC) reporting Land- and sea-use zoning Natural resource damage assessment Oil spill preparedness and response Port safety, health and environmental management (PSHEM) ICM code and system Fisheries management Integrated river basin and coastal area management total allowable pollutants modeling

# Rational allocation of beach and protected areas Preah Sihanouk, Cambodia

- Zoning for beach areas to promote sustainable livelihood (Preah Sihanouk, Cambodia)



- Marine protected area established within macro-level CUZ (Preah Sihanouk, Cambodia)

# Coastal Use Zoning to Improve MPA Effectiveness in Xiamen, China

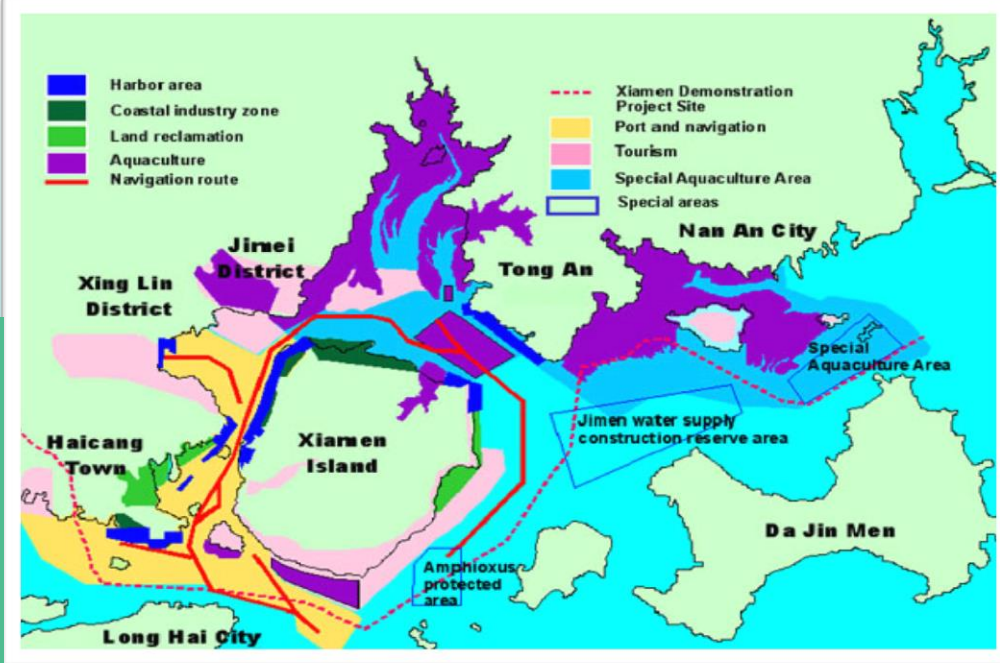
## Issues:

- Conflicts between transportation and aquaculture;
- siltation of channel;
- degradation of water quality;
- depreciation of scenery value;
- risks to endangered species
- low efficiency in sea use

## Measures to implement zoning plans:

- No Ship can go over 10 knots (18 km/hr);
- No bottom trawling/gill nets;
- No boating and surfing;
- No effluent discharge above STDS;
- No underwater explosion;
- Special permit required for reclamation

Marine function zoning and implementation of zoning plan successfully addressed the conflicts in shipping, tourism, aquaculture and reduction of threats to Chinese White Dolphin through limiting ship speeds, prohibiting underwater explosions, recreational boating in large proportion of the West Sea, and re-employment and relocation of aquaculture to



