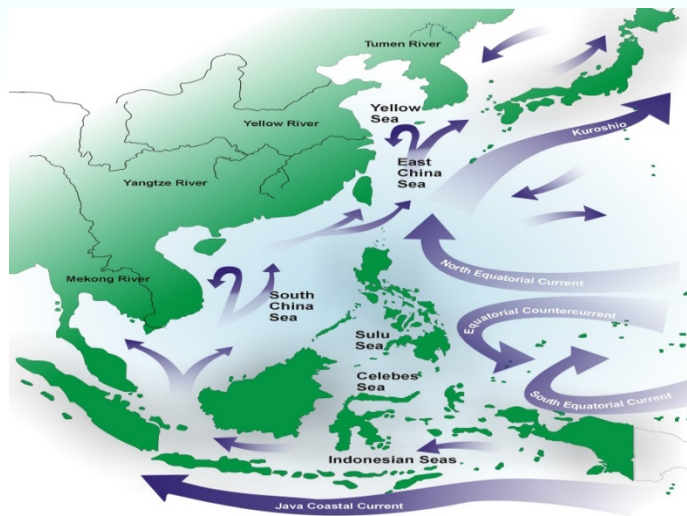


EAS Congress 2015

Two decades of integrated coastal management in the Seas of East Asia: What have we learned?



Dr. Chua Thia-Eng

**Chair Emeritus, East Asian Seas Partnership Council,
Partnerships in Environmental Management for the Seas of East Asia
(PEMSEA)**



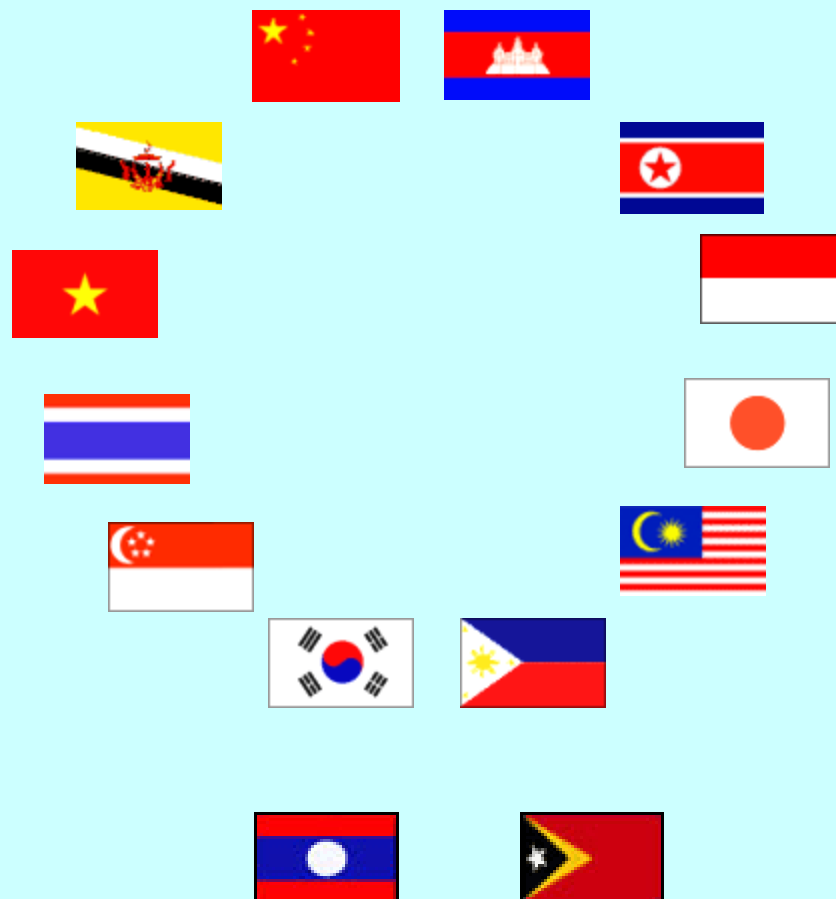
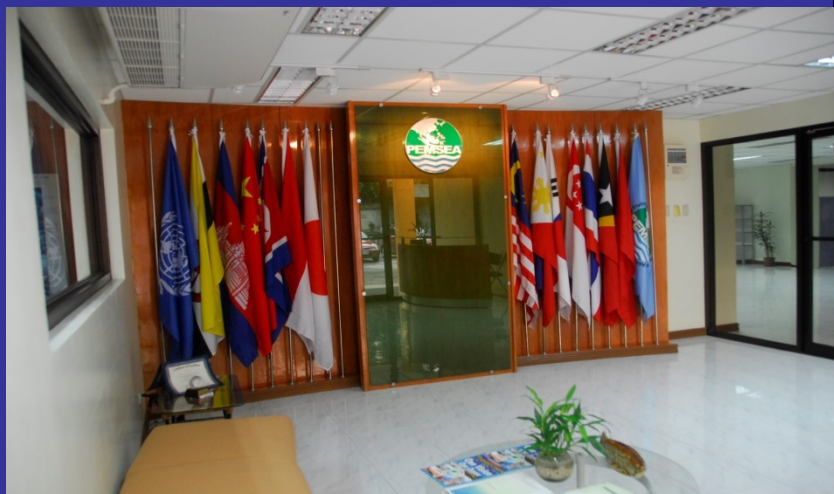
Partnerships in Environmental Management
for the Seas of East Asia

Background



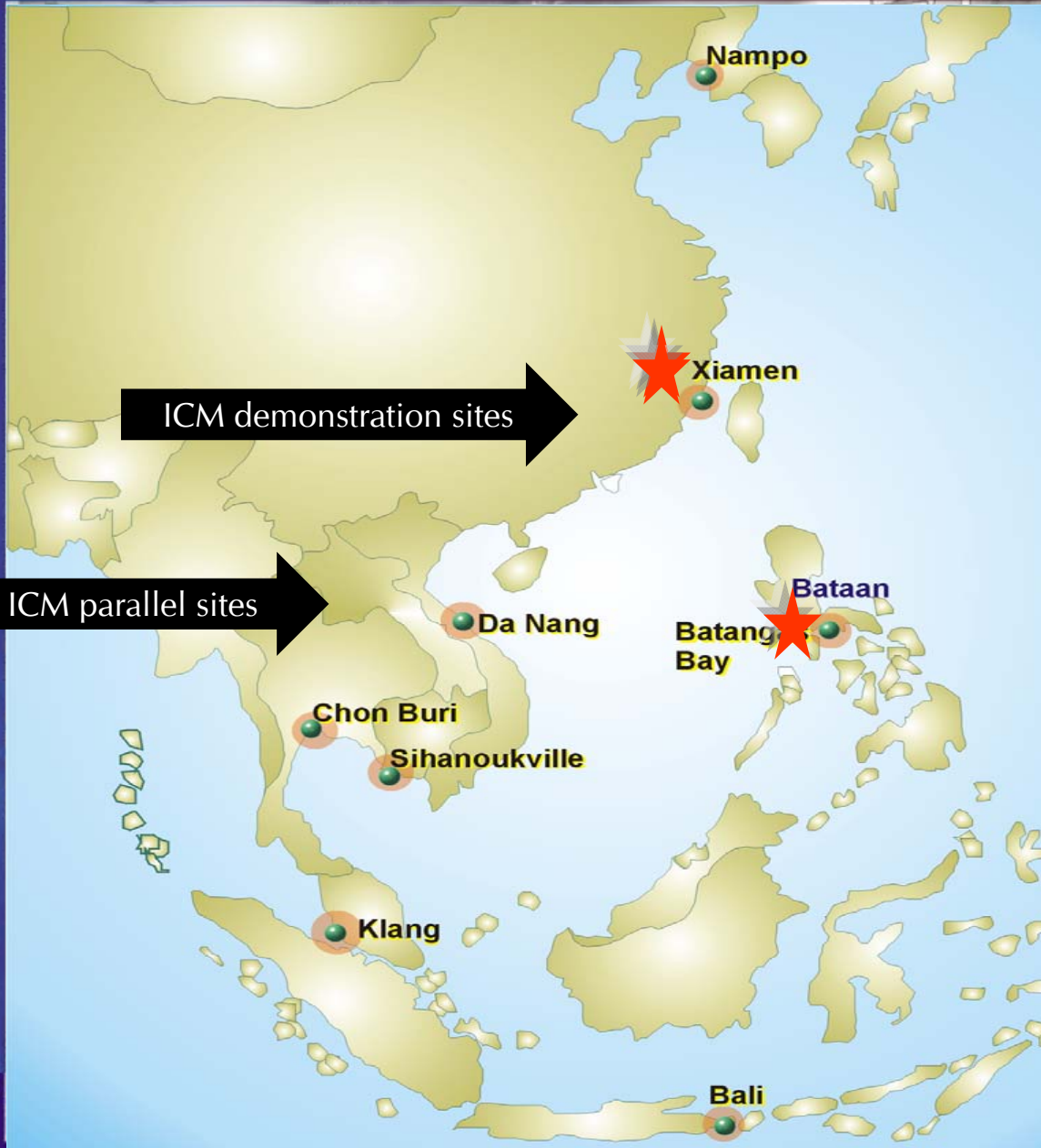
The Global Environment Facility (GEF) / UNDP Initiatives

- Marine Pollution Prevention and Management in the East Asian Seas (MPP-EAS) 1993-1999; 11 countries
- Building Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) 1999-2007; 12 countries
- SDS-SEA Implementation (PEMSEA) 2007-2017 ; 12 Countries



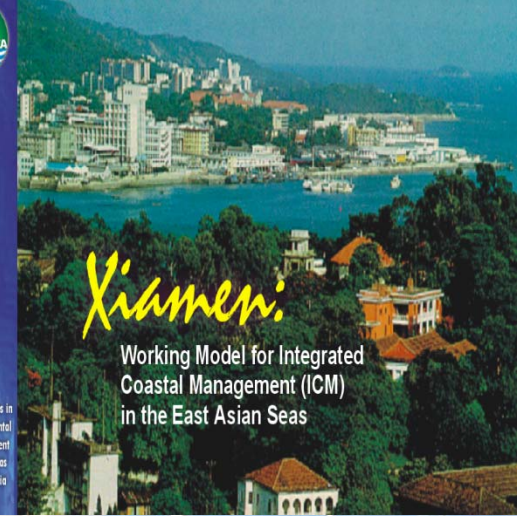
PEMSEA attains its international personality in 2009, Headquarters Agreement in 2014

PEMSEA/ GEF/IMO/UNDP ICM initiatives at local level (1994- 2007)



Partnerships in
Environmental
Management
for the Seas
of East Asia

A Project of the Global
Environment Facility



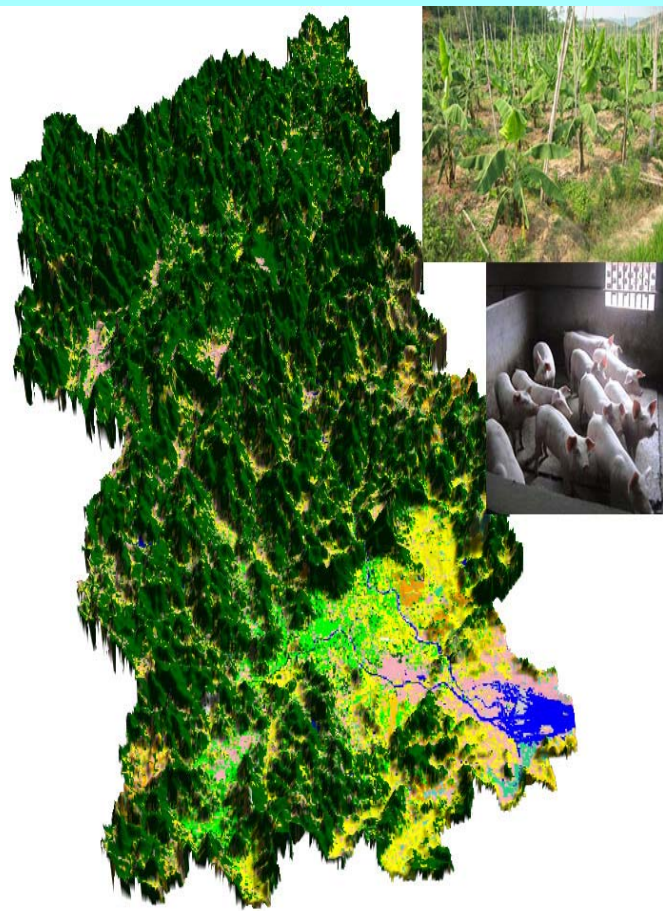
Partnerships in
Environmental
Management
for the Seas
of East Asia



