

The YSLME and WWF partnership for marine biodiversity conservation

3 innovative management practices

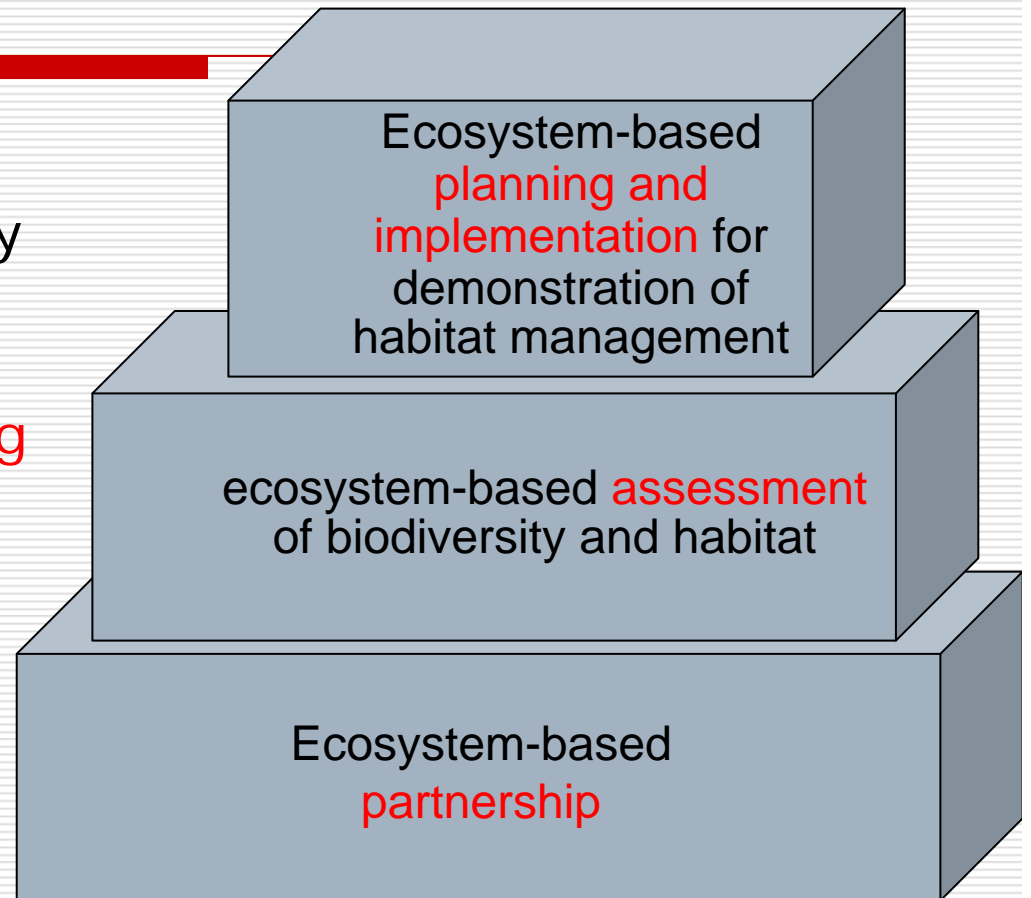
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Manager, Yellow Sea Ecoregion Support
Project

3 innovative management practices

- practice 1
 - ecosystem-based **assessment** of biodiversity and habitat
- practice 2
 - Ecosystem-based **planning and implementation** for demonstration of habitat management
- practice 3
 - Ecosystem-based **partnership** for planning and implementation of habitat management



Introduction: problems and challenges to biodiversity and habitat

□ Threats

- Large-scale loss of coastal wetland habitats

□ Reclamation

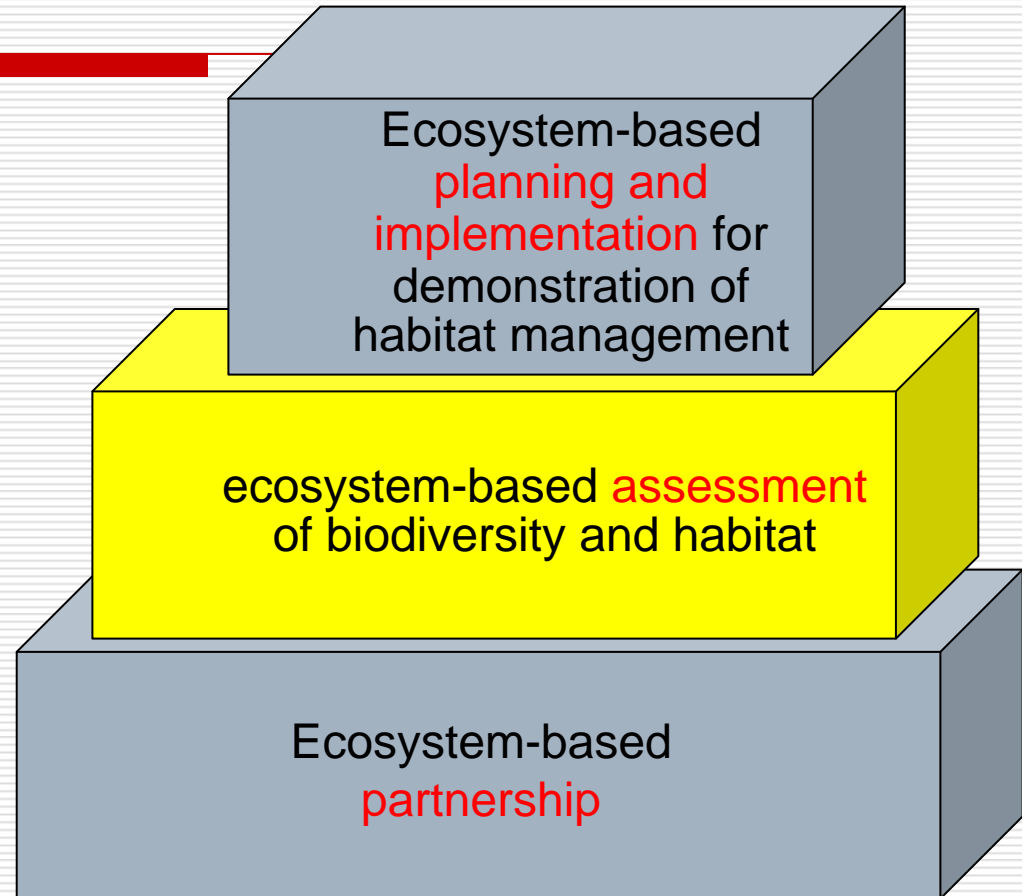
- Aquaculture ponds
- Ports
- Agriculture/ salt ponds/ industrial complexes
- China: about 37% converted
- Korea: about 43% converted