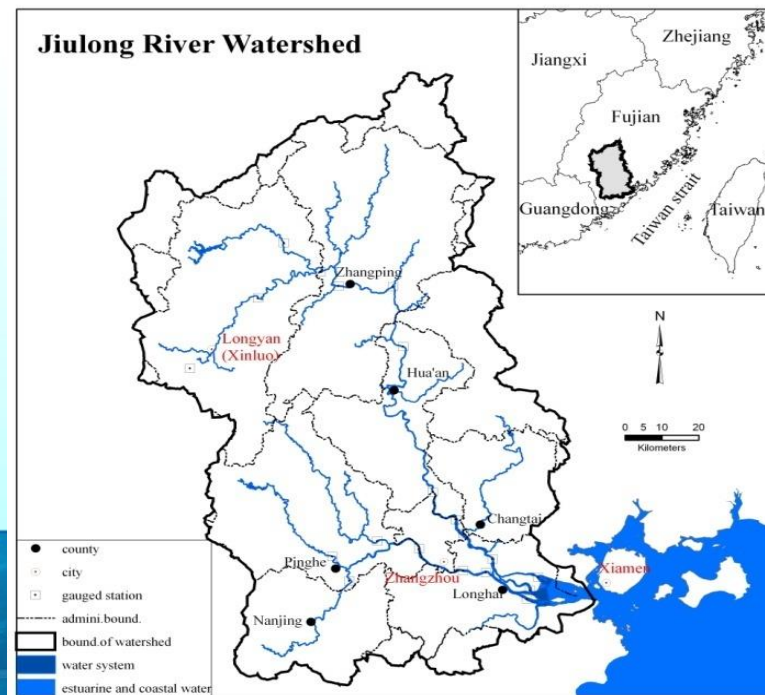


## Function scaling up of ICM to integrate MPA into broader landscape

- Jiulong River watershed contributes more than 60% N and 70% P to Xiamen Bay
- Geographical scaling up of ICM practices enable coverage of the transboundary ecosystem and management concerns to include management of the watershed to coastal sea
  - Planning at ecosystem scale
  - Cooperation mechanism through city union
  - Watershed ecological compensation

### Jiulong River – Xiamen Bay Ecosystem Management Strategic Action Plan (2011-2025)

- Management Capacity Strengthening
- Pollution Prevention and Control
- Protection & Restoration of Ecological Services
- Public Awareness Raising
- Development of S&T Support Capacity





# Implementation of the Coastal Strategy: Stakeholder Education, Mobilization and Capacity Building

## Demonstrating innovative measures

- Crab condominium
- Floating mussel farms
- Garbage Bank
- Use of grease traps

## Public Awareness & Education

- Painting and essay-writing competitions
- Youth camp
- Bicycle rally

## Mobilizing stakeholders in:

- Crab condo
- Sea turtle conservation
- Mangrove rehabilitation
- Seagrass transplantation
- Garbage bank
- Volunteer training for marine environmental protection





# Implementation of the Coastal Strategy: Stakeholder Education, Mobilization and Capacity Building

## Capacity building for local officials and personnel

- Study tours to ICM sites

## Engaging partners

- Universities and local schools
- National agencies
- Private sector
- Communities
- Donors (e.g., SGP)

## Management-oriented researches



# Policy Dialogue Platforms – EAS Congress and XWOW

**Leadership Forum on Marine Cooperation for Developing Countries & the 3rd Ministerial Forum on Marine Sustainable Development -- Building Cooperative Partnerships on Blue Economy**



## **4<sup>th</sup> EAS CONGRESS 2012: Building a Blue Economy: Strategy, Partnerships and Opportunities in the Seas of East Asia**

Subtheme 1 (ST1)	<b>Nurturing Coastal and Ocean-Based Blue Economies at the Local Level: Opportunities and Challenges</b>
Subtheme 2 (ST2)	<b>Accelerating Blue Innovations in Support of an Ocean-Based Blue Economy</b>
Subtheme 3 (ST3)	<b>Securing Ecosystem Services through Integrated Coastal and Ocean Management</b>
Subtheme 4 (ST4)	<b>Good Governance, Good Business</b>
Subtheme 5 (ST5)	<b>Meeting Institutional and Individual Skills and Capacities for Integrated Coastal and Ocean Governance</b>



