



**Building a Blue Economy: Strategy,
Opportunities and Partnerships in the
Seas of East Asia**
9-13 July

SPECIAL WORKSHOPS

**Expert Consultation Workshop on
Coastal and Marine Spatial Planning
Approach: International Experiences**

CO-CONVENING AGENCY:



International Ocean Institute (IOI)

Co-Chairs:

Dr. Awni Behnam

International Ocean Institute (IOI)

Mr. Stephen Adrian Ross

PEMSEA Resource Facility



The East Asian Seas Congress 2012
“Building a Blue Economy: Strategy, Opportunities and Partnerships in the Seas of East Asia”
Changwon City, Republic of Korea, 9-13 July 2012

**Expert Consultation Workshop on
Coastal and Marine Spatial Planning Approach:
International Experiences**

11 July 2012

Co-convening Agency:
International Ocean Institute (IOI)

Co-chairs:
Dr. Awni Behnam, President, International Ocean Institute
Mr. S. Adrian Ross, Chief Technical Officer, PEMSEA Resource Facility

1. INTRODUCTION

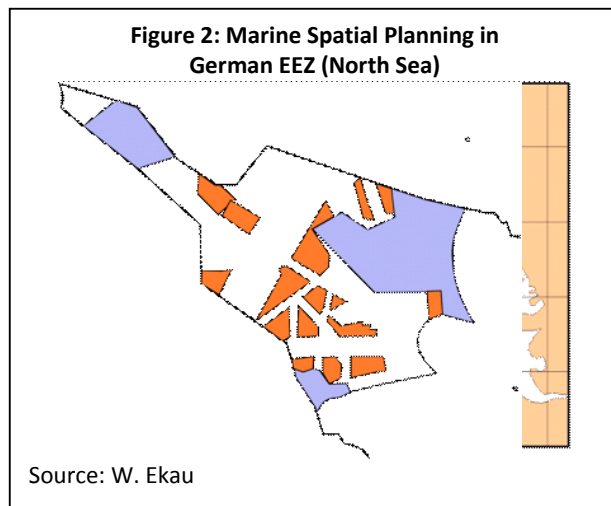
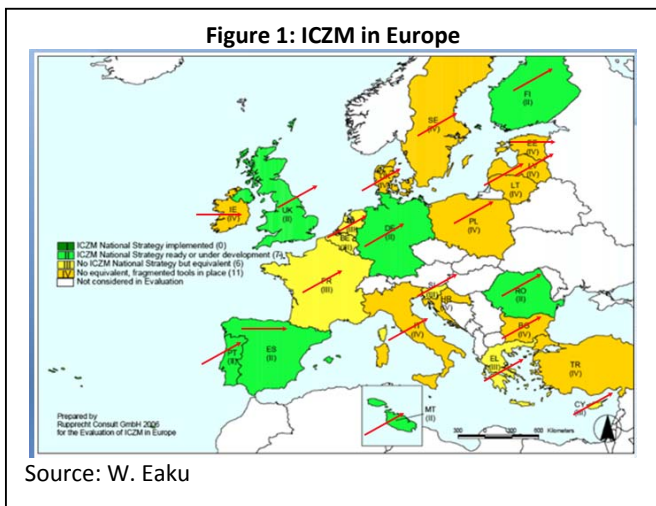
- 1.1 The East Asian Seas Congress 2012 was held to bring to the fore the critical role of coastal and ocean resources in support of the triple bottom-line targets of enhancing human welfare and environmental sustainability while pursuing economic growth in line with global environmental targets and commitments. The Congress was co-organized by the Government of the Republic of Korea through the Ministry of Land, Transport and Maritime Affairs (MLTM) and the City Government of Changwon and the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) with support from the Global Environment Facility (GEF), the United Nations Development Programme (UNDP) and the United Nations Office of Project Services (UNOPS).
- 1.2 The 4th EAS Congress with the theme, “Building a Blue Economy: Strategy, Opportunities and Partnerships in the Seas of East Asia,” carried five subthemes on various aspects of sustainable development related to the coastal, marine and ocean resources and industries. The Expert Consultation Workshop on Coastal and Marine Spatial Planning Approach provided a forum for discussing marine spatial planning and related initiatives as a tool in integrated coastal management (ICM) and climate change. The workshop is co-chaired by Dr. Awni Behnam, President of the International Ocean Institute and Mr. S. Adrian Ross, Chief Technical Officer, PEMSEA. Prof. Raphael Lotilla, Executive Director, PEMSEA delivered the welcome address.
- 1.3 Setting the tone for the workshop, Dr. Awni Behnam pointed out that marine spatial planning (MSP) is a tool for more effective ICM, resolving use conflicts in the coastal and marine areas, and operational resource management. He asked the speakers to show how ICM and MSP are related in a practical way, and how MSP is being applied, especially at the local level.
- 1.4 The first three presentations in the morning dealt with lessons of marine spatial planning from international experience (Europe, Ukraine) and in relation to climate change. The second set of presentations in the afternoon focused on East Asia to illustrate national and