□ Challenges

- Lack of an ecosystem-based regional plan (in 2000)
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3 innovative management practices

- practice 1
 - ecosystem-based **assessment** of biodiversity and habitat



practice 1

□ Practice: what was done

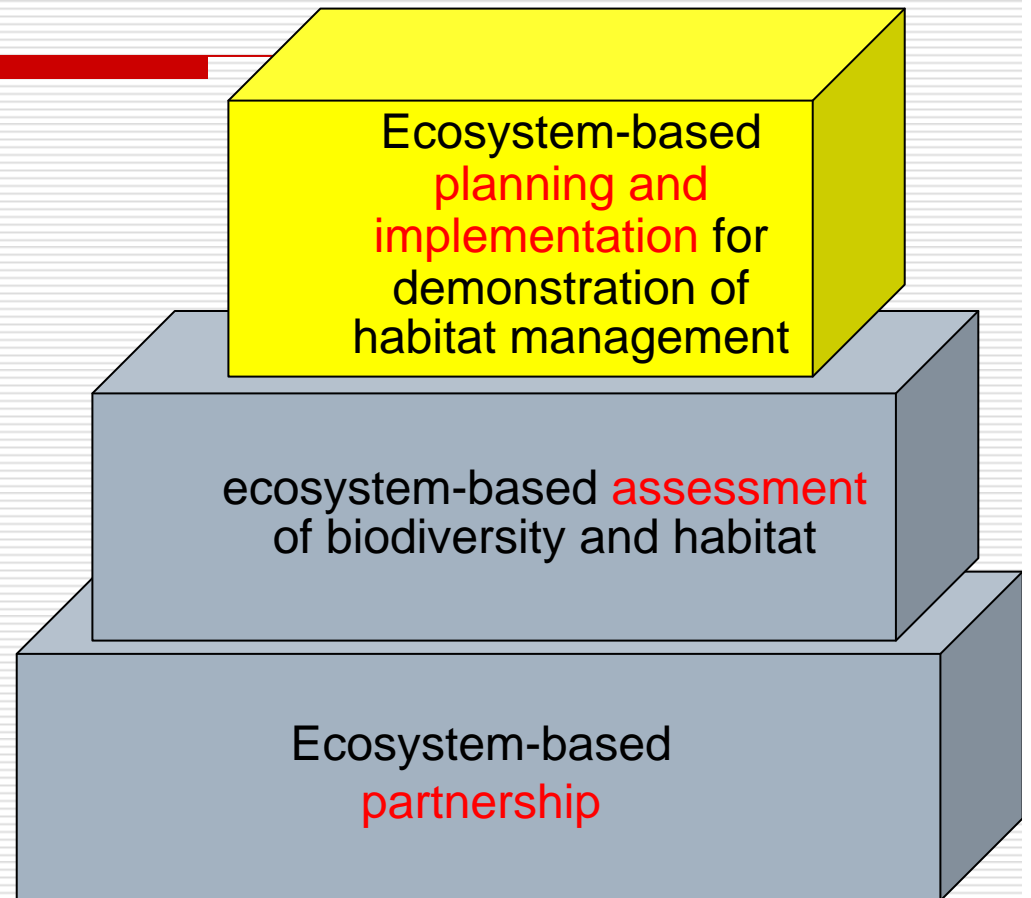
- ecosystem-based **assessment** of biodiversity and habitat
- Biological Assessment of the Yellow Sea Ecoregion
- Priority Area Analysis of the Yellow Sea Ecoregion

□ Elements of Innovation

- 1st multi-taxa mapping of critical habitats in the region
 - Inclusion of critical habitats for most commercially important species
 - Prioritisation of areas by their global significance
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3 innovative management practices

- practice 2
 - Ecosystem-based **planning and implementation** for demonstration of habitat management



Ecosystem-based **planning and implementation**

□ Elements of innovation

- Adoption of systematic framework for habitat management at ecosystem-scale (=Yellow Sea)
- Strategic selection of demonstration sites in China and RO Korea

Which habitats?

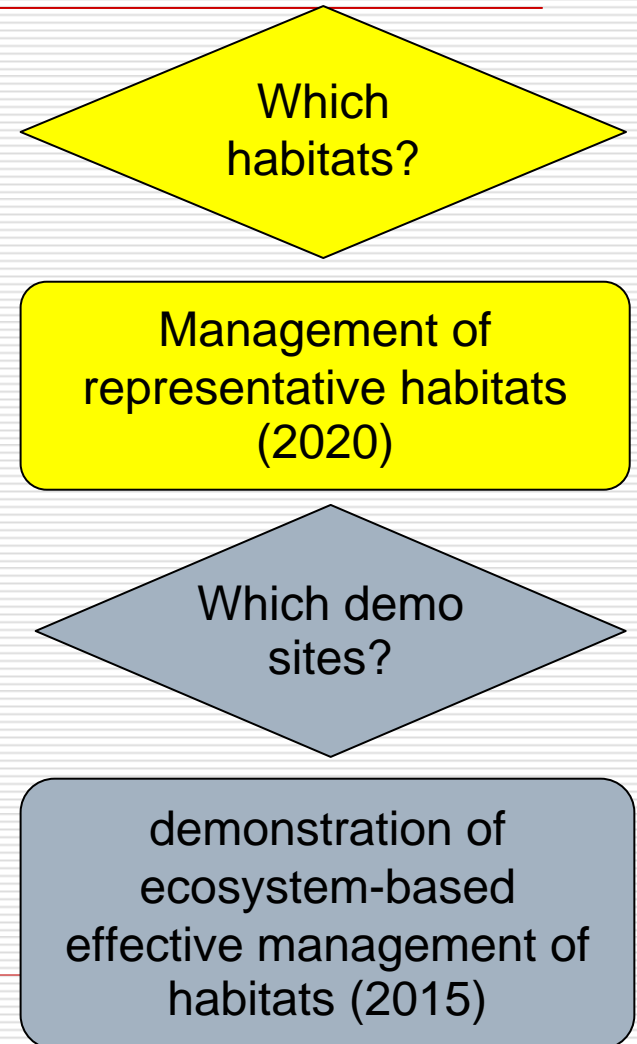
Management of representative habitats (2020)

Which demo sites?

demonstration of ecosystem-based effective management of habitats (2015)

Which habitats?