**The East Asian Seas Congress 2012**  
Changwon City, Republic of Korea • 9–13 July





# PNLG Membership

## ● Regular Members

Cambodia

1 Sihanoukville

China

2 Dongying

3 Fangchenggang

4 Haikou

5 Haiyang

6 Laoting

7 Lianyungang

8 Quanzhou

9 Xiamen

Indonesia

10 Badung

11 Bali

12 Buleleng

13 Denpasar

14 Gianyar

15 Jakarta

16 Jemberana

17 Karangasem

18 Klungkung

19 Sukabumi

20 Tabanan

Malaysia

21 Klang

Philippines

22 Bataan

23 Batangas

24 Cavite

25 Guimaras

RO Korea

26 Changwon

27 Shihwa

Thailand

28 Chonburi

Vietnam

29 Danang

30 Quang Nam

31 Thua Thien Hue

## ★ Associate Members

1 Coastal and Ocean Management Institute, Xiamen University, China

2 First Institute of Oceanography, State Oceanic Administration, China



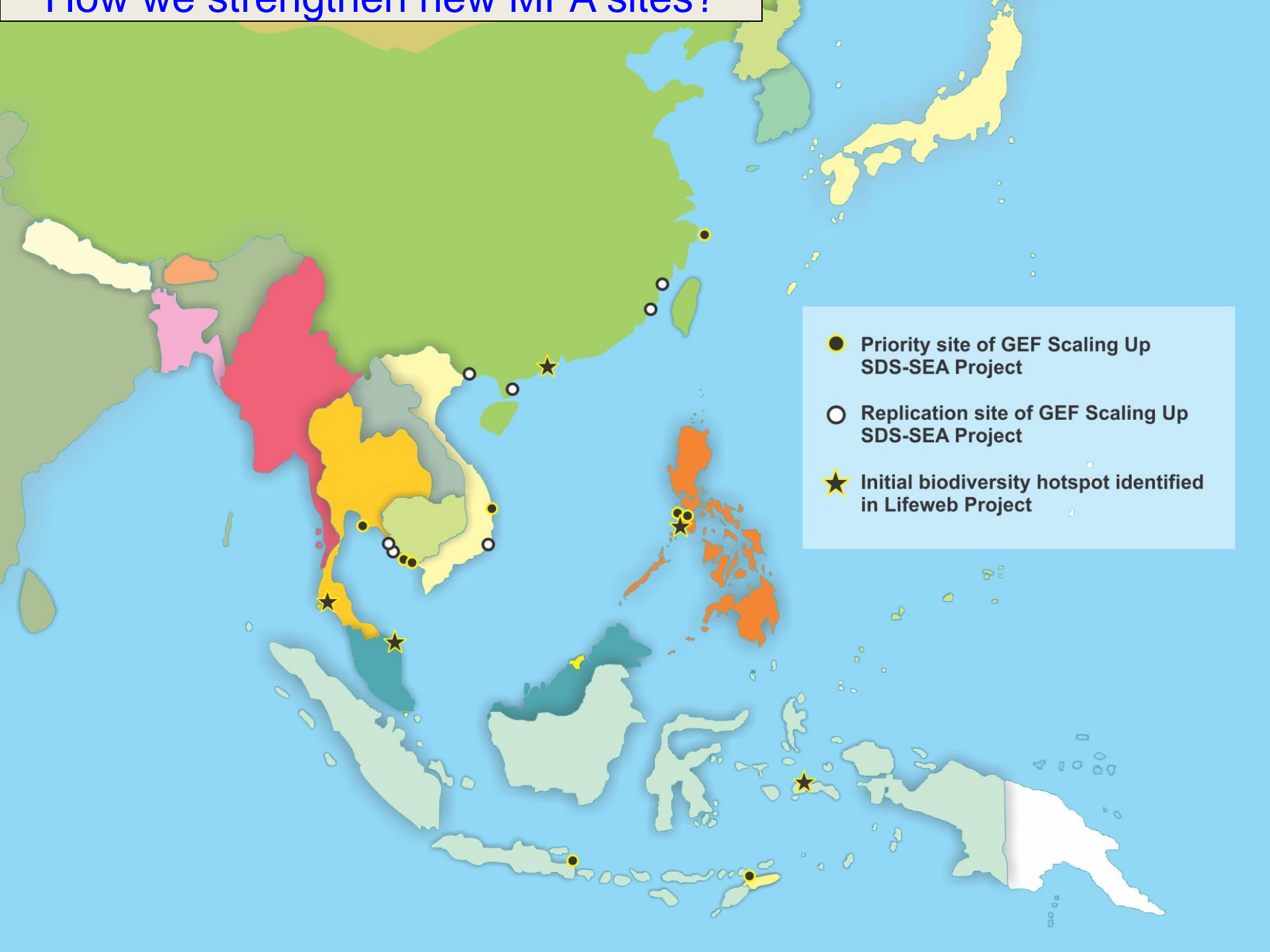
Currently has **31 local government members** and **2 associate members** from 8 countries across East Asia