local examples of MSP or its variants (coastal use zoning, marine functional zoning, integrated land-and sea-use plan, etc.), the approaches to MSP, and applications of MSP for resolving multiple use conflicts and for specific uses, e.g., disaster preparedness, beach protection, and habitat protection.

2. SESSION 1: LESSONS LEARNED FROM INTERNATIONAL EXPERIENCE WITH MARINE SPATIAL PLANNING

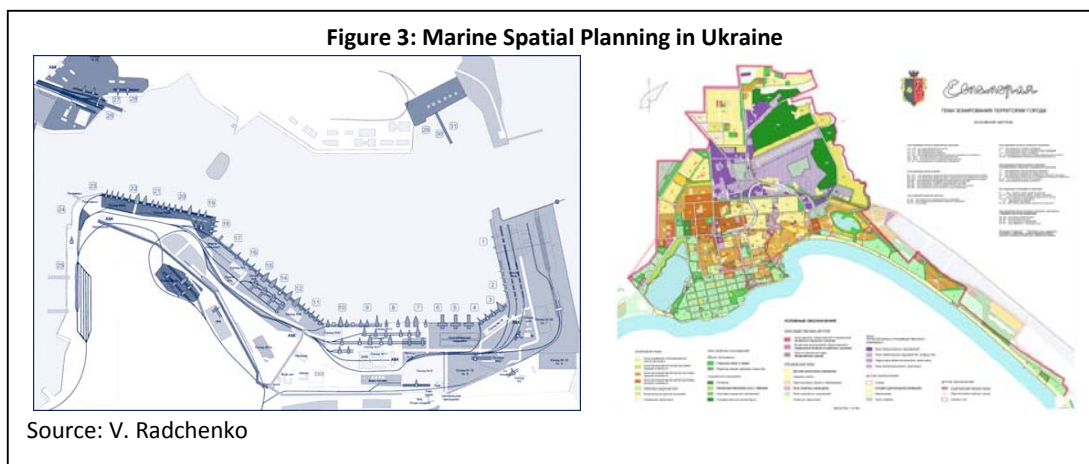
2.1 Dr. Werner Eku, Director of IOI Germany, Center for Tropical Marine Ecology, reported on the progress of European countries in implementing integrated coastal zone management (ICZM) programs and applying marine spatial planning (MSP) as a tool in coastal management. He showed the principles for good governance, and how these were used as indicators in evaluating ICZM implementation in Europe: there were mixed results, but progress is being made (**Figure 1**). A transparent decision-making process and an improved, common understanding among different stakeholder groups build the ground for ICZM, with MSP providing a valid tool for the organization of coastal/marine activities. In Germany, MSP was developed as an extension of terrestrial spatial planning (**Figure 2**). It was the instrument used in resolving conflicts between fisheries and wind energy parks. A key obstacle in the littoral countries of the North Sea is the strong legislative separation between land- and sea-based activities. Dr. Eku also explained that MSP is being applied in some countries in Europe, but due to the participatory and consultative approach, it will be difficult to develop a regional MSP in the near future. He suggested the following strategic recommendations:

- a. Strengthen the European dimension of ICZM, based on a Regional Seas approach;
- b. Raise the profile of ICZM and enhance its integration with sectoral policies;
- c. Elaborate the strategic approach of ICZM — oriented at a balanced ecologic, social, economic and cultural development; and
- d. Address major long-term risks: Vulnerability to disasters and climate change.