- Representative habitats
 - Adoption of systematic framework for habitat management at ecosystem-scale (=Yellow Sea)
 - Ramsar classification of coastal and marine wetlands
 - Most representative area of each habitat type
 - Developed criteria for important areas for management of habitats
 - Most important area for management of habitat



Ramsar Classification of Coastal Habitats

A. Permanent shallow marine waters : major bays in the west coast

B. Marine subtidal aquatic beds

: sea-grass and algal beds in intertidal and subtidal area

C. Coral reefs : corals in subtidal area (very rare in west coast of Korea)

D. Rocky marine shores

: bedrocks, stones or boulders in intertidal and subtidal area, and cliff in splash zone, Beaches are excluded in this category

E. Sand, shingle or pebble shore : sand and pebble beaches, and sand dunes

F. Estuarine waters

: estuaries of major rivers. All the estuaries of major rivers are in this category regardless of dyke construction

G. Intertidal mud, sand or salt flats : mud flats in the intertidal area

H. Intertidal marshes : intertidal area with vegetations

I. Intertidal forested wetlands : intertidal area with forest (very rare in the west coast)

J. Coastal brackish/saline lagoons

: no natural lagoons in the west coast. All the artificial freshwater and saltwater lakes separated from the sea by dam are in this category

K --Coastal freshwater lagoons; includes freshwater delta lagoons.

Zk(a)-- Karst and other subterranean hydrological systems, marine/coastal

Locations of 10 representative habitats in the west coast of Korea

Habitat Types	Locations
Permanent shallow marine waters	Garolim Bay
Marine subtidal aquatic beds	Dumunjin
Coral reefs	Munseom in Jeju
Rocky marine shores	Cheonripo-Padori
Sand, shingle or Pebble shore	Sinduri Sand Beach, Sinduri Sand Dune, Koddol Beach
Estuarine waters	Han River Estuary
Intertidal mud, sand or salt flats	Southern mud flat of Gangwha Is
Intertidal marshes	Seocheon Salt Marsh
Intertidal forested wetlands	Janghang wetland forest in Han River
Coastal brackish/saline lagoons	Lake Shihwa



Criteria Development for the representative habitat selection

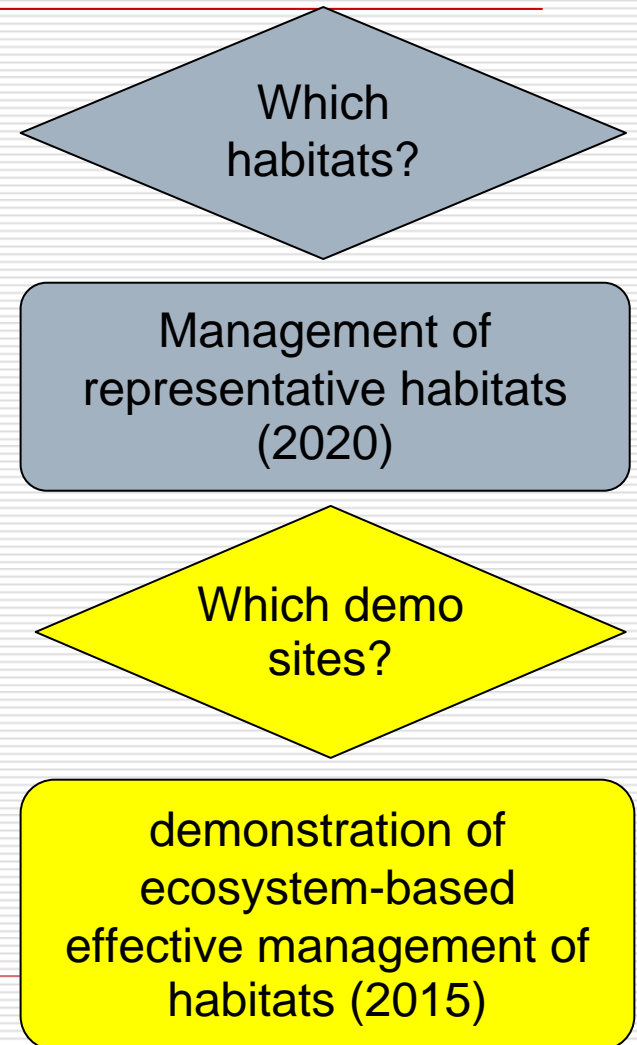
Criteria	Scores
1. Physical conditions	10
2. Species diversity	10
3. Endangered & threatened species	10
4. Habitat diversity	10
5. Habitat size	10
6. Conservation status of nature	10
7. Degree of pollution and pollution sources	10
8. Future plans for development	7
9. Management and conservation plans	10
10. Economical importance	8
11. Existing studies	5