# Venue for Knowledge Sharing

- 1st RNLG Forum: Shihwa, RO Korea, 15-16 March 2001
- 2nd RNLG Forum: Xiamen, PR China, 20-23 September 2002
- 3rd RNLG Forum: Putrajaya, Malaysia, 9 December 2003
- 4th RNLG Forum: Bali, Indonesia, 20-25 April 2006
  - Building Better Coastal Governance through Stronger Local Alliance with focus on Coastal Hazard Management
- Inaugural meeting of the PNLG: Haikou, PR China, 13 December 2006
- 6th PNLG Forum: Danang, Vietnam, 5-7 September 2007
  - Addressing Coastal Security by Investing in Natural and Man-made Hazards Prevention and Management
- 7th PNLG Forum: Sihanoukville, Cambodia, 19-21 November 2008
  - Water Resources Protection, Utilization and Management
- 8th PNLG Forum: Bataan, Philippines, 23-25 November 2009
  - Land and sea-use zoning: Challenges and opportunities
- 9th PNLG Forum: Chonburi, Thailand, 21-24 November 2010
  - Strengthening Oil Spill Preparedness and Response at the Local Level
- 10th PNLG Forum: Dongying, PR China, 25-27 July 2011
  - Achieving Sustainable Blue Economy through Integrated Coastal Management
- 11<sup>th</sup> PNLG Forum: Changwon, RO Korea, 8-10 July 2012
  - Monitoring, Reporting and Forecasting: Applications, Benefits and on-the-ground Applications
- 12<sup>nd</sup> PNLG Forum: Shima, Japan, 30 Sept - 2 October 2013
  - Achieving the Aichi Biodiversity Targets, New Satoumi and Vitalization of Coastal Areas through Integrated Coastal Management

# How we strengthen new MPA sites!



# GEF/UNDP/PEMSEA Scaling Up SDS-SEA Implementation Project - Main Components



Component 1:  
Partnerships in  
Coastal &  
Ocean  
Governance



Component 2:  
Healthy and  
Resilient  
Marine and  
Coastal  
Ecosystems



Component 3:  
Knowledge  
Platform for  
Building a  
Sustainable  
Ocean- Based  
'Blue Economy'



# Project Outcomes



## Component 1

1. Self sustaining, country-owned regional mechanism
2. National and local governments adopt and initiate ocean policy and institutional improvements
3. Innovative financing mechanisms for sustained operation of PEMSEA Resource Facility

## Component 2

- 4) Increased areal extent of healthy, resilient habitats, including mangroves, seagrass and other coastal habitats
- 5) Improved management of overexploited and depleted fisheries leading to recovery
- 6) Reduced discharge of pollutants from land-based activities and improved water use efficiency/ conservation in priority river basins and coastal areas