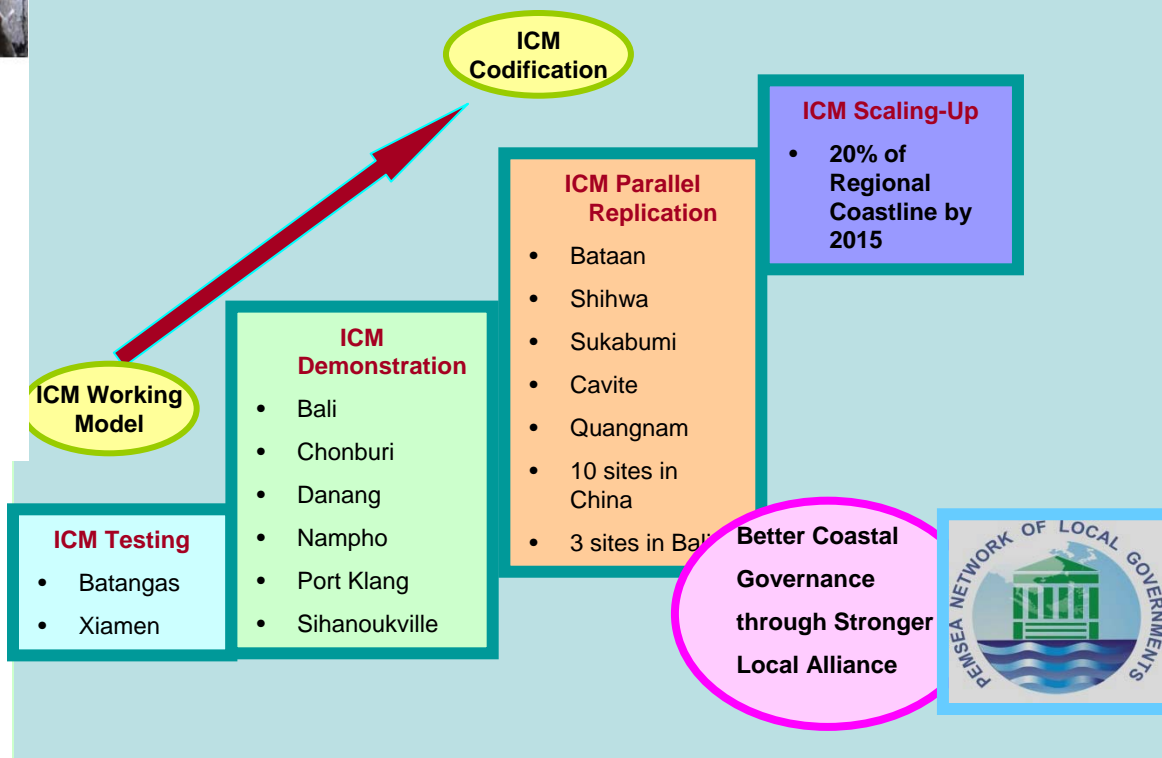
Batangas

ICM Scaling Up

Functional and geographical expansion of ICM practices




Xiamen



Partnerships in Environmental Management
for the Seas of East Asia

From demonstration, replication to scaling up

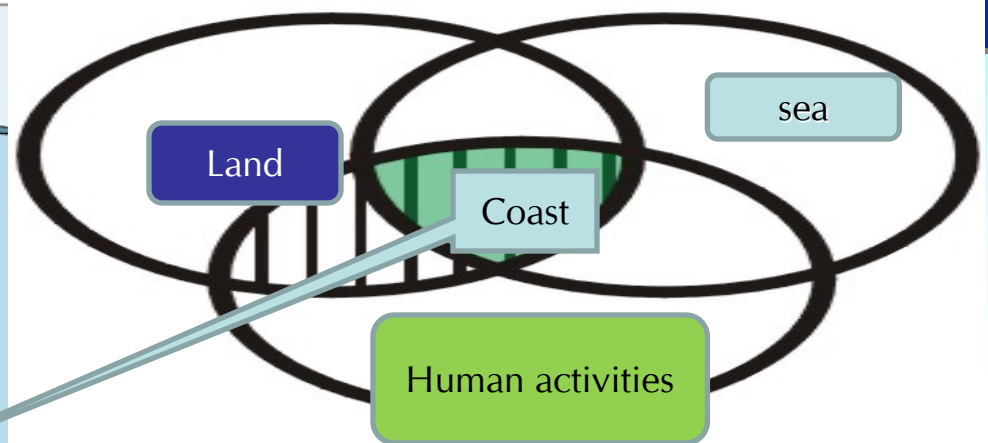


A cartoon illustration of a man with brown hair, wearing a light blue shirt and a blue tie, standing behind a brown podium. He has a surprised or excited expression with wide eyes and an open mouth. A yellow speech bubble is positioned to his left, containing the text 'What have we learned?'.

What have
we learned?



1. Sustainable development of the coastal and marine areas requires a paradigm shift in concept and operational methodology in order to effectively address management complexities



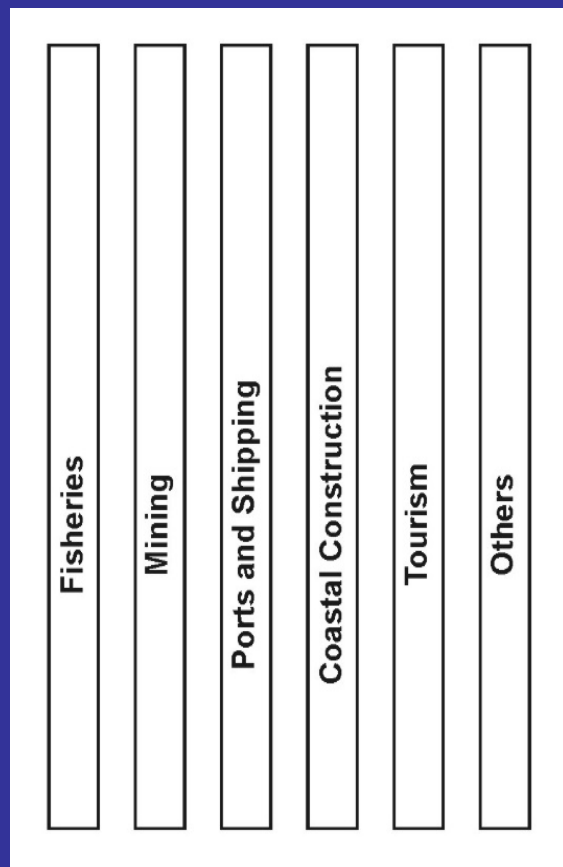
Concept on Governance

- From predominantly unsustainable economic benefits to sustainable economic, social and environmental benefits—towards the goals of sustainable development

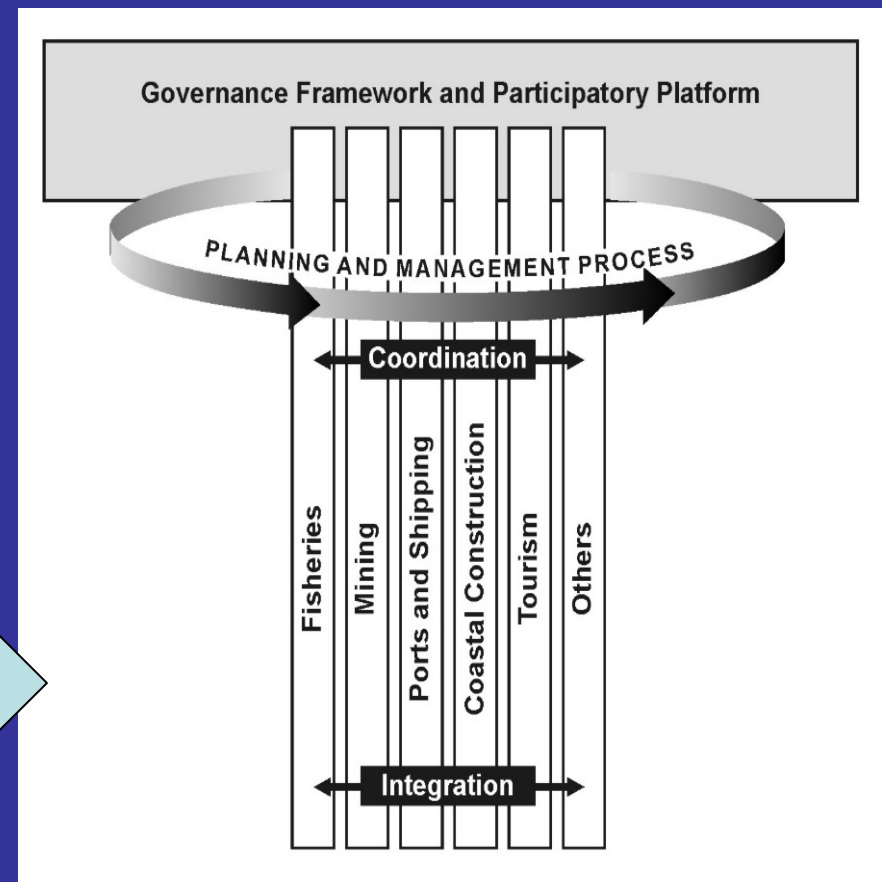
Operational Methodology

- Conventional to holistic management;
Issue-, resource-based to ecosystem-based;
Single to multi-sector
- Central (top-down) to local (local-up);
Government dominated to multi-stakeholders' participation
- Short-term to long-term vision-oriented planning
- Weak to strong/ responsible coordination
- Lack of or weak integration of policy and agency functions

- “ Move coastal management from a loose, issue- or resource-focus management approach into a strategic, integrative & holistic coastal planning and management operating system with clearly refined concept and improved working methodology for addressing area-/ ecosystem-wide coastal and marine management concerns”