Scoring of representative habitat to select three critical habitats

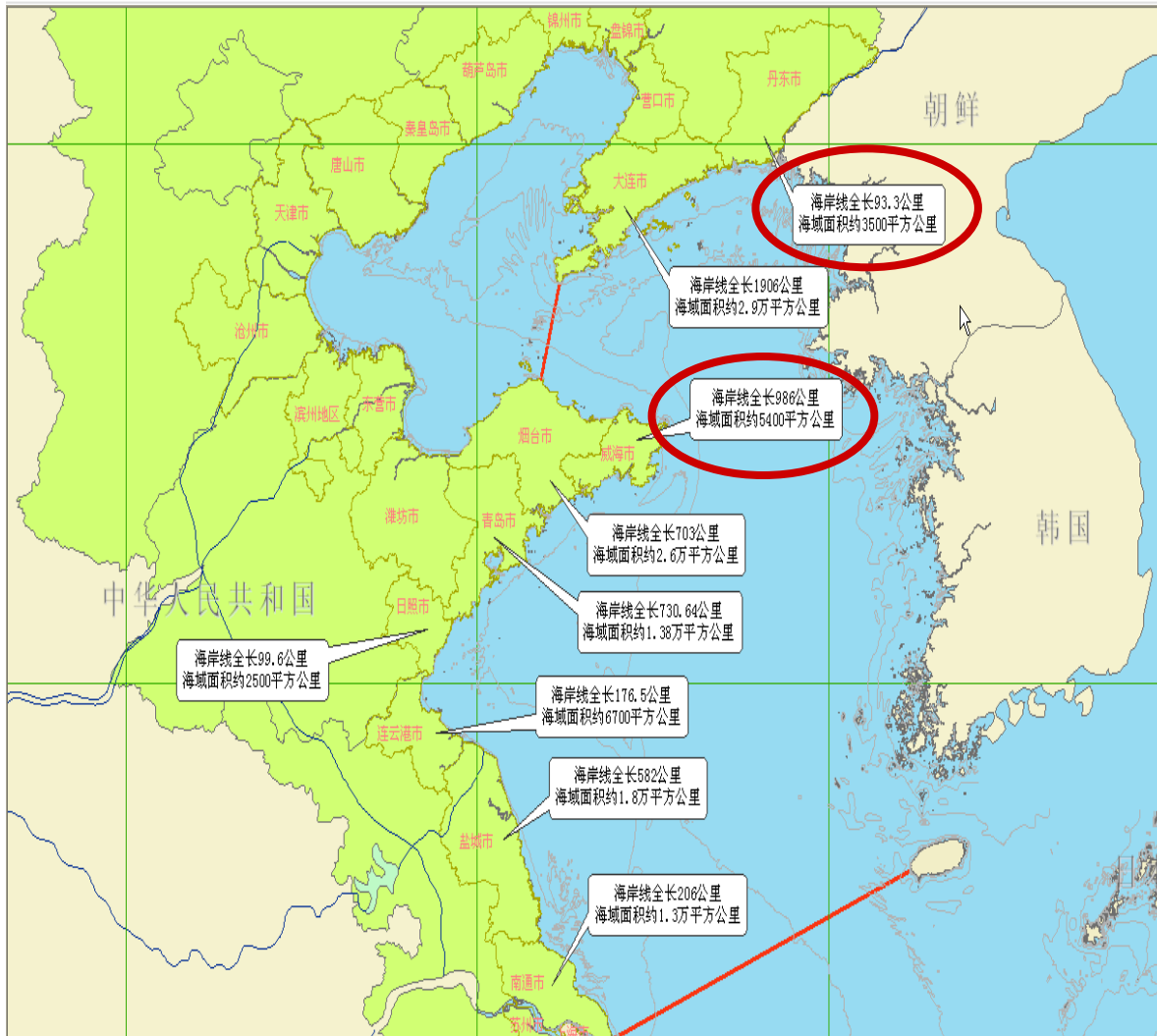
Habitat classification and scoring criteria	Shallow marine waters (A)	Aquatic beds (B)	Coral reefs (C)	Rocky marine shores (D)	Sand, shingle or pebble shores (E)			Estuarine waters (F)	Intertidal flats (G)	Intertidal marshes (H)	Intertidal forest (I)	Coastal lagoons (J)
		Dumunjin	Munseom	Cheonripo-Padori	Kongdol beach	Sinduri beach	Sinduri Dune	Han River Estuary	Ganghwa Southern Mudflat	Seocheon	Janghang Forest Wetland	Shihwa Lake
Physical conditions	10	10	8	5	10	8	10	8	10	10	8	3
Species diversity	10	4	6	5	4	7	7	10	7	7	10	3
Endangered & threatened species	10	5	3	2	5	6	6	10	8	7	10	8
Habitat diversity	10	7	7	4	4	4	4	10	4	4	7	7
Habitat size	9	3	4	4	4	6	6	10	10	4	5	8
Conservation status of nature	9	10	9	5	10	7	7	7	7	7	7	2
Degree of pollution	7	10	10	7	10	7	7	6	7	8	8	2
Future plans for development	5	7	6	7	7	7	7	4	5	6	6	4
Management & conservation plans	8	10	10	6	10	10	10	10	10	8	9	8
Economical importance	8	5	5	5	5	4	4	6	7	6	5	6
Existing studies	3	2	5	5	2	3	3	5	5	3	4	5
Total Score	89	73	73	55	71	69	71	86	80	70	79	56

Which demo sites?

- Objective:
 - Select most suitable sites for demonstration of ecosystem-based effective management of habitats
- Feasibility scoring of ecosystem-based habitat management
 - A new tool
 - Final selection
 - Ensured transparency of criteria and elements, and results



feasibility scoring of ecosystem-based management



- Yalu River Estuary**
 - **Representative habitat type:**
 - Estuary
 - Intertidal flat

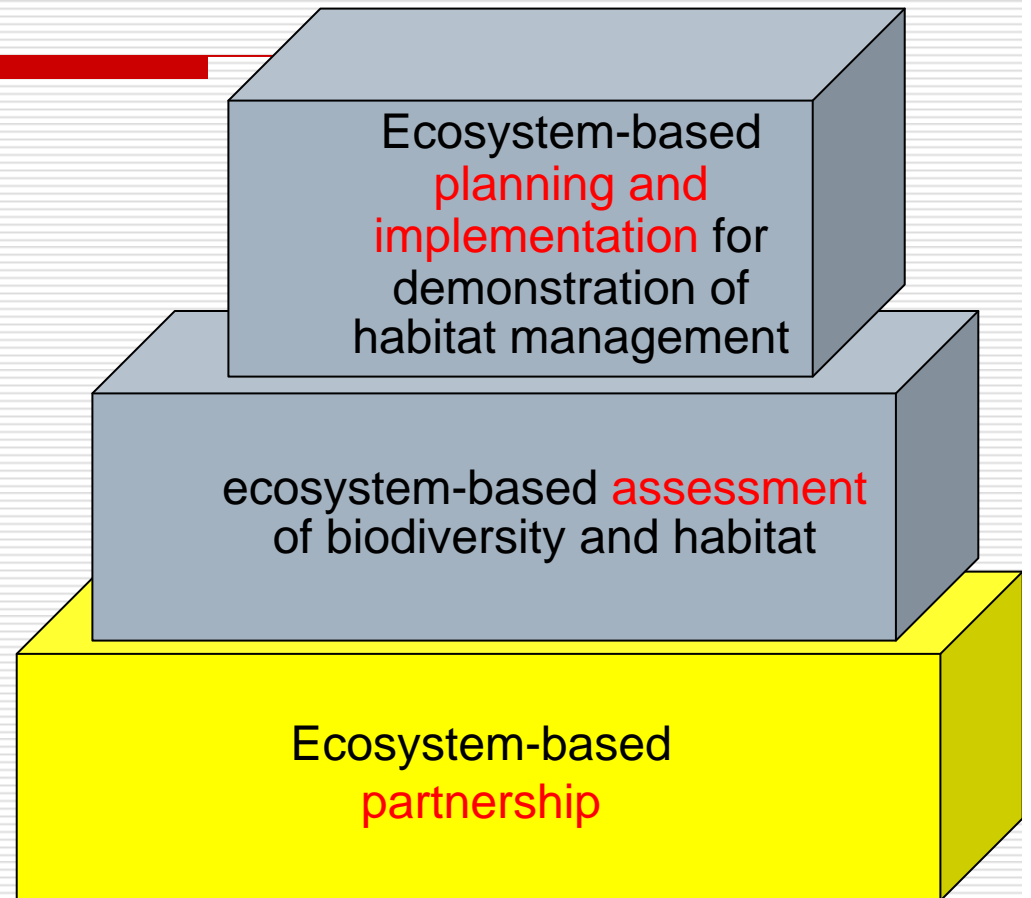
- Rongcheng Coastal Region**
 - **Representative habitat type:**
 - Seagrass bed