# Project Outcomes

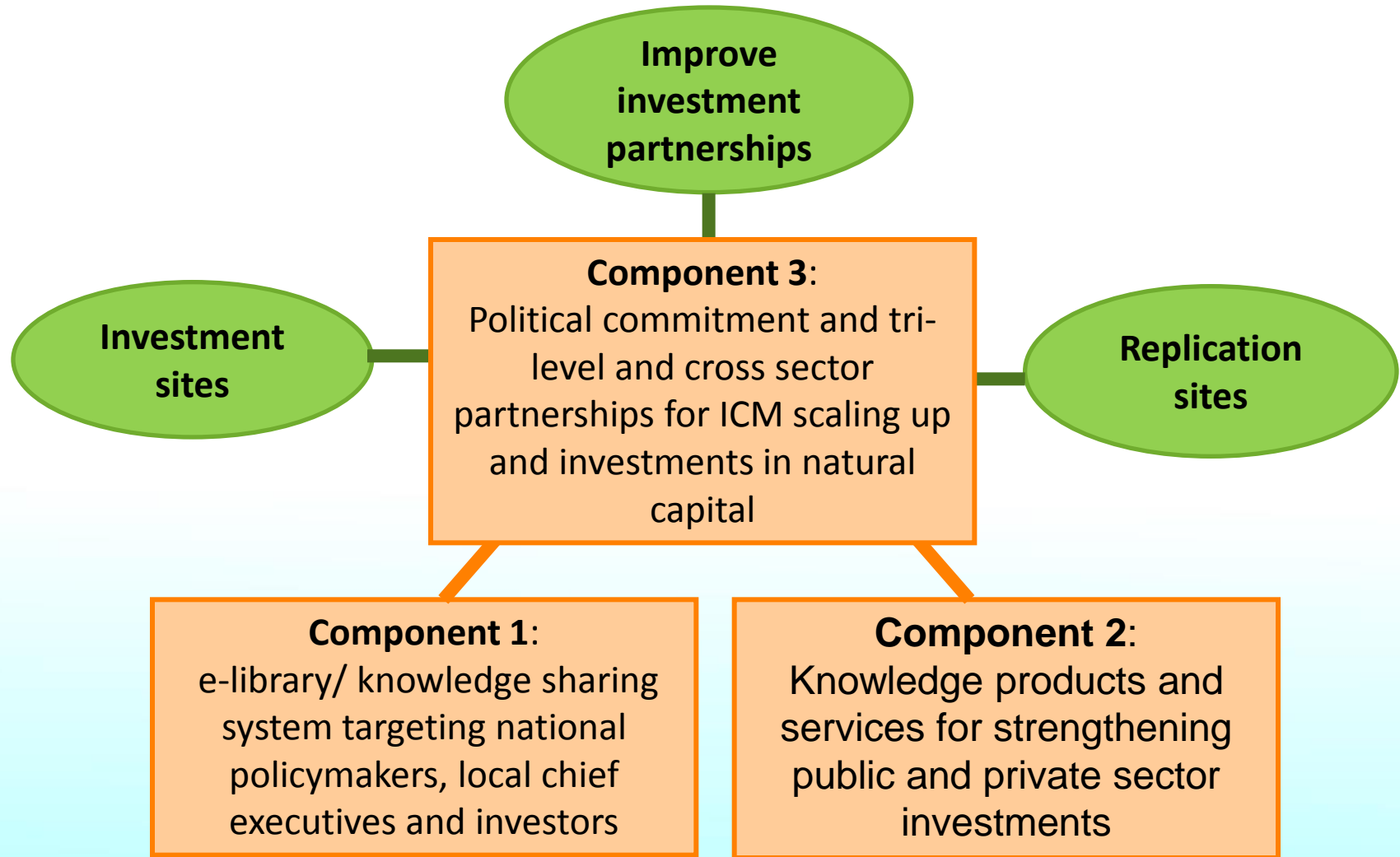


- 7) Increased preparedness and capability of coastal communities to respond to natural and man-made hazards
- 8) Innovative economic and investment instruments generate funds to rehabilitate and sustain coastal and marine ecosystem services