2.2 Dr. Victoria Radchenko, Director of IOI Ukraine, discussed the constraints in implementing ICM in Ukraine as well as the opportunities for moving forward. The main problem is the lack of approved definition of coastal zone, and no clear marine border delimitation, resulting in difficulty in developing plans in the coastal and marine areas. There are already existing policies and laws that can support the development of ICZM and MSP in Ukraine, however, there is lack of enforcement. Moreover, planning still gives priority to economic development (a legacy of the Soviet era), and environmental impacts and protection are not always given due consideration. Ukraine has delineated its marine space and designated marine zones (**Figure 3**), however the approach is still sectoral and there is no integrated planning. MSP

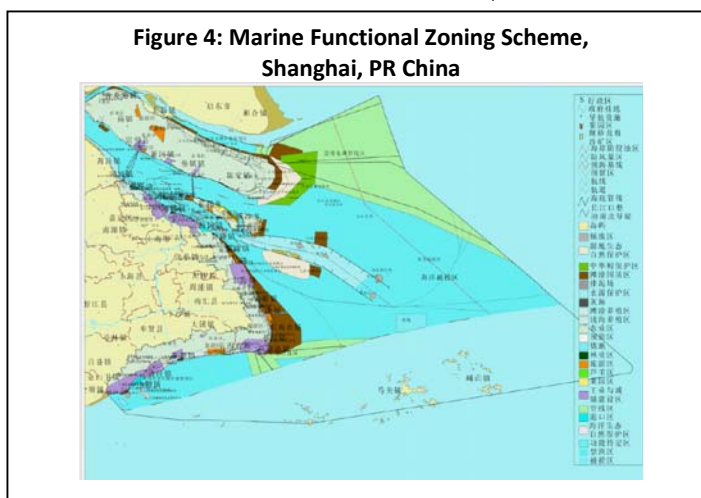
can provide the tool to reduce conflicts among different users, and lead to more rational and effective marine resource management. Information dissemination, training and awareness raising activities are needed to enhance ICZM and MSP in Ukraine.



2.3 During follow-on discussions, it was noted that elements of MSP and marine spatial management are already being implemented by countries in East Asia, with zoning at both the national and local levels, but not many plans and maps have included information related to climate change. Dr. Wong Poh Poh emphasized that climate change mitigation and adaptation measures should be incorporated in MSP and in ICM programs. Stakeholder consultations, scientific inputs, availability of information, vulnerability assessment, coastal resource mapping, mitigation and adaptation measures, and supporting capacity development, infrastructure and financing are crucial.

3. SESSION 2: CASE STUDIES TOWARDS INTEGRATED MARINE SPATIAL PLANNING IN THE SEAS OF EAST ASIA

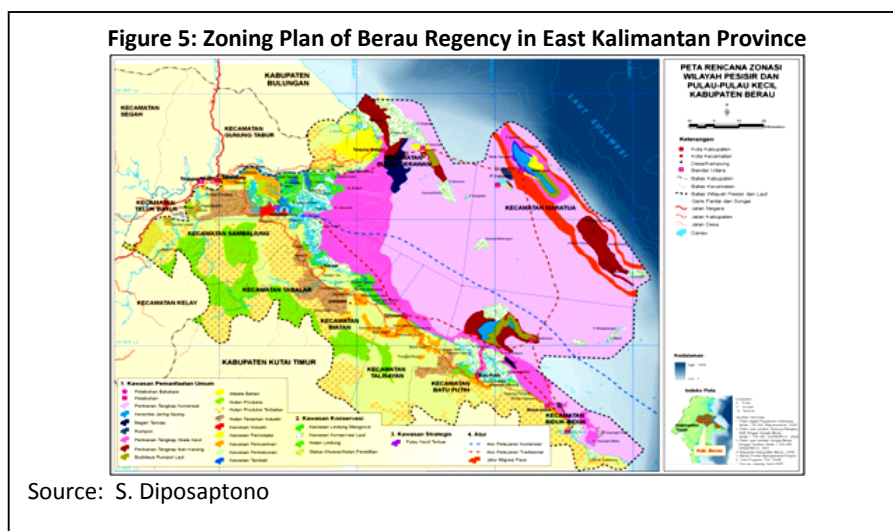
3.1 The experience of PR China in marine functional zoning (MFZ) provides one of the best examples of successful implementation of marine spatial planning. Dr. Zhou Quilin, State Oceanic Administration (SOA), PR China, discussed the development of the MFZ law in China and the MFZ plans at the national and local levels. From 2000 to 2002, under the overall supervision of the State Council, SOA, along with other relevant ministries and coastal provinces, autonomous regions and municipalities formulated a nationwide marine functional zoning scheme after extensive data collection, intensive studies and several consultations. A user fee system is integrated with the MFZ. The key factors in effective MFZ include: adoption of ecosystem-based management, mapping and information management, monitoring, flexibility for future revision, law enforcement, and sea-area use management through ICM.