Criteria and elements of feasibility scoring

Selection Criteria	Elements of scoring
Criterion 1: Practicality of demonstrating improvement in management effectiveness	<ul style="list-style-type: none"> a) Level of difficulty at site b) Why little or no management has been achieved until now b) Level of opportunity for improvement – how our management plan can address the problems in 1) c) Level of support at site (financial, personnel and institutional) c) Opportunity for inclusion of cross component management actions (e.g. pollution) d) opportunities for sharing and learning lessons learnt with parallel YSLME demo sites e) ease of producing tangible outputs and outcomes within a project period (3 years for YSESP)
Criterion 2: local government commitments	<ul style="list-style-type: none"> a) Past examples of environmental management activities and achievements with in the province (2-3 examples). b) Current provincial efforts in biodiversity conservation and likely outcomes. c) Future environmental management plans at the proposed site. d) Financial support (source and size of matching funds) e) Personnel support (experiences and qualification of a planned project leader and a coordinator) f) Agreements (willingness?) by other relevant government divisions to develop a coordinating institutional mechanism for management of the demo site
Criterion 3: Stakeholder participation	<ul style="list-style-type: none"> a) Willingness of current resource users (e.g. fishers) to participate in the management b) previous records of management by users c) previous records of cooperation with local government d) financial/ personnel support by stakeholders
Criterion 4: Replicability	<ul style="list-style-type: none"> a) identified concrete replication sites b) perception of impact of replication by relevant government agencies

3 innovative management practices

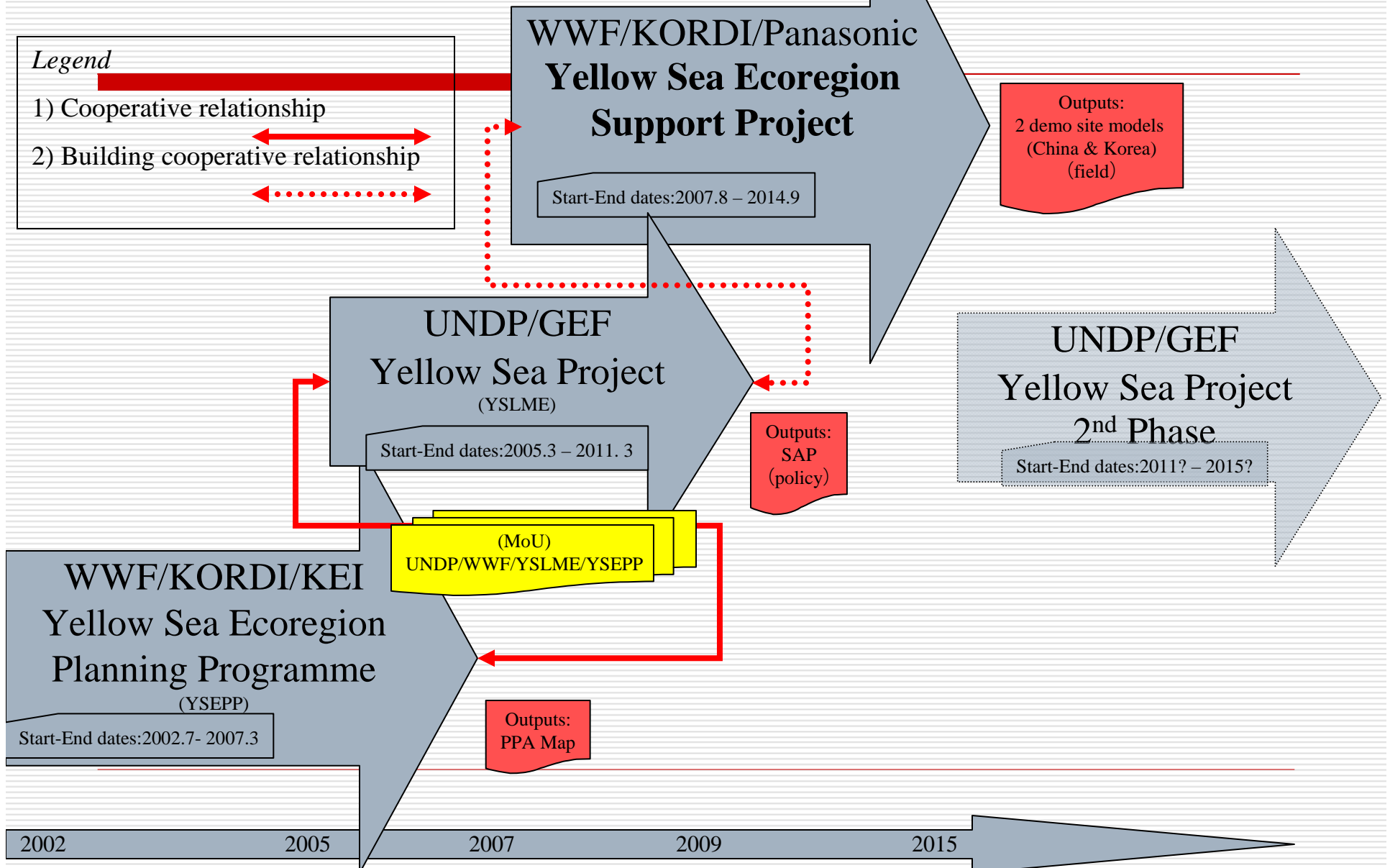
- practice 3
 - Ecosystem-based **partnership** for planning and implementation of habitat management