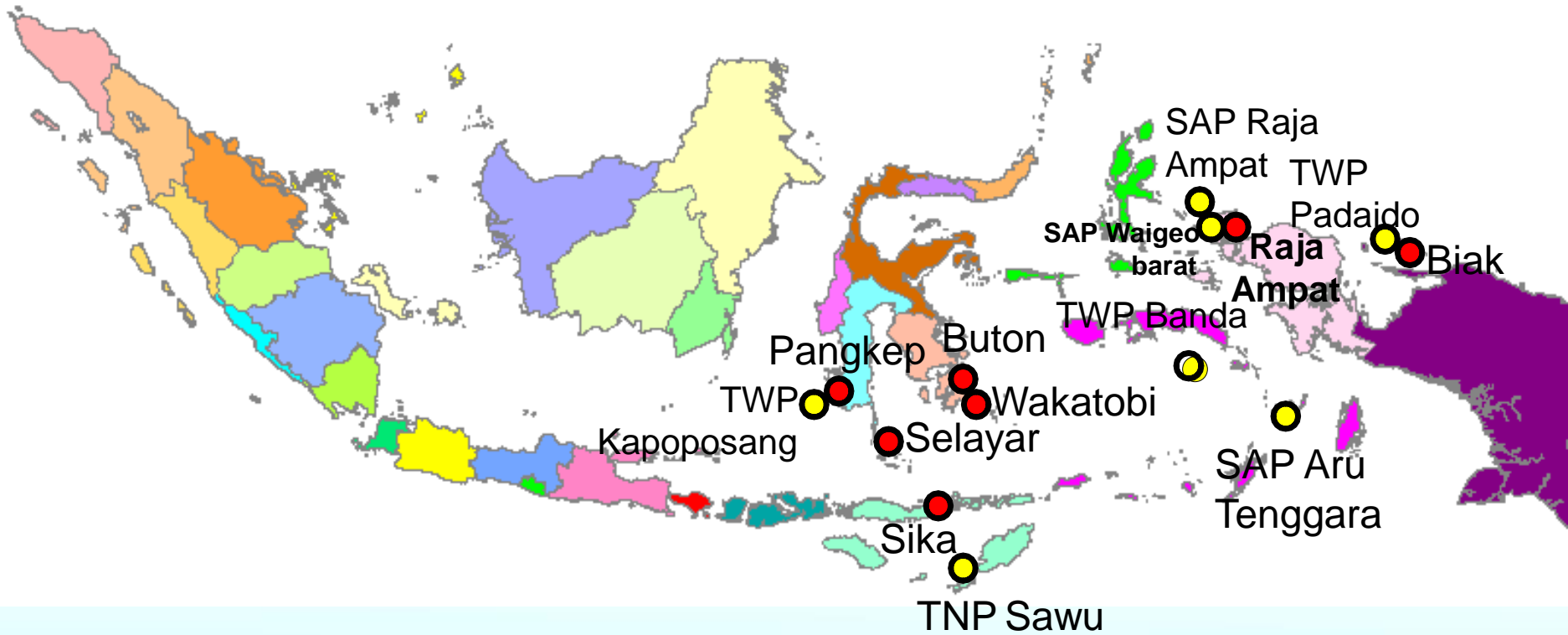
## Component 3

- 9) Regional knowledge sharing platform for ecosystem management established and enabling decision makers to translate policies and strategies into actions
- 10) Program contributed to global learning on scaling up investments in sustainable coastal and ocean management

# GEF/WB/PEMSEA Applying Knowledge Management to Scale up Partnership Investments for Sustainable Development of LMEs of East Asia and their Coasts - Project Framework



# WB COREMAP CTI sites



- COREMAP District
- National Marine Conservation Area

Five year implementation period  
(2014 – 2018)

# WB COREMAP CTI sites Component 2 - Development of Ecosystem Based Resource Management

- 2.1 Support Zoning and Marine Spatial Planning
- 2.2 Application of Integrated Coastal management (ICM)
- 2.3 Management effectiveness of MCAs
- 2.4 Piloting Community Right-based Approach
- 2.5 Sustainable Fisheries Management in select fisheries management zone



**Lifeweb:**

# **PEMSEA-ACB Achieving Aichi Targets through ICM Project**

**Component 1: To scale up the geographic coverage and effectiveness of existing NBSAPs**

- a) Status of existing MPAs
- b) Expansion of ecologically representative mKBAs
- c) Demonstrate methodologies for delineating conservation areas
- d) Build core scientific /mgmt team