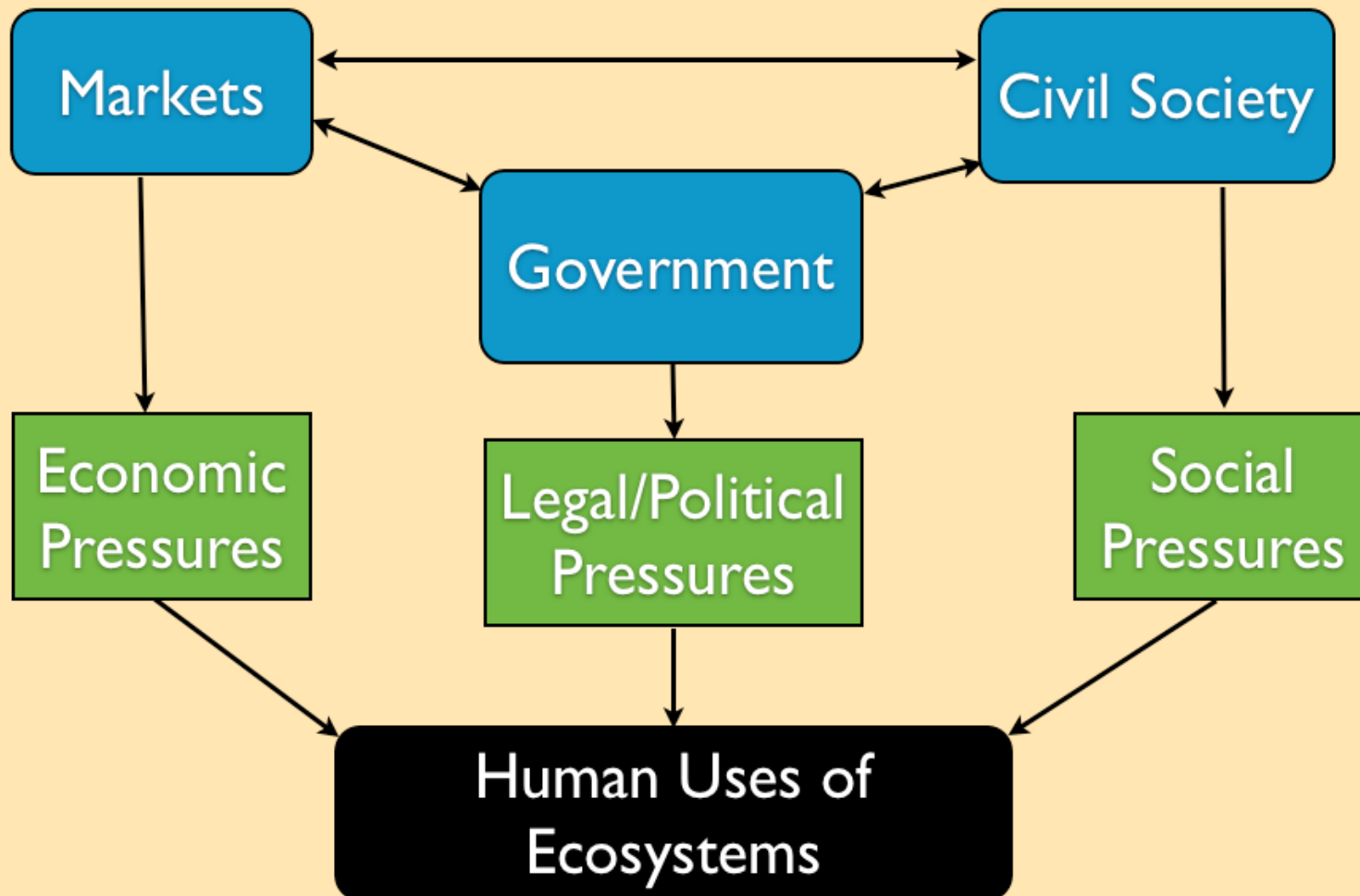
I -Approach



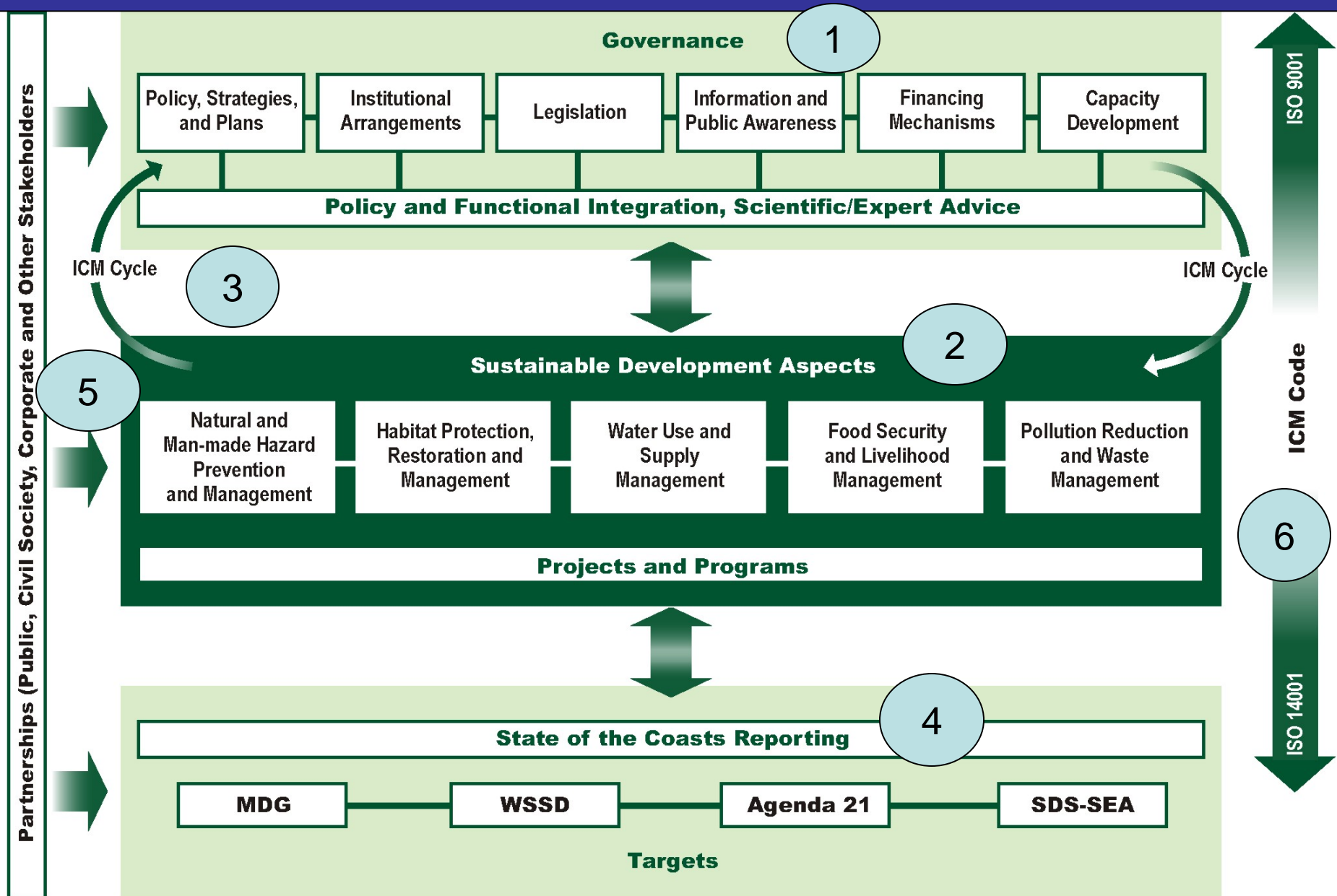
T-Approach

Coastal & Ocean Governance: Addressing pressures on Ecosystems

Adapted from Olsen et al., 2006



2. Over the years, an ICM system has evolved from five decades of coastal management practices : comprehensive, systematic, planned, participatory, documented and codified.



Integrated Coastal Management (ICM) system is a tested Environmental Management System for coastal and marine areas.

The ICM System

- i) Comprehensive— integrated governance, coordinated management, & participatory at all levels;*
- ii). Systematic—process oriented;*
- iii) Planned— sustainable development focused, integrated strategies and time-bound programs*
- iv) Documented—monitoring, SOC reporting*
- v) Codified— ICM code with ISO 9001, 14001 compliance.*

Environmental Management System (EMS)--- Wikipedia

*Refers to the management of an organization's environmental programs in a **comprehensive, systematic, planned and documented manner***



ICM employs various tools and methods to address a wide set of pertinent issues throughout the ICM processes to achieve common objectives

- Application of available tools and methods to determine pressure, measure conditions & impacts and develop policy & management responses
- Use: policy analysis, horizontal profiling, strategic planning, GIS, risk assessments, resource assessment and valuation, environmental accounting, strategic communication, public education, community mobilization, rapid appraisal, legal and political analysis, sector analysis, etc.



Planning process



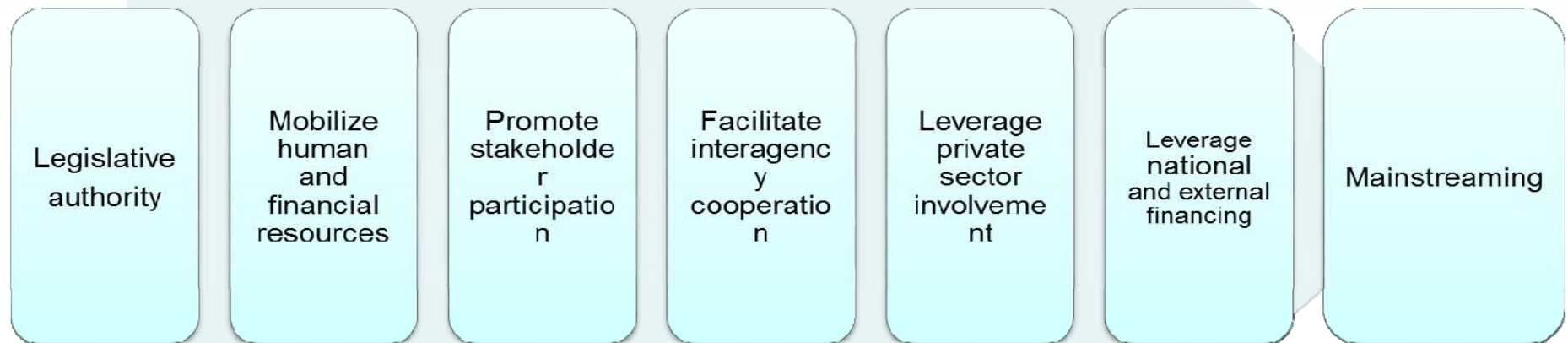
3. National policy, strategies or legislative support /enhances ICM programme development and implementation at local level

Increasing number of countries in the East Asian Seas region have developed ocean/coastal policy, strategies and legislations:

- Ocean Agenda 21 of China (1996), Sea Area Use Management Law of PR China (2002); National Marine Main Functional Area Planning (12th five year plan, 2015)
- Ocean Agenda 21 of RO Korea (2000), Coastal Management Act of RO Korea (1999), Amended, 2015.
- Management of Coastal Zone and Small Islands Act 27, Sea Area Use Management Law of PR China (2002); National Marine Main Functional Area Planning (12 five year plan, 2015)
- Indonesia (2007)
- Ocean Basic Law of Japan (2007), Basic Plans (2013 revised)
- National Marine Policy (1994), Executive Order 533 of the Philippines (2006)
- Prime Minister's Decision No. 158 of Vietnam (2007); Strategy on Vietnam Seas towards 2020 (2007); Law on the seas of Vietnam (2012); Law on Natural Resources and Environment of Sea and Islands (2015)

**over 80 pieces of legislation directly supporting the Implementation of SDS-SEA have been enacted in the region*

4. ICM program is more effective if local government takes the driving seat



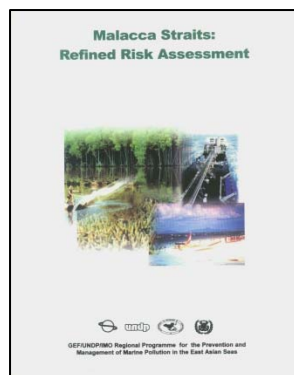
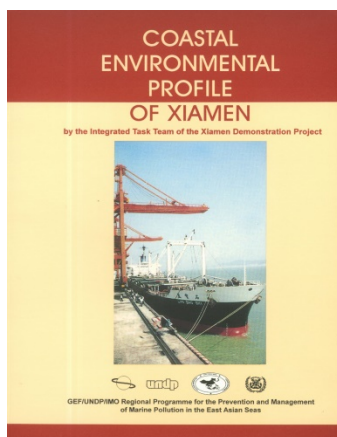
5. Coastal governance is strengthened through ICM implementation

- ❑ Interagency coordinating mechanism effective;**
- ❑ Policy and legislative conflicts reduced;**
- ❑ Multi-sector cooperation realized;**
- ❑ Mainstreaming ICM approach and program into local government regular plans facilitated**

6. Vision-oriented strategy and action plans are core requirements of ICM program

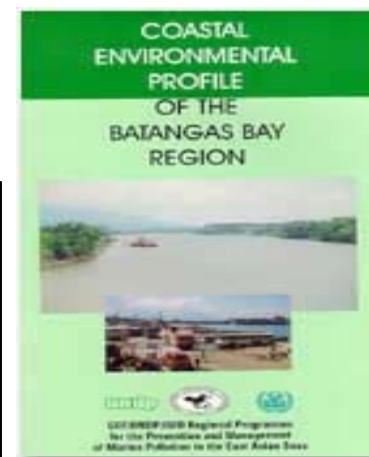
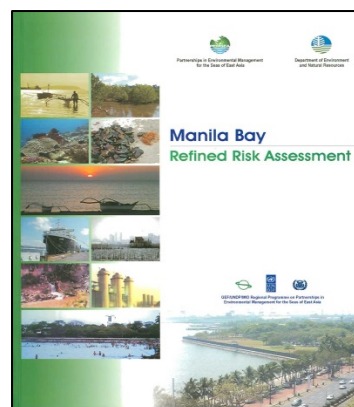
Xiamen