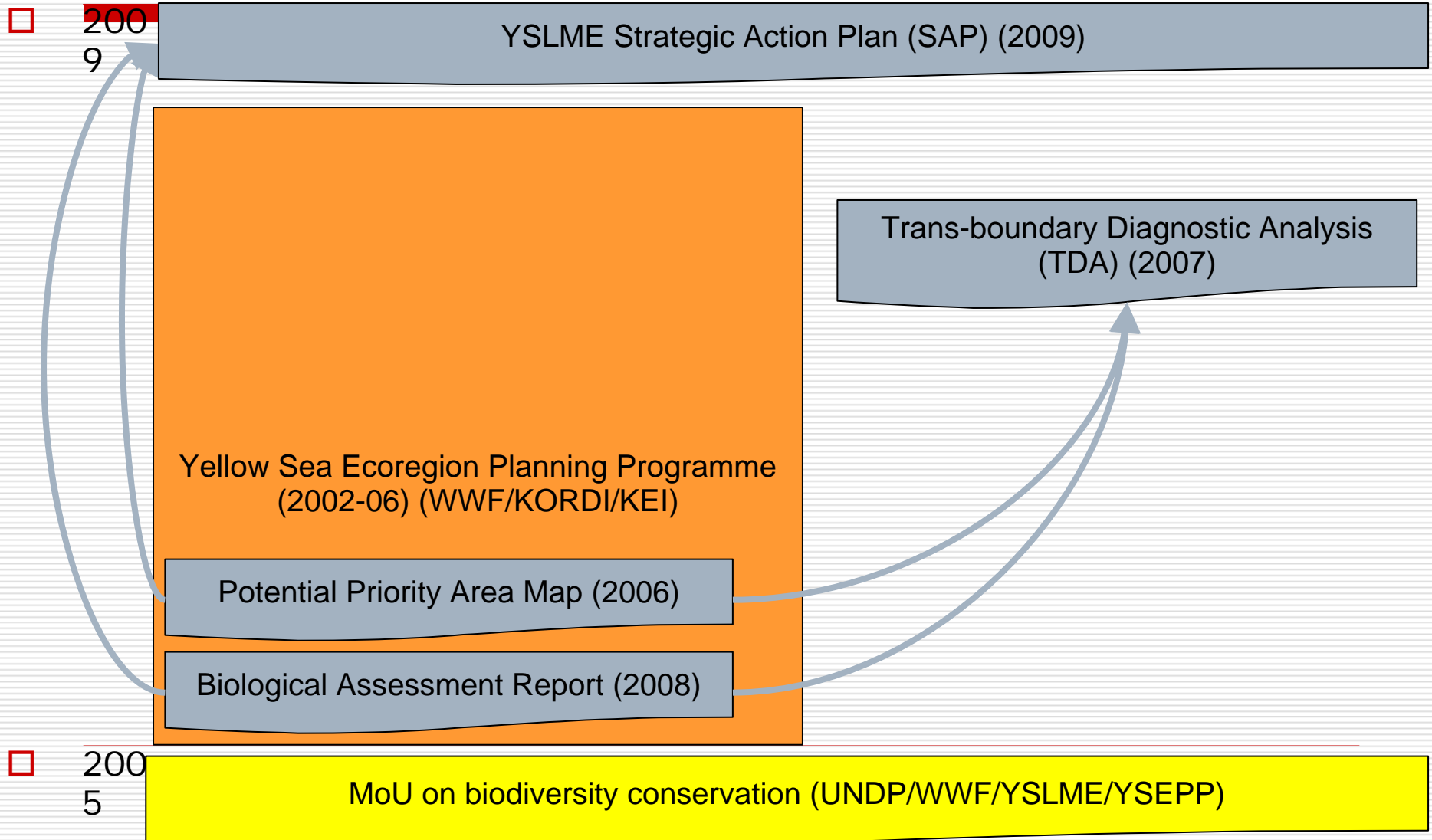
practice 3 Ecosystem-based **partnership** for planning and implementation of habitat management

- Practice: what was done/ is being done
 - Developed a single and unified strategy for biodiversity and habitat (YSLME SAP (Strategic Action Plan))
 - Coordinating implementation of SAP
 - Elements of Innovation
 - Joint planning for a single strategy
 - Cross-participation in both at activities and governance levels
 - Co-financing from business sector
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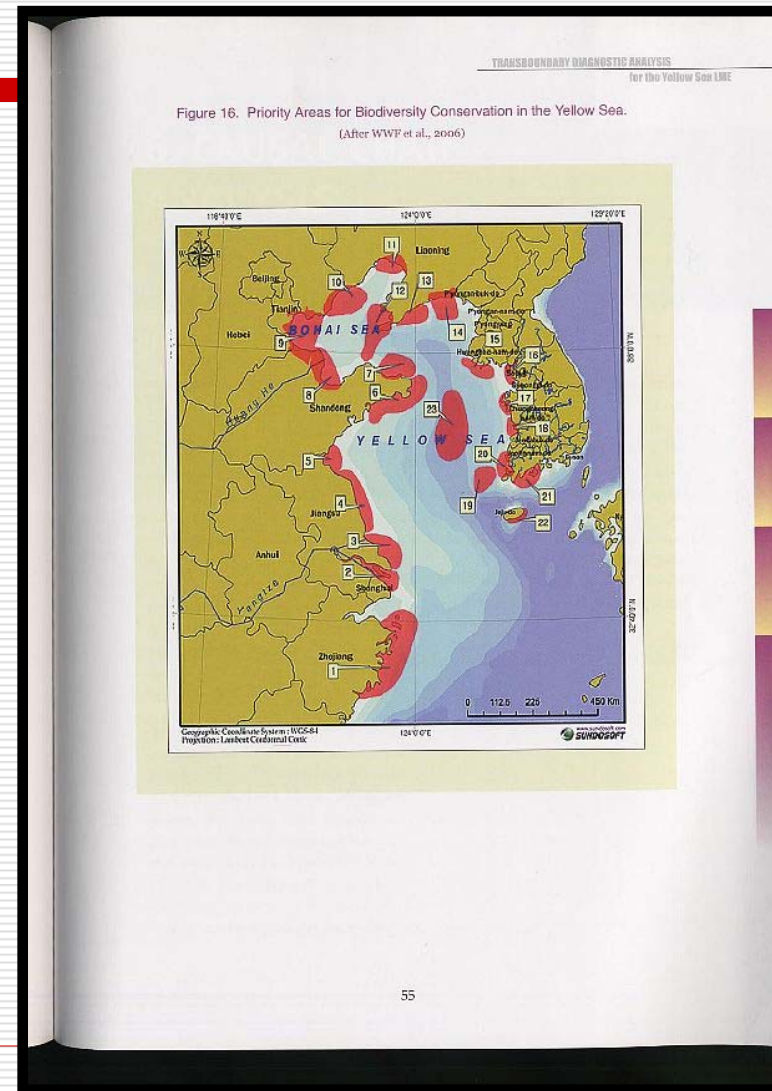
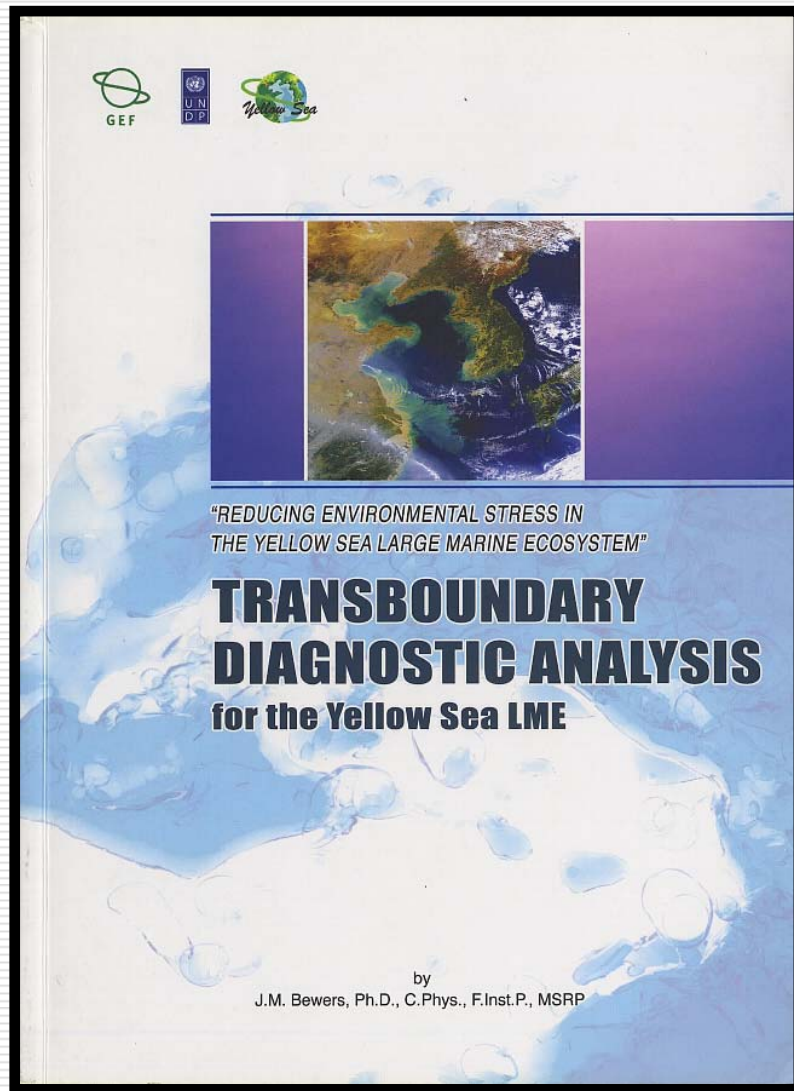
Overview of biodiversity projects in Yellow Sea Ecoregion