**Project management in place  
Scientific expert group convened**

**Feasible MPA network identified and included in WDPA**

**Steering Committee (with CBD NFPs)  
NPSAP reviews conducted**

**Performance and monitoring parameters / indicators defined**

**Project sites validated and prioritized**

**Consensus building with local governments and stakeholders**

**mKBA habitat relationships and threats data reviewed for MPA expansion**

**Capacity building and ecosystem assessment tools defined at site levels**

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**Geographic coverage of MPAs / networks presented to stakeholders**

**Surveys conducted and baselines established**

**Number of hectares of proposed new coastal and marine areas validated**

**Resources allocated to support site-based activity**

**Capacity-building, ecosystem assessments and other tools defined at site level**

**Mechanics of implementation developed and shared**

**Core set of project collaborators identified and mobilized**

**Resulting methodology / lessons learned appropriately documented**



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

- a) work with national governments to scale up ICM practices and capacities
- b) build and strengthen core capacities & knowledge
- c) demonstrate effectively managed conservation areas
- d) establish effectively managed MPA networks “source to sink”

### ICM implementation in 9 sites

Management plans, sustainable financing mechanism(s) & monitoring /reporting systems in place

Improved fisheries development / management

**Improved water quality and reduction in nutrient loading**

Ecosystem assessment tools applied  
Local governments/ managers capacitated in ICM

Increase in local governments implementing ICM

CCA internalised into DRR plans

**Areal extent of coastline covered by ICM programs**

Improved coastal areas under management

Extent of biomes, ecosystems and habitats covered by ICM programs

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- a) work with national governments to scale up ICM practices and capacities
- b) build and strengthen core capacities & knowledge
- c) demonstrate effectively managed conservation areas
- d) establish effectively managed MPA networks “source to sink”

**Site-level tracking tools developed and applied to monitor management effectiveness**

**Investment and other partnership opportunities, including corporate social responsibility, identified and packaged for prospective support**

**Coastal communities, including women, recognized and engaged in MPA management through benefit-sharing schemes for livelihood and income generation**

**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**

**Comprehensive KM strategy developed and applied:**

**Knowledge, attitudes, practice (KAP) assessed for target groups**

**Responsible Ministers convened to report on need, progress, challenges and solutions**

**Leadership forum and site visits conducted**

**Scientific and technical information / knowledge products packaged and disseminated**

**National or regional network or association of local governments practicing ICM in support of biodiversity conservation established**

**Business leadership and policymakers forums and site visits organized and conducted**

**ASEAN region promoted as working model for biodiversity conservation through ICM**



**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**

M&E data integrated into development of KM products, processes, sharing:

Scientific and technical information / knowledge products disseminated

Data tracked, collected and managed through interoperable databases

National /regional network of local governments established and expansion / links to Blue Economy

Targeted research identified and funded

Skills, knowledge, approaches and technologies created to fill gaps in management effectiveness

**Good practices in application of tools, skills etc documented and disseminated in local languages**

Experiences and good practices scaled up as national level policy, standards, criteria and incentives

Incentive / Recognition system established for socially responsible investments and business practices

# Lessons learnt in strengthening MPA effectiveness through ICM applications

- **Adopting a system-wide approach**
- **Validated, synthesized and packaged experiences and best practices and easily accessibility to target user groups**
- **Availability of a network of extension services or learning centers to build the critical mass of expertise for on-the-ground applications**
- **Scientific studies and targeted researches and results made accessible to decision makers, financiers and industries to enable informed decision making**
- **Effective partnerships with permanent networks, platforms and mechanisms of user groups or stakeholder groups in transferring knowledge and good practices into policy making, investment decision making.**

# Lessons learnt in strengthening MPA effectiveness through ICM applications

- **An enabling government-driven policy and regulatory environment to catalyze and scale up financing**
- **Raised awareness of the policy makers, financiers, industry and consumers through use of economic valuation, risk assessment and application of other tools to nurture markets for Eco-friendly good and services**
- **Tailor-designed communication initiatives to targeted groups for behavioral changes**
- **Common mission and vision through regional development strategies and strategic policies which can not only garner the political will but create platforms for dialogues, sharing and partnership building**

THANK YOU!



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