1. Strategic Environmental Management Plans,
2. Adopted by Municipality Government and
3. Implemented with positive results;
4. Revision made during phase II

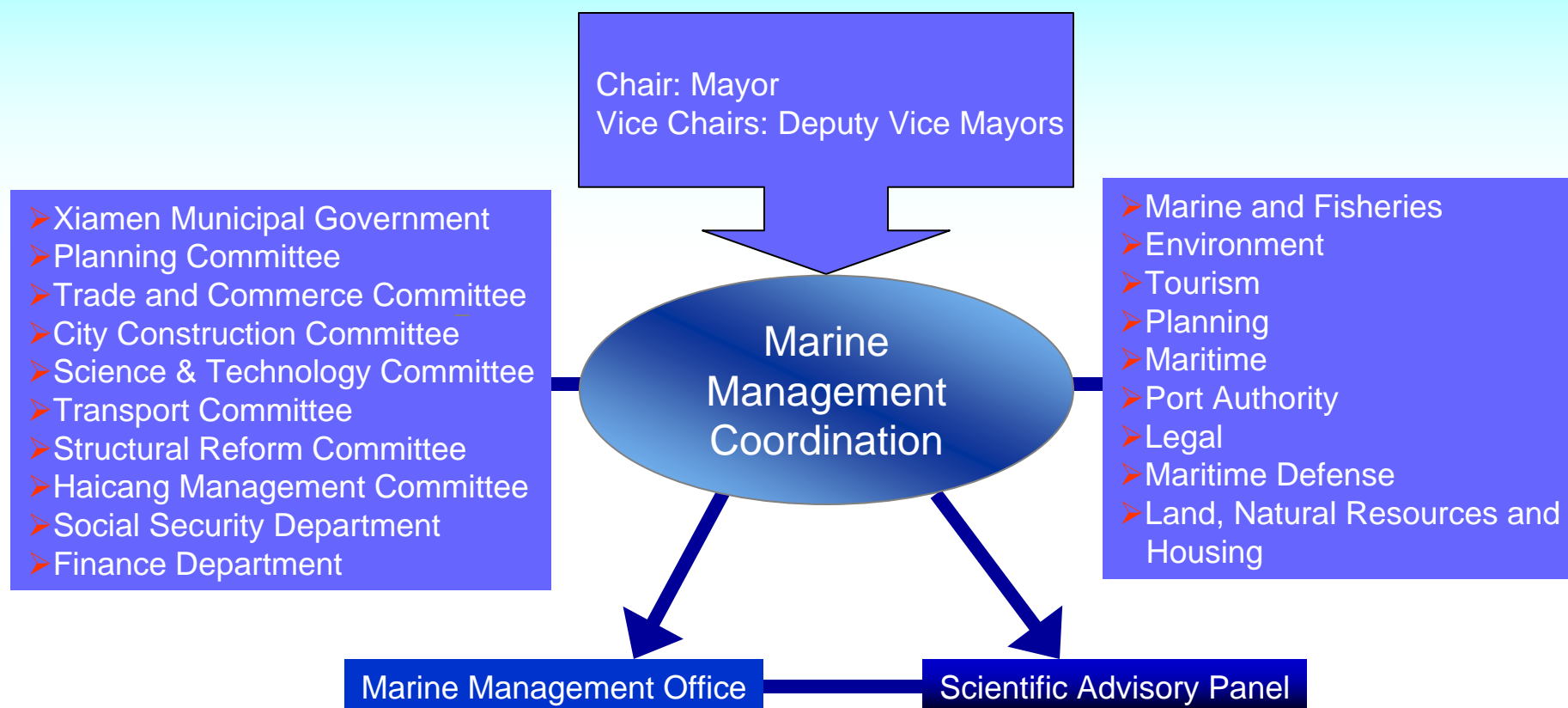


Batangas

1. Batangas Bay Environmental Management Plans;
2. Continued implementation;
3. Revision made during phase II, III



7. Interagency, multi-sector coordinating mechanism is critical for reducing policy, legislative, multiple use conflicts and mainstreaming



Coordinating Mechanism for Interagency and Stakeholders Collaboration and Partnerships - Xiamen

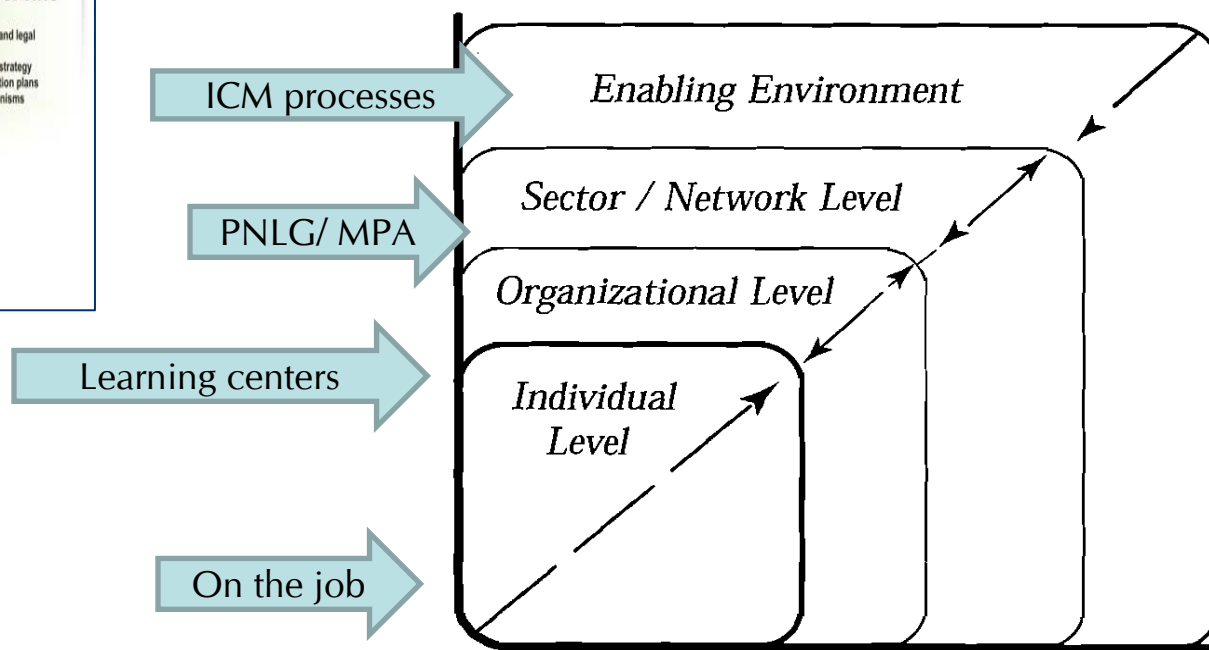


8. Building local management capacity through “learning by doing” is an integral part of ICM program while specialized /technical skills can be secured through conventional or skill- specific short-term training programs



Specialized / short-term trainings

Capacity Development: Conceptual Framework



ICM Capacity Development

Knowledge & Skill

- **ICM Team with ability to mobilize interdisciplinary knowledge from environmental science, oceanography, fisheries, laws, communication, education, public education and other areas of natural and social sciences;**
- **Building local leaders and ICM champions through the practical processes of ICM cycles.**

Core Competencies of ICM graduates



Source:

Competence of a coastal manager

With broad knowledge in interdisciplinary science

Capable of intuitive thinking;