Joint planning for a single strategy

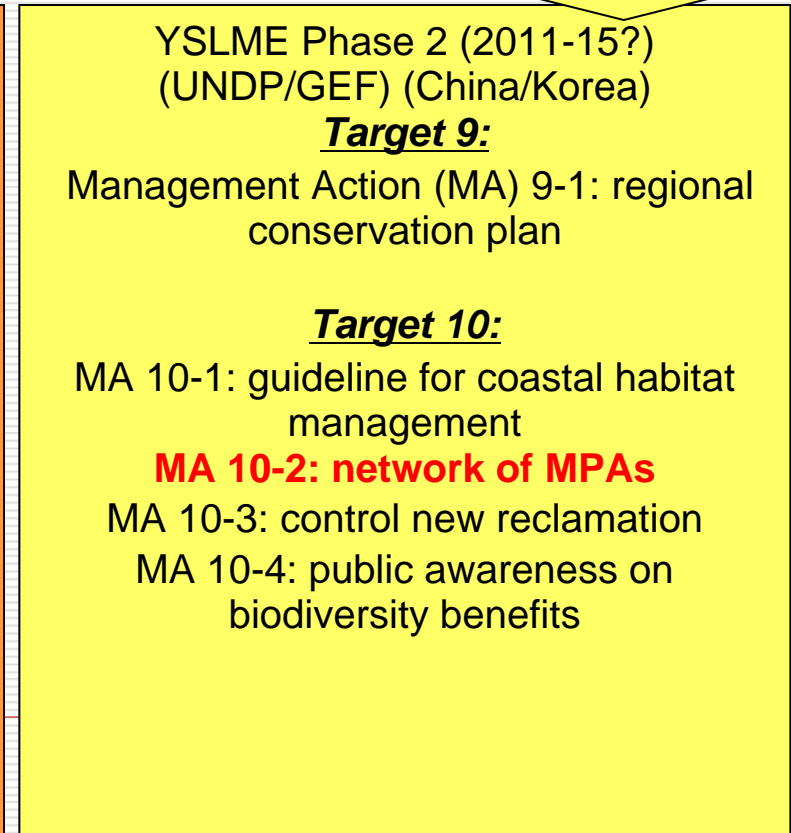
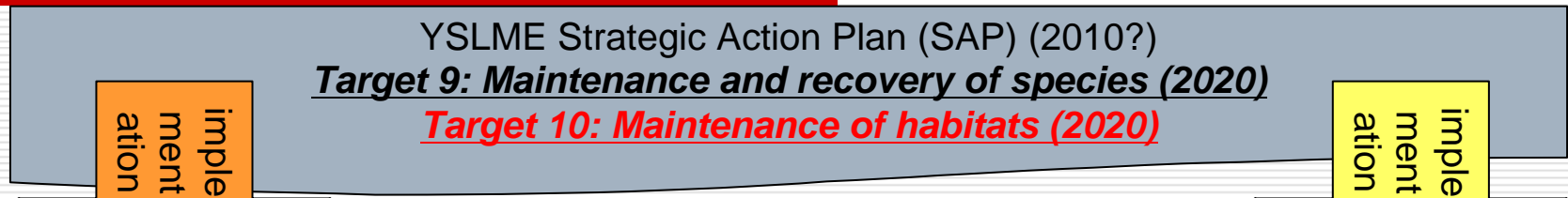