3.2 Dr. Ir. Subandono Dipsaptono, Ministry of Marine Affairs and Fisheries, Indonesia, focused on relevant policies, laws and institutional arrangements as well as existing maps and plans that would support the development of a marine spatial plan in coastal areas and small

islands, including climate change and disaster-risk reduction factors. The participatory approach is still a new concept in Indonesia. The following are the key principles applied in marine spatial planning in Indonesia based on coastal disaster mitigation:

- Principle 1: Identification of disaster-prone coastal areas (threats: tsunami, earthquake, flood, abrasion, sea level rise, storms, tidal waves);
- Principle 2: Identification of shape and types of coastal areas (steep sloping, rocky, sandy, etc.);
- Principle 3: Identification of existing and potential coastal resources and uses (fisheries, tourism, housing, transportation, etc.)
- Principle 4: Identification needs of conservation and disaster protection (mangroves, reefs, coastal forests, barrier islands, sand dune, etc.);
- Principle 5: Identification of the facilities and infrastructure that are in place, and their characteristics and functions (breakwater, ports, high buildings, etc.);
- Principle 6: Identification of the sociocultural and socioeconomic features of coastal areas (determining vulnerability and risk);
- Principle 7: Development concept of marine spatial planning with consideration to beauty/aesthetics, safety, regularities.

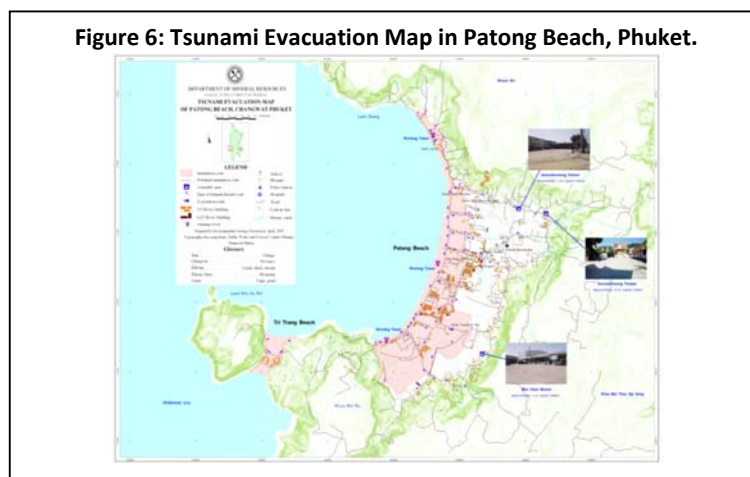


3.3 Dr. Ellik Adler, Coordinator, UNEP COBSEA, introduced the project, “Spatial Planning in the Coastal Zone – Disaster Prevention and Sustainable Development.” Emerging issues, such as climate change, sea level rise, more frequent natural disasters, increasing population growth and development in coastal areas, and loss of resilience and adaptive capacity in coastal systems, have to be considered in planning, and new management approaches need to be adopted. The project produced a regional resource document that provides guidance on how to incorporate climate change adaptation, results-based management, ecosystem-based management, disaster risk reduction into coastal spatial plans. National consultations, capacity building and regional train-the-trainer courses have been conducted. National teams of instructors have been established and national training courses and syllabus have been developed. Key lessons learned are:

- The step-wise, consultative approach has been essential for identifying and prioritizing implementation steps that are relevant, timely and appropriate to each country’s needs;
- Cross-learning and team building among representatives of different Ministries and levels of government, private and nongovernmental organizations, and countries in the EAS region should be encouraged;
- A lead agency (and individual experts/coordinators) should be identified to ensure proper coordination and smooth implementation of activities.