Skills to Integrate, coordinate, facilitate, moderate, negotiate



Partnerships in Environmental Management
for the Seas of East Asia

Development of Management Skills : On the Job Training



Desired Quality of a Coastal Manager

1

- Think like a Scientist

2

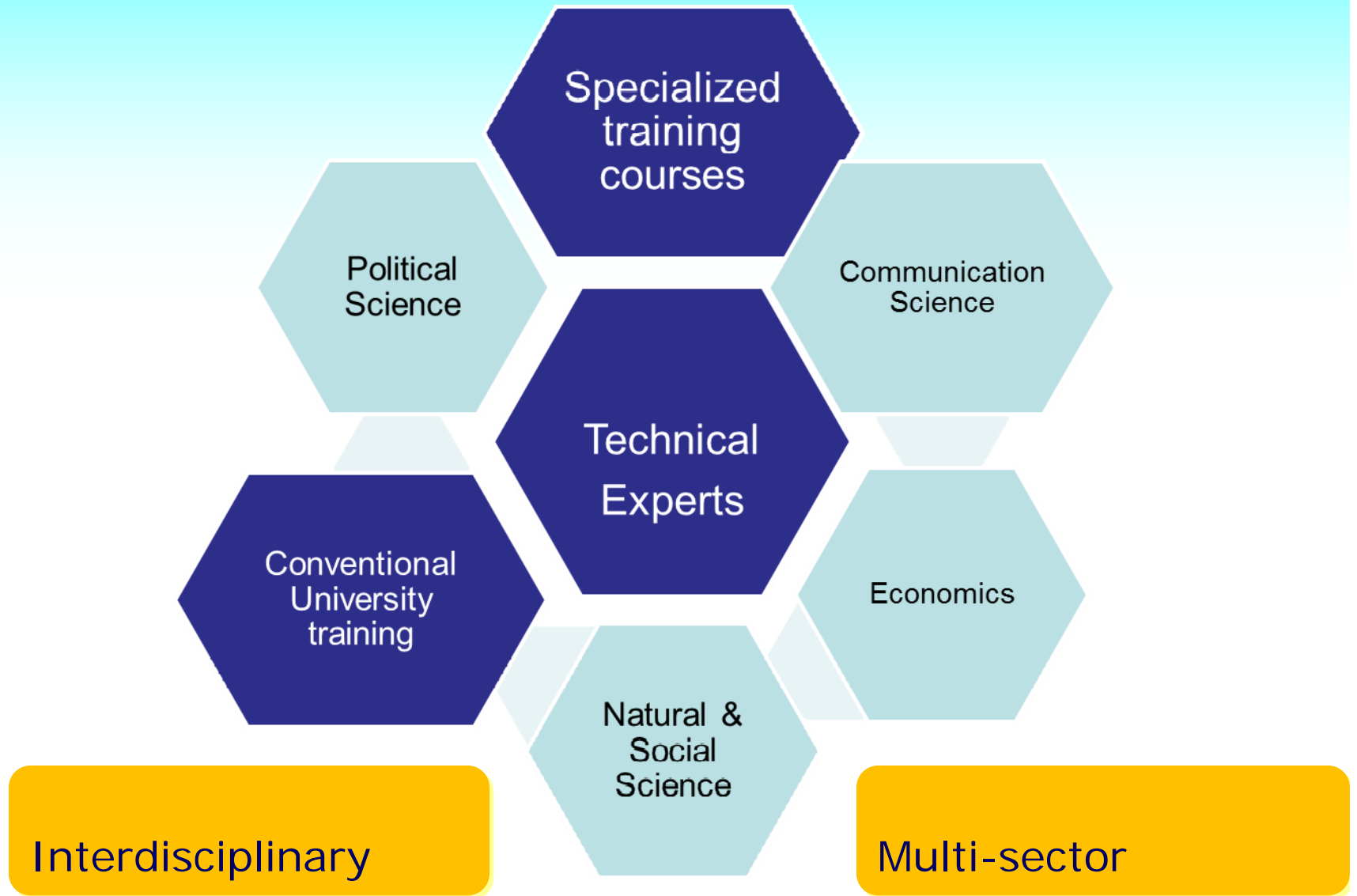
- Work like a Manager

3

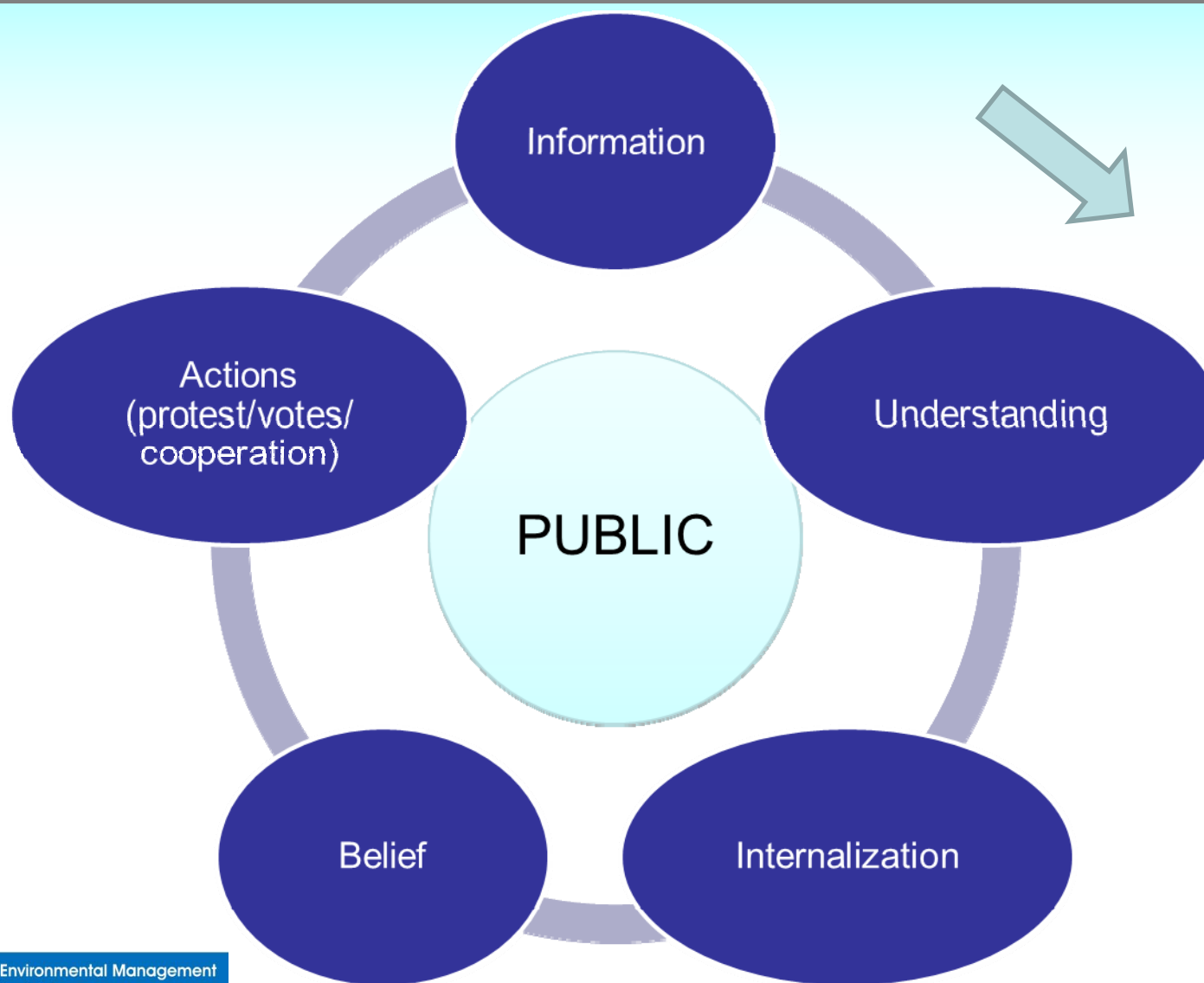
- Speak like a diplomat



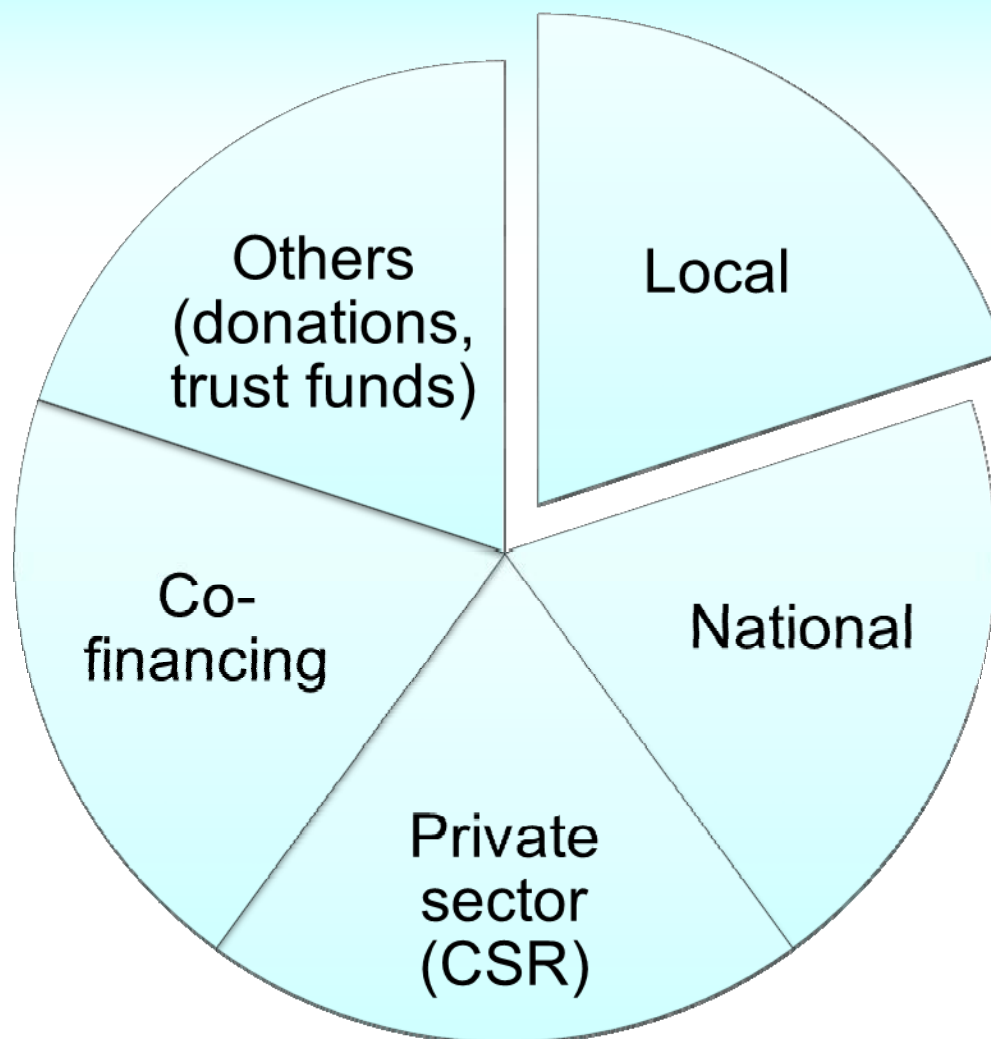
Development of Major Technical Skills



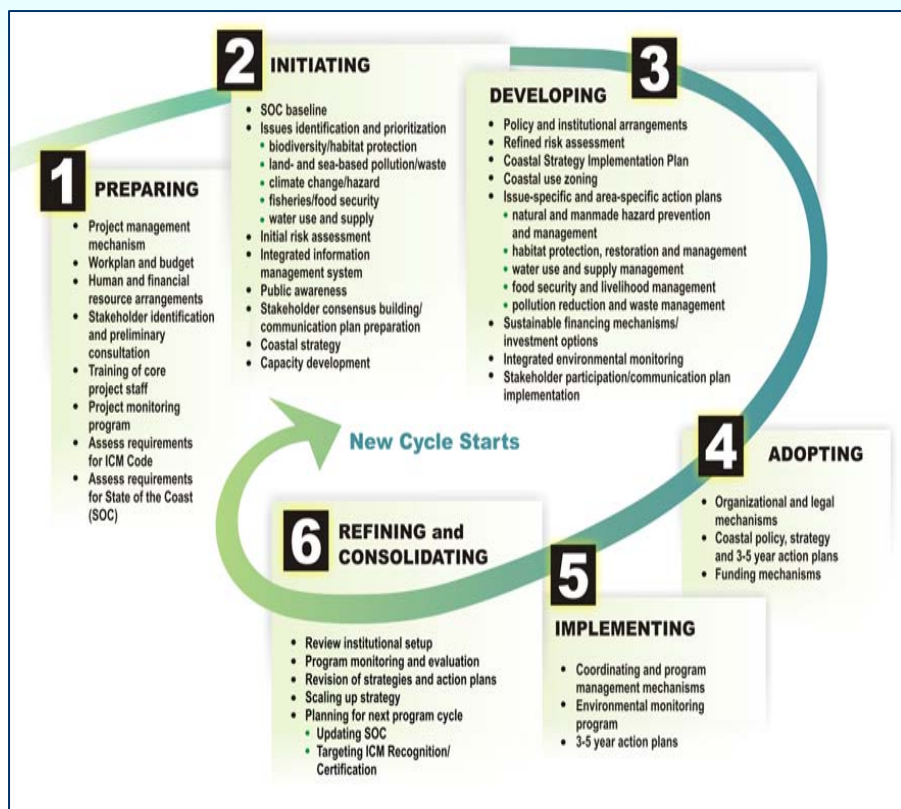
9. An informed public provides a strong political base for ICM programme implementation



10. Funding is essential but not a limiting factor in developing and implementing ICM programme



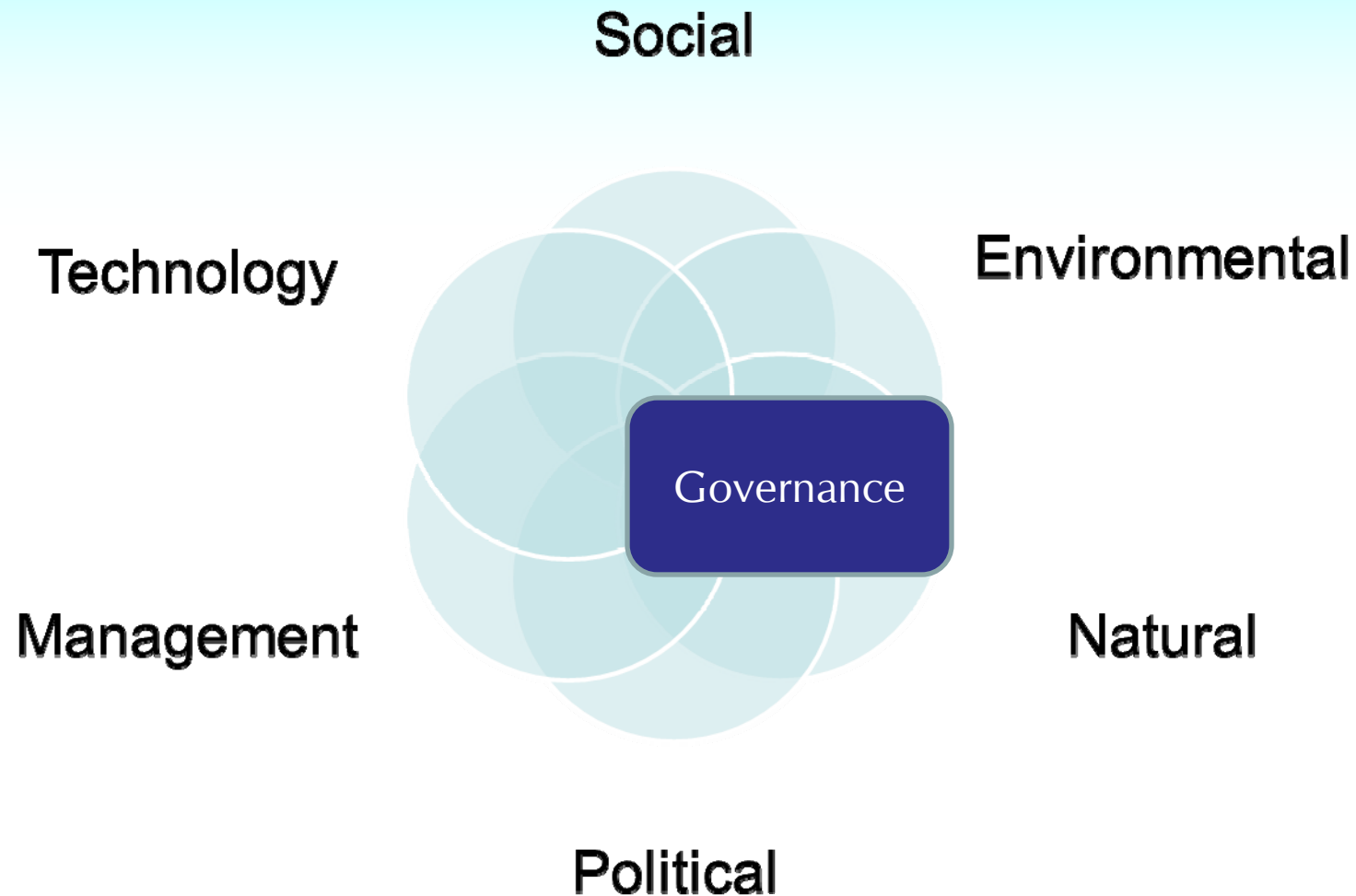
11. The various stages of ICM cycle should be strictly followed if the ICM system is to achieve its intended goals