Joint planning for a single strategy



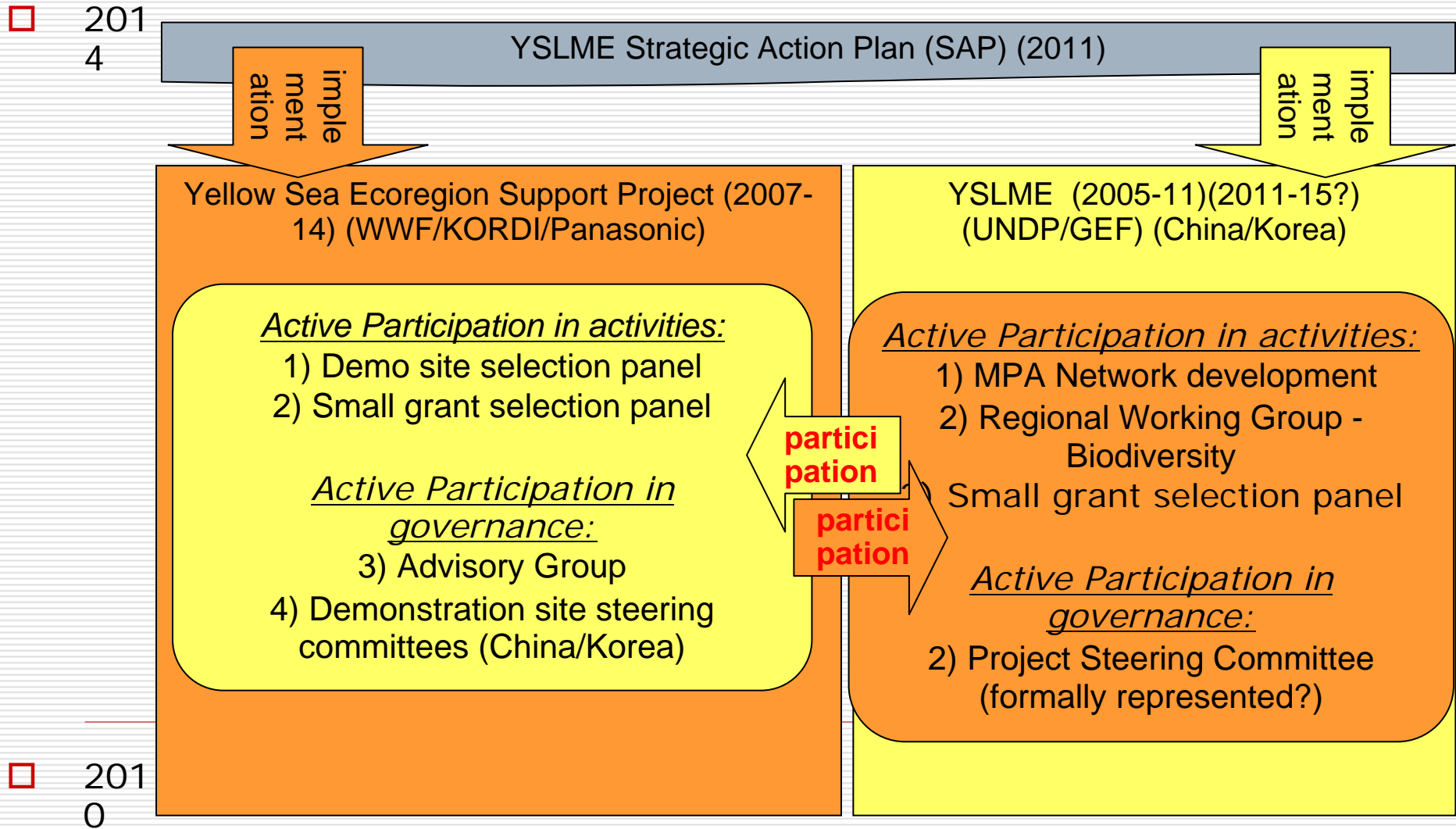
Coordinating implementation of SAP

□ 2014

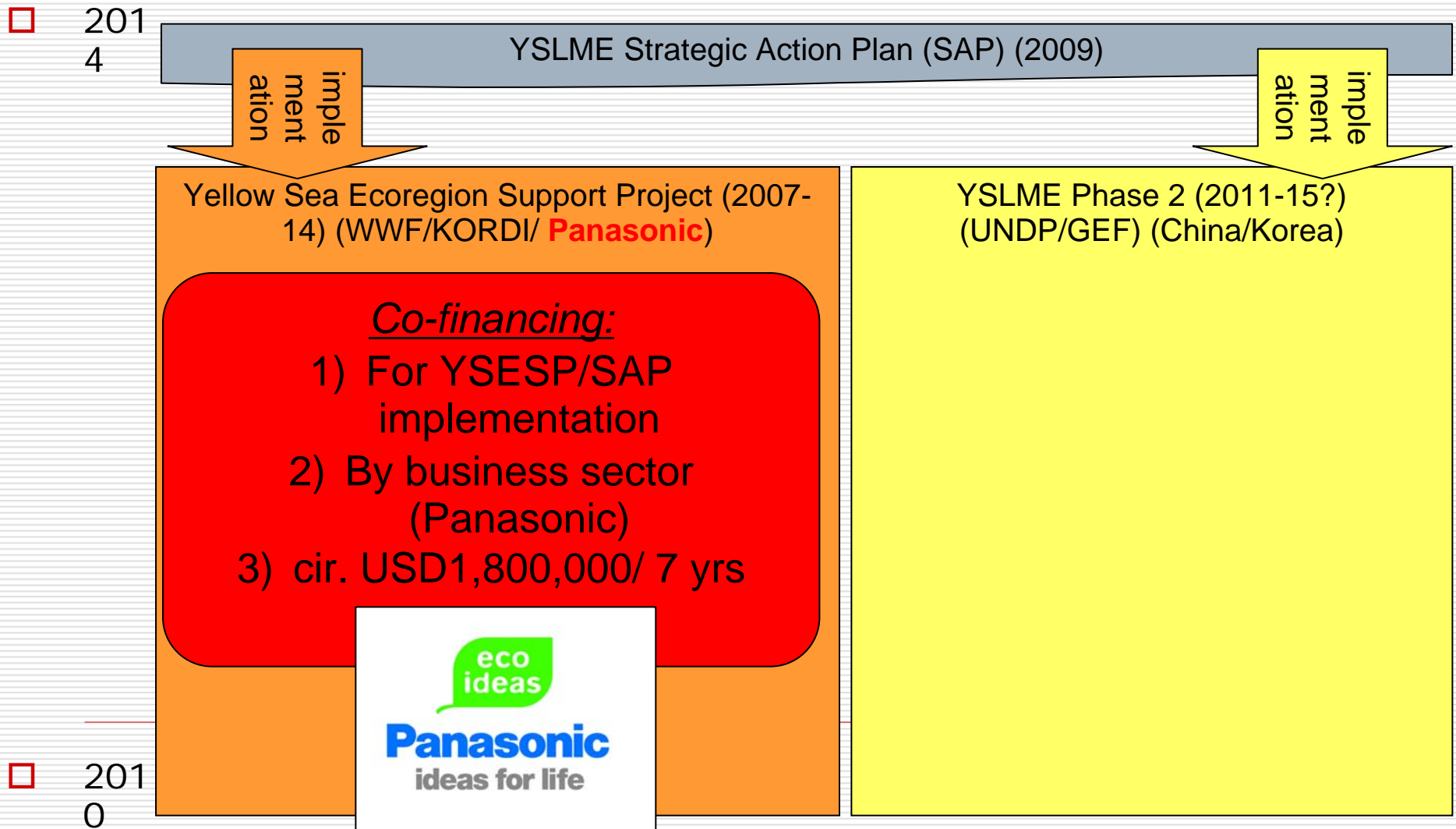


□ 2010

Cross-participation in both at activities and governance levels



Co-financing from business sector



3 innovative management practices for biodiversity and habitat

- practice 1
- scientific foundation*
 - ecosystem-based **assessment** of biodiversity and habitat
- practice 2
- Policy umbrella*
 - Ecosystem-based **planning and implementation** for demonstration of habitat management
- practice 3
- Mechanism keystone*
 - Ecosystem-based **partnership** for planning and implementation of habitat management