3.4 Dr. Cherdasak Virapat, Executive Director, IOI Headquarters, explained that as a result of the tsunami in 2004, enhancing hazards mapping, early warning systems, and disaster preparedness and response plans at the local level became a national priority in Thailand. Adaptive learning and management was the approach taken for community awareness and resilience. Twenty-four pilot schools and villages were selected for the development of early warning and risk management plans, including identification of evacuation sites and conduct of evacuation exercises. There were lessons learned from these efforts, such as:

- Bottom-Up Adaptive Learning in Disaster Management for Community Awareness and Resilience Process by putting schools as the center of community preparedness and response for disaster emergencies was a good start.
- Strengthening further community responses would require an in-depth survey at the household level, as well as determination of evacuation routes.
- Definition of safe places requires further scientific confirmation, especially through inundation maps.
- The adaptive learning concept in disaster management for the community needs local knowledge, as well as scientific, sound practices to be integrated into their appropriate solutions.
- Strengthening institutional mechanisms to involve interagency departments and community-based management; knowledge sharing and capacity development; and sustainable financing inputs are essential for more effective implementation.



3.5 Mr. Alexander Baluyot, ICM Program Management Office, Province of Bataan, Philippines, described the integrated land and sea use plan in Bataan, and how it was developed — from stakeholder consultations in the municipalities to integration and harmonization at the provincial level, and then back to municipalities for more detailed planning, enactment of zoning ordinances and implementation. **Figure 7** shows the provincial integrated land and sea use map, while **Figure 8** shows the detailed map for the Municipality of Abucay (one of the 12 municipalities of the province). As part of the province's ICM program, it was adopted as a tool to address multiple use conflicts, ensure a balance between economic development and coastal resource protection, enhance and sustain the health and resiliency of the ecosystems, and support its Sustainable Development Strategy.

- Zoning is not only a technical exercise but a highly political process involving stakeholders.
- It requires meaningful participation of stakeholders affected.
- The plan should be dynamic and should provide mechanisms for updating.
- It requires appropriate institutional arrangements for efficient implementation.

Figure 7: Integrated Land- and Sea-Use Plan, Bataan, Philippines.

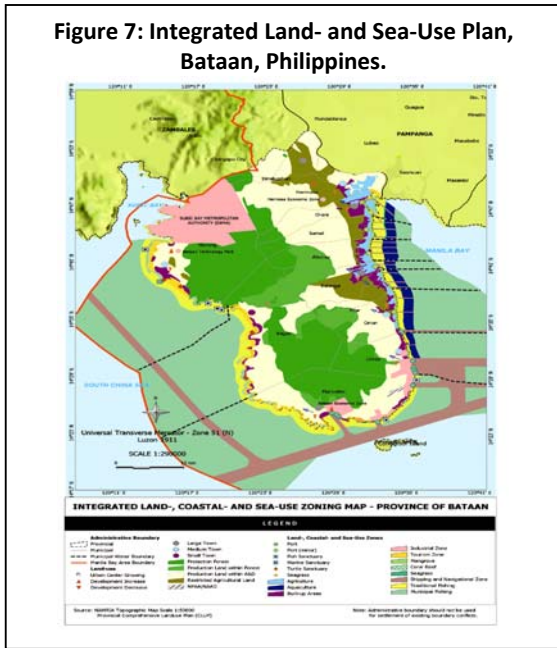
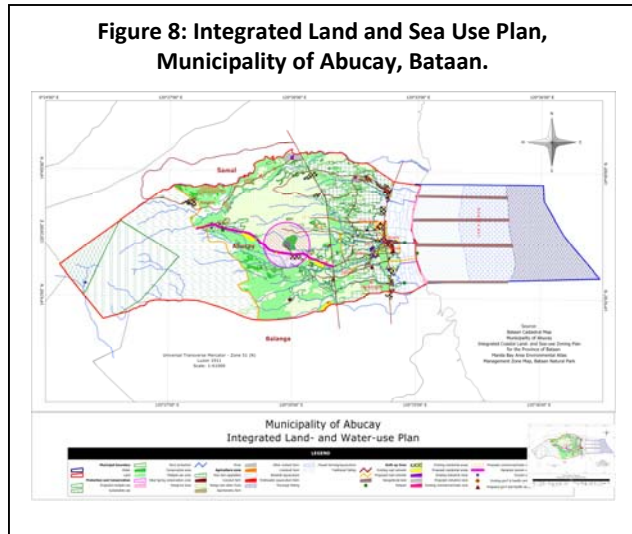