- ✓ Common vision/ objectives
- ✓ Confidence building
- ✓ Capacity development
- ✓ Planning process
- ✓ Adaptive management
- ✓ Improve democracy & legitimacy
- ✓ Addressing prioritized issues
- ✓ Respond to changes
- ✓ Continuous improvements



12. Effective application of interdisciplinary science improves administration of governance measures



13. The precautionary principles and adaptive management continue to play key roles in the ICM system

**Scientific
uncertainties**

Inadequate /
data

Precautionary
principles

Changes

Environmental/
socioeconomic/
political

Adaptive
Management

**Cognitive
Knowledge**

Experience/
traditional
knowledge or
practices

Adaptive
Management

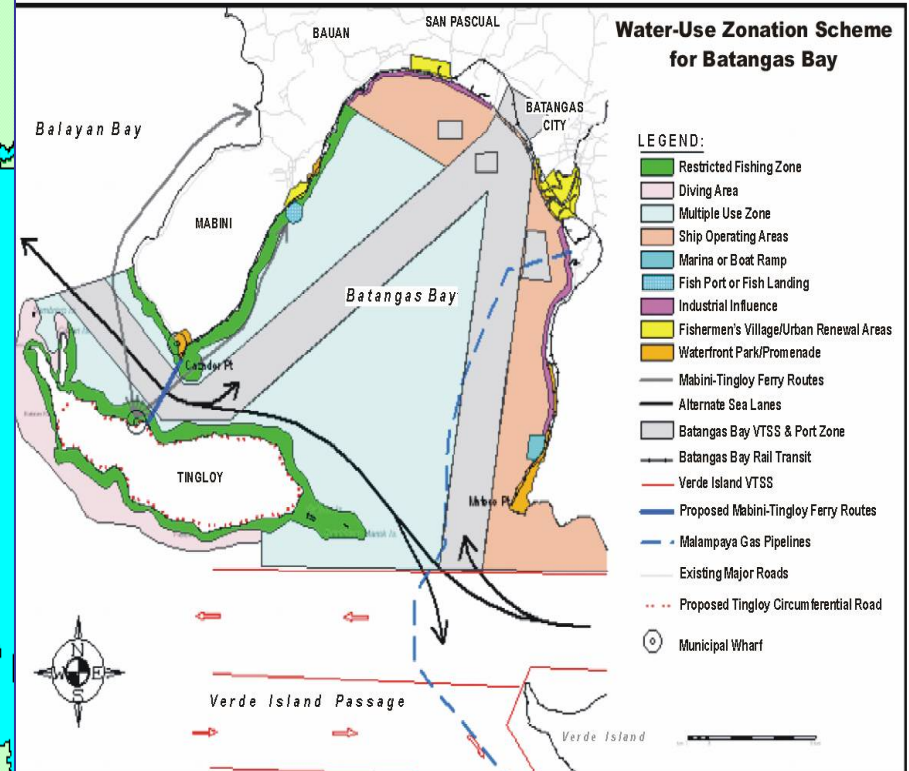
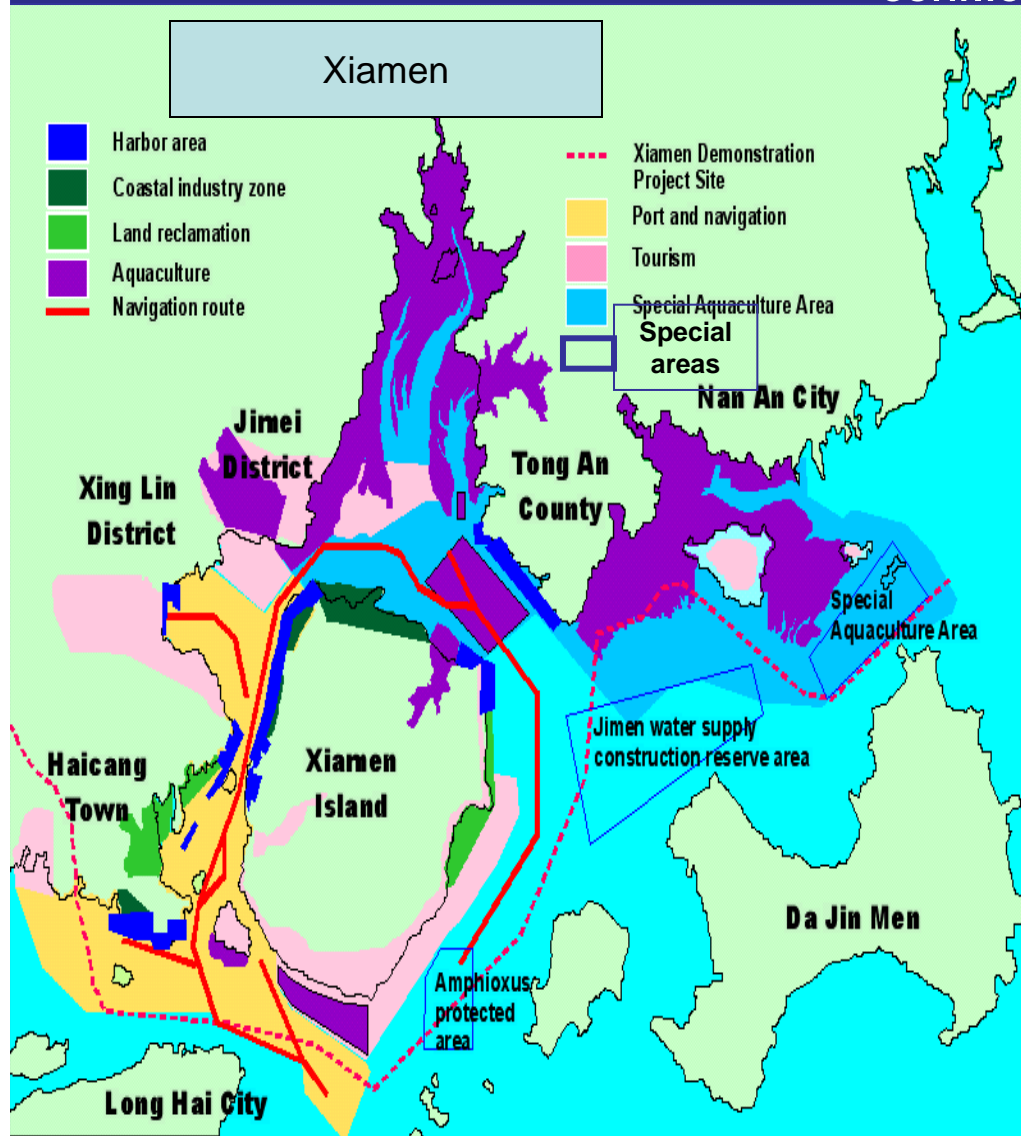


Cognitive knowledge and thinking

- **Cognitive knowledge builds on practical experiences of what works, what don't**
- **Cognitive thinking continue to play an important role in ICM management decision especially the needs for adaptive management and application of the precautionary principle**

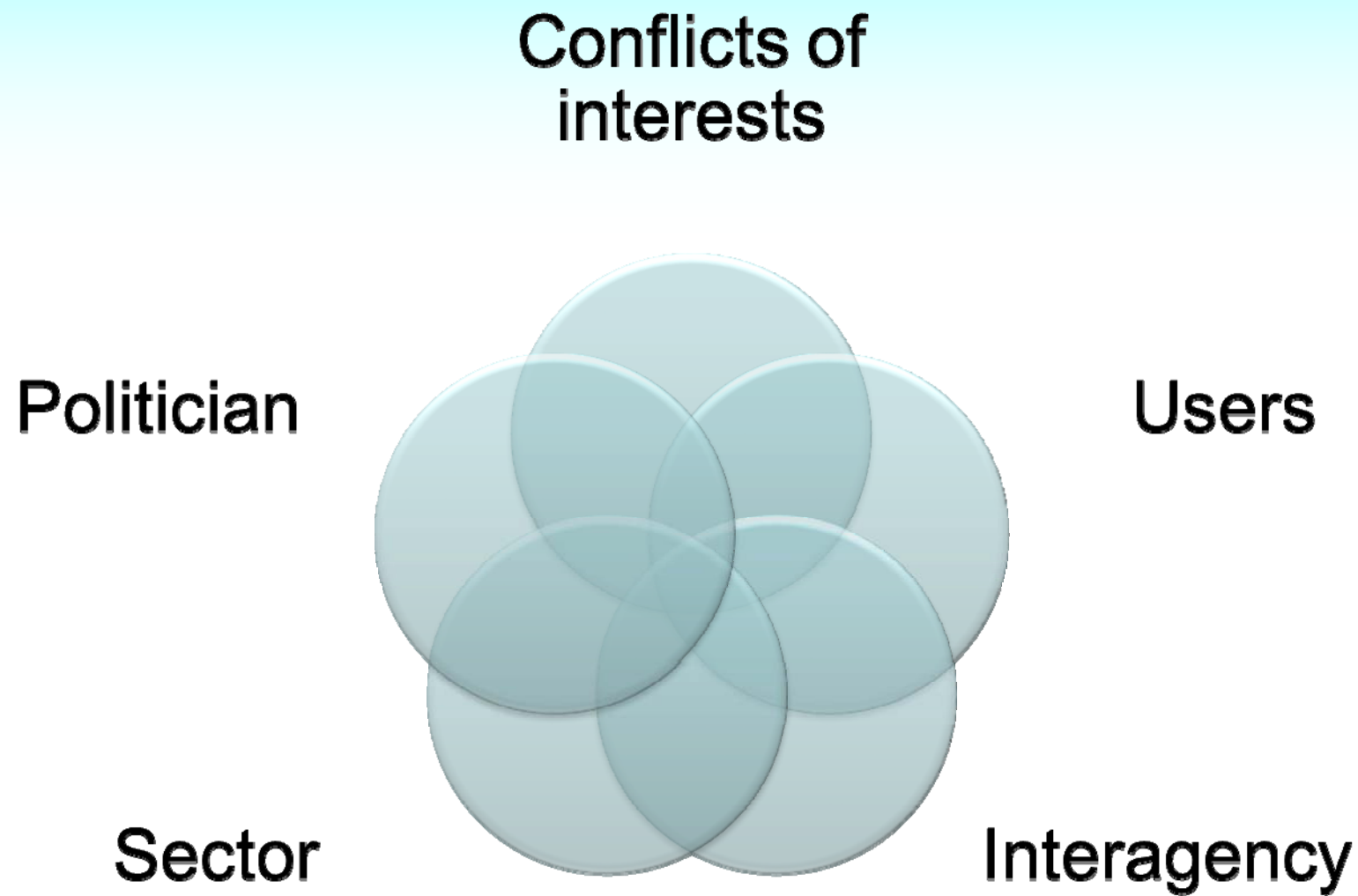


14. Coastal zoning is an effective functional zoning scheme to ensure best use of the sea space and resources therein as well as an effective measure to reduce multiple use conflicts



Batangas Bay

15. Working together remains a formidable challenge to institutional cooperation



16. Stakeholders involvement can take various forms but partnerships is the key to successful collaboration



Citizen / Community



Private sector



Stakeholder consultation/
participation



Partnerships in Environment
for the Seas of East Asia

Realize the value of partnerships

Removal of barriers to sustainable development requires the partnership and collaborative efforts of all stakeholders as the environmental, social and economical challenges of the coastal and marine areas are too large and complicated that just the efforts of single government / community/ sector alone is not only inadequate but also ineffective

Partnerships

Governments

Business sector

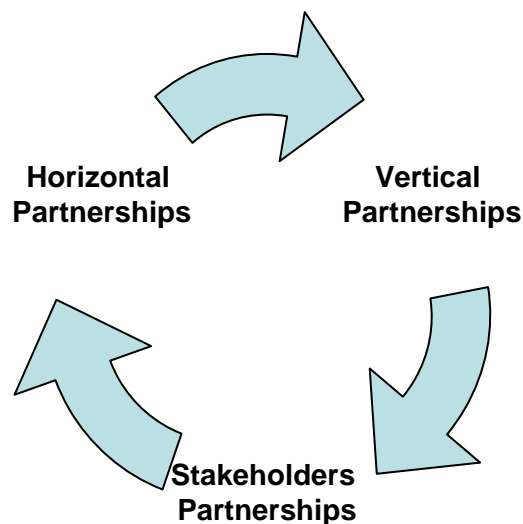
Media

Scientific &

Academic community

NGOs

Local Communities



17. Making ICM visible improves interagency cooperation, local ownership and collective responsibility in meeting programme goals and objectives



Yandang Lagoon Rehabilitation





Gulangyi Island preserved and ISO 14001 compliant



Reclaiming sandy beaches, creating “gold coast “ in Xiamen



18. ICM program is financially feasible and effective in catalyzing financial investment especially for environmental improvement projects

Cost Benefit ratio in Xiamen: 1:6

Danang City	\$43.5 m
Denpasar City	\$54.6 m
Xiamen City	\$190 m
Total	\$288.1 m
Manila Bay	\$54.5 m
	(\$500 m in pipelines-WB)

- **High Benefit-Cost ratio**
- **Conducive policy and investment environment created by three ICM sites catalyzing US\$ 288.1 m in sewage treatment in 3 ICM sites**
- **Manila Bay investment increased due to supreme court decision**



19. State of the Coast Reporting have proven to be a useful reporting system for all stakeholder not only in understanding the current socioeconomic and environmental conditions but also the level of management inputs and outcomes thus enhancing accountability of coastal governance

Part I: General demographic, socioeconomic information

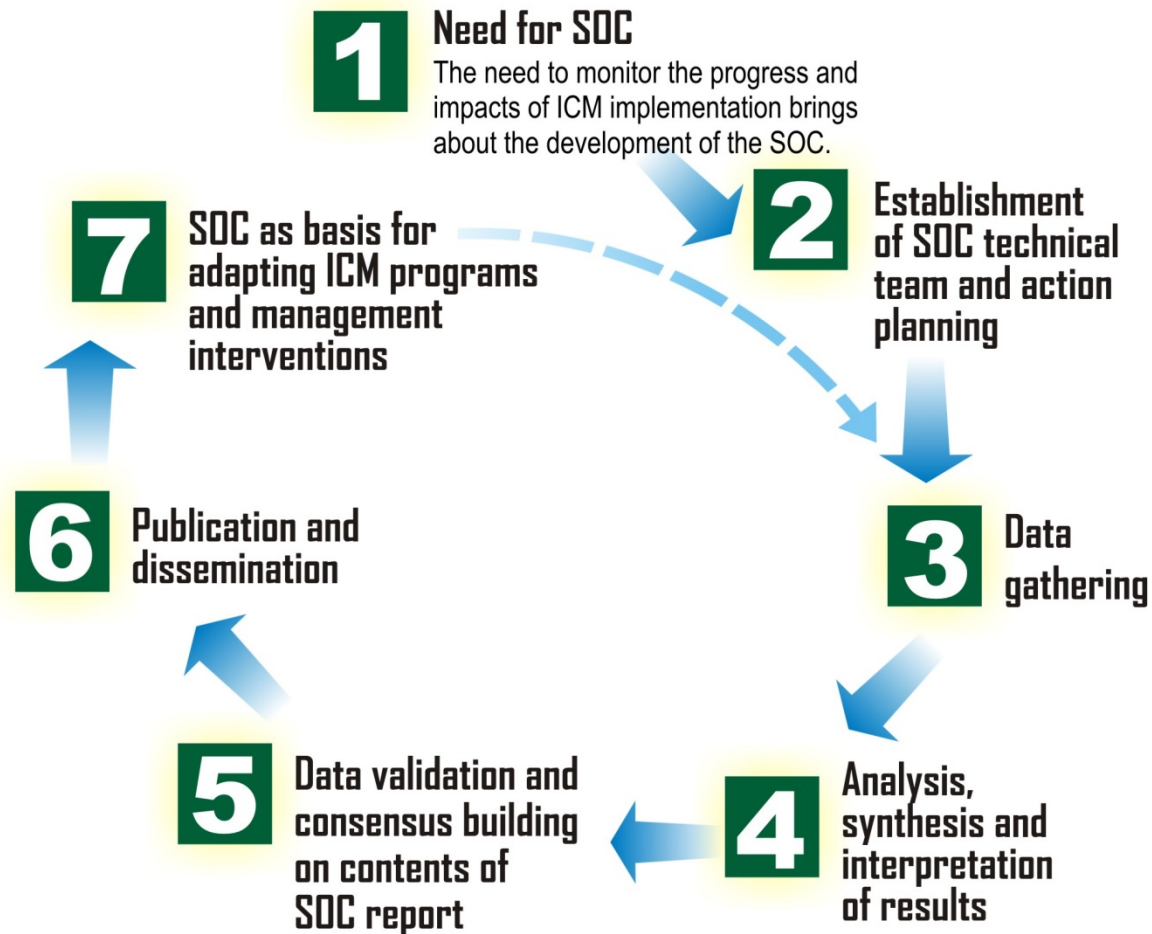
Part II: Summary of Target and Responses

Part III: Detail information on Targets and Responses

Indicators: MDG, WSSD, SDS and other sustainable development indicators.

State of the Coasts is a easy to prepare document developed by PEMSEA with adequate guidelines and a standardized common template

Steps for the development of SOC reports



Key findings of SOC for Batangas

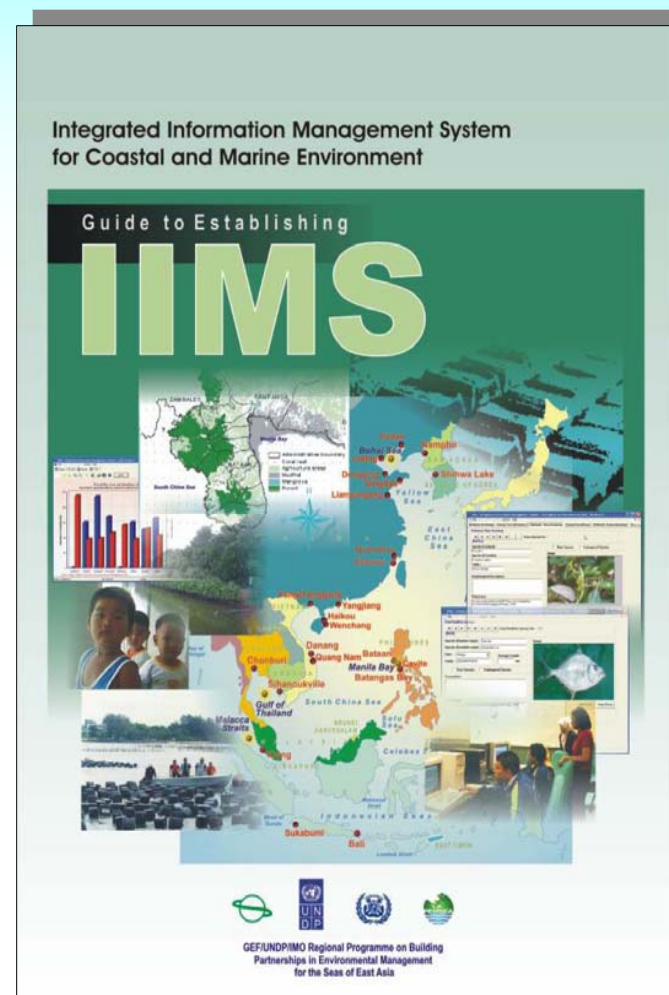
SOC Code	Indicator	Trend * (1990–2007)
001	Coastal profile/Environmental risk assessment	😊
002	Coastal strategy and action plans	😊
003	Local government development plan, including coastal and marine areas	😊
004	Coordinating mechanism	😊
005	Participation of stakeholders in the coordinating mechanism	😊
006	ICM enabling legislation	😊
007	Administration and monitoring of compliance to legislation	😬
008	Environmental cases filed/resolved	😬
009	Public education and awareness	😊
010	Stakeholder participation and mobilization	😊
011	Availability/accessibility	😊
012	Human resource capacity	😬
013	Budget for ICM	😬
014	Sustainable financing mechanisms	😬
015	Level of preparedness for disasters	😊
016	Degree of vulnerability to disasters	😬
017	Social and economic losses due to disasters	😬

SOC Code	Indicator	Trend * (1990–2007)
018	Habitat management plan and implementation	😊
019	Areal extent of habitats	😬
020	Protected areas for coastal habitats and heritage	😊
021	Reclamation and conversion	😡
022	Water conservation and management	😬
023	Access to improved water source	😊
024	Incidences/deaths due to waterborne diseases	😬
025	Fishery management plan and implementation	😬
026	Fisheries Production	😬
027	Malnutrition rate	😊
028	Poverty, education and employment	😬
029	Livelihood programs	😬
030	Management plans	😊
031	Water quality	😬
032	Air quality	😡
033	Sanitation and domestic sewerage	😊
034	Municipal solid waste	😡
035	Industrial, agricultural and hazardous wastes	😡



20. Primary and secondary data collected are best processed, stored and managed through an Integrated Information Management System (IIMS) as an integral part of ICM practice

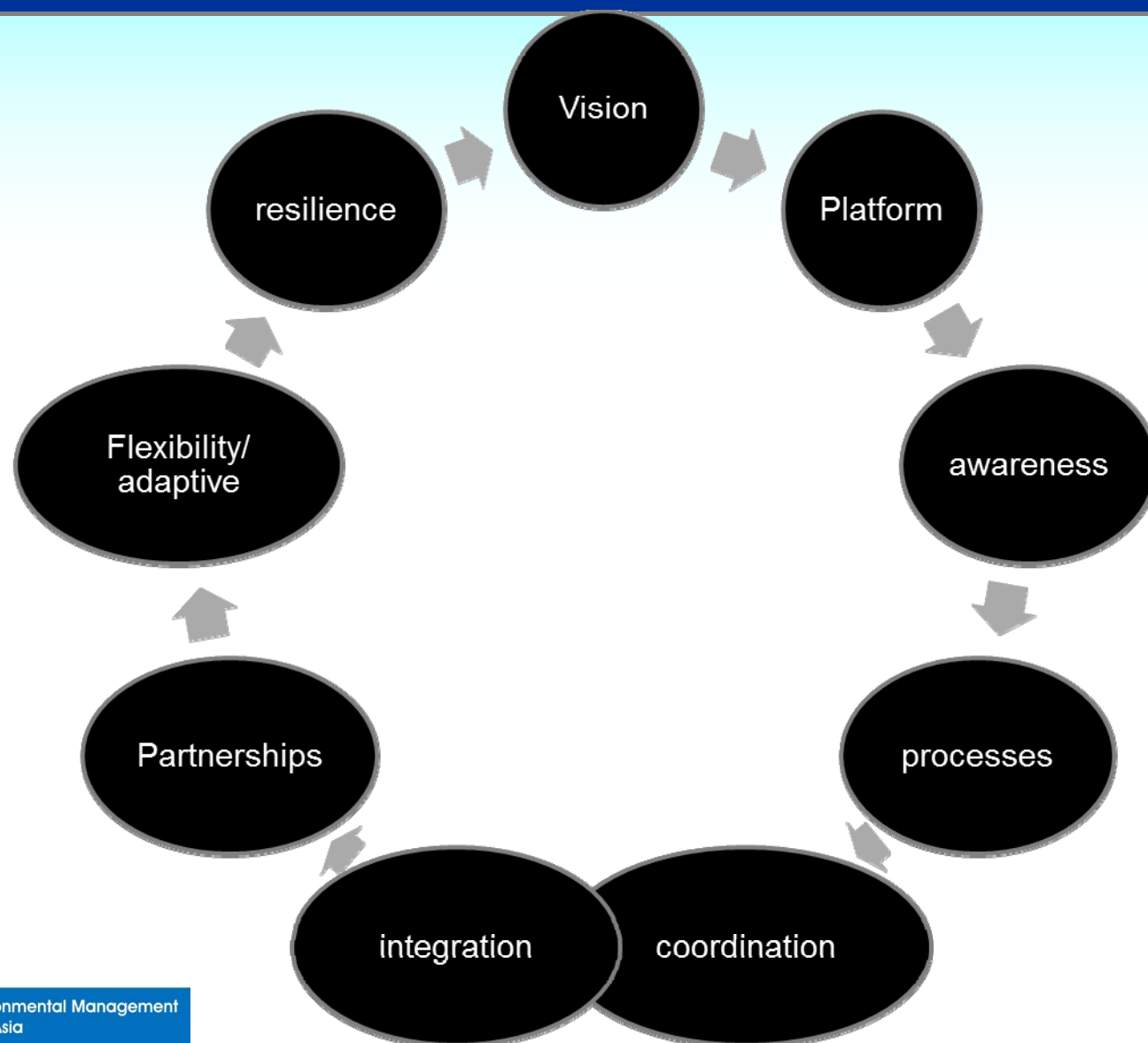
1. **Develop and share database / information;**
2. **Data collected throughout the ICM process including environmental quality monitoring data;**
3. **Key challenge: interagency cooperation**



21. The ICM structure and processes match the relevant ISO standards essential for the development of an ICM code

- Provide a systematic approach of ICM based on international standards for environmental management (14001:2004) and quality management (9001:2000) at local government level
- Serve as practical tool to validate daily operations of the participating local government unit conforming to good management practices
- More efforts are still needed to make it a standard practice for ICM implementation!

22. Effective use of the key drivers for change improves ICM outputs and outcomes



23. The ICM system provides an effective governance framework and operational process for addressing a wide range of issues of local, national and global concerns irrespective of political, social and economic conditions.

Political System

- Democratic system
- Autocratic system

Economy

- Developed nations
- Developing nations

International Conventions

- UNEP/IMO/ UNCLOS
- Agenda 21, WSSD, UNCED

24. ICM system is feasible and equally needed in developed nations

Integrated urban coastal management (IUCM)



60 small offshore islands.

>98% mangroves lost

>60% of coral reefs lost

Total land area: 715.8 km²

Territorial sea: 750 km² (82% port waters)

Human population: 5.31m

Population density: 7,422 per km²



Partnerships in Environmental Management
for the Seas of East Asia

■ ICM (New Sato-Umi)-Japan



25.CM system provides a framework umbrella for local implementation of international convention especially those related to sustainable development

- ***The 5 key areas (habitat, hazards, pollution, freshwater, living resources and livelihoods) are also areas of common global concerns addressed by international conventions and international agreements;***

Examples:

Global Plan of Action for land-based pollution (GPA);

Marpol Convention

Convention on Oil Spill Response Corporation (OPRC);

Climate Change Convention;

Biodiversity Convention and Aichi Biodiversity Targets; etc.



Secretariat of the
Convention on
Biological Diversity

CBD Technical Series
No. 76



76

INTEGRATED COASTAL MANAGEMENT FOR THE ACHIEVEMENT OF THE AICHI BIODIVERSITY TARGETS

Practical Guidance for
Implementation Based on
Experience and Lessons Learned
from Coastal and Ocean
Governance in the Seas of East Asia



www.cbd.int
www.pemsea.org



ABT 11



ABT 12



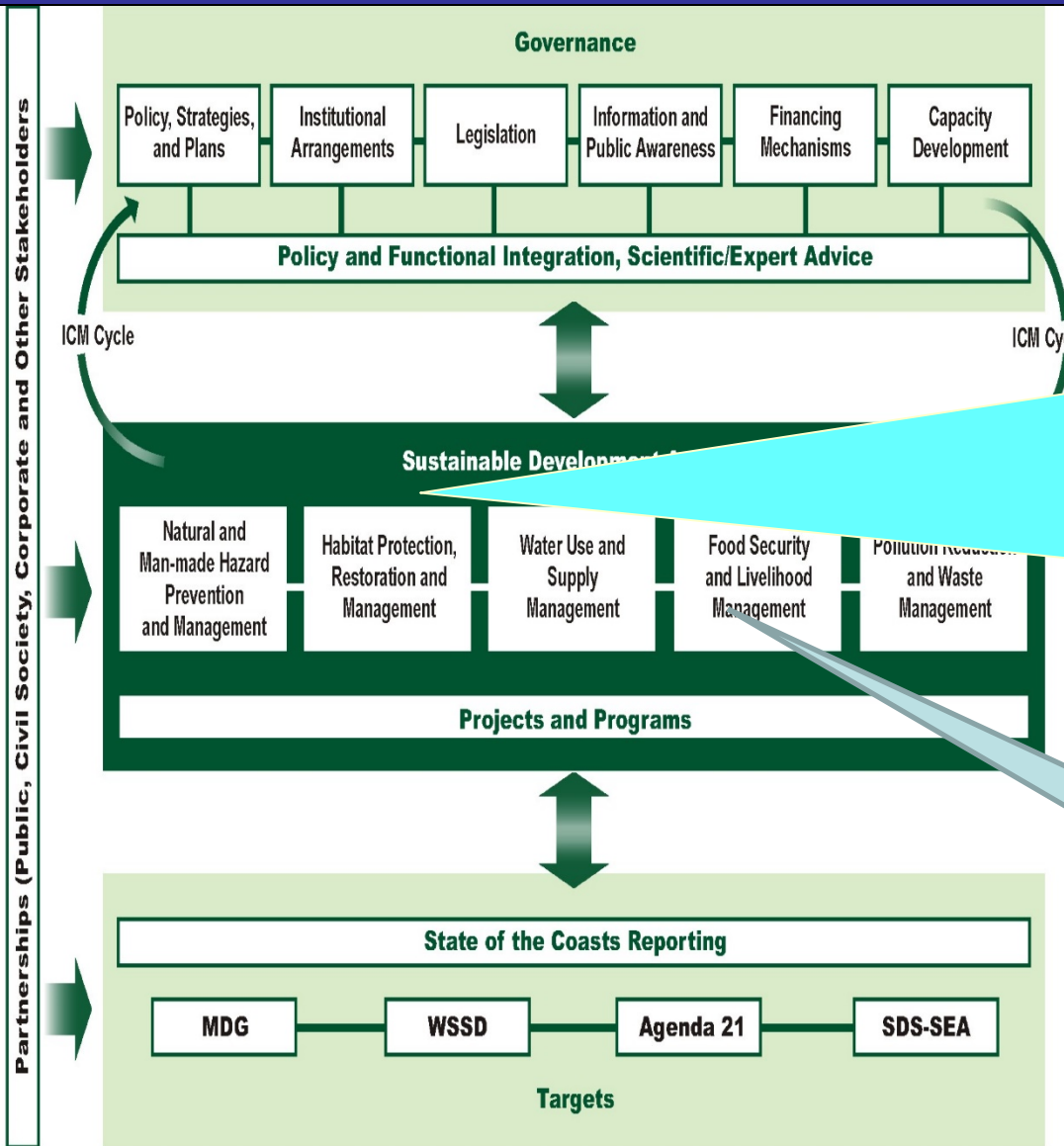
ABT11



ABT 5



Integrating ABTs 1-20 with essential components of ICM



Address Aichi Biodiversity Targets

Target 2: biodiversity values

Target 3: reduction or removal of subsidies affecting biodiversity;

Target 5: loss of natural habitats

Target 11: conservation of coastal and marine habitats;

Target 12: protection of extinct species;

Target 14: protection of ecosystems to safeguard ecosystem services;

Target 15: ecosystem resilience

Target 6. sustainable harvest;
Target 7. sustainable aquaculture



**After 5 years of reconstruction and restoration
A new Huliang Bay has created with economic
and environmental benefits(ABT6, 8, 10,11, 15)**



Before



26. ICM provides the policy and management fundamentals for transformation to a sustainable blue economy



Marina in Wuyen Bay

目前一期86个泊位已投入使用。
未来将发展到500个泊位规模。





Emerging Blue Economy



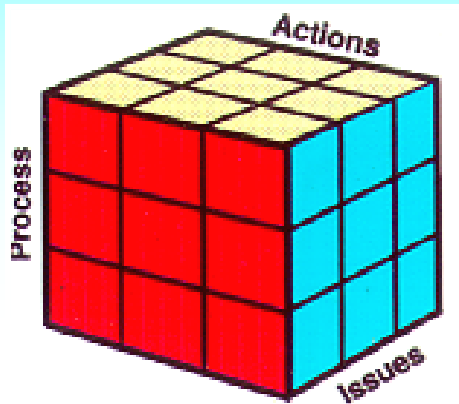
XIAMEN 厦门市

27. The benefits of ICM can be expanded in coastal areas and watersheds throughout the regional coastline through geographical and functional scaling up particularly for achieving the sustainable development goals.

- ***Gradual increase in the expansion of PEMSEA ICM sites from 2 to 40 demonstrates the increasing realization of benefits derived from ICM practices;***
- ***Haikkou Declaration 2009 set regional target of 20% of regional coastline by 2015; current coastal management efforts cover only 11%.***



28. ICM System is still evolving : From ART to Management Science



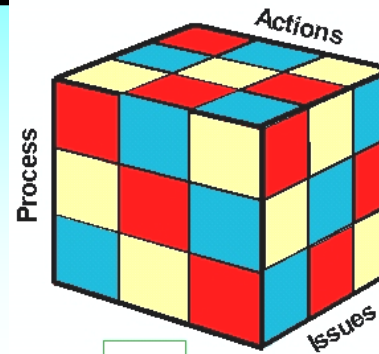
SD principles:

Adaptive management

Ecosystem-based
management

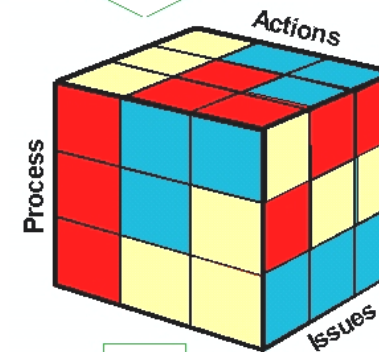
Integration and inter-
relationship

Intra-generational

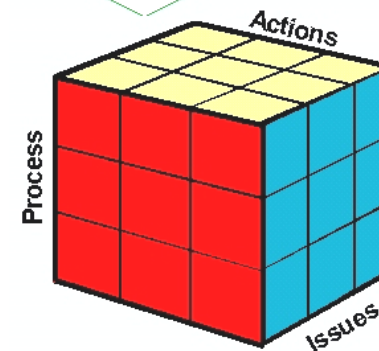


Nonsustainable Development

- Environmental degradation
- Resource depletion
- Multiple resource-use conflicts



**Moving
towards
sustainability
(Transitional)**



Sustainable Development

- Protection of environment and biodiversity
- Sustainable use of resources
- Minimization of resource use conflicts
- Improved quality of life

**Blueprint for Sustainable
Development**



Thank you!

A cartoon illustration of a man with brown hair, wearing a light blue shirt and a blue tie, standing behind a brown podium. He has a wide, open-mouthed smile and his hands are resting on the podium. A large yellow speech bubble with a black outline is positioned to his left, containing the text 'Thank you!'. The background is a solid light blue.

Partnerships in Environmental Management
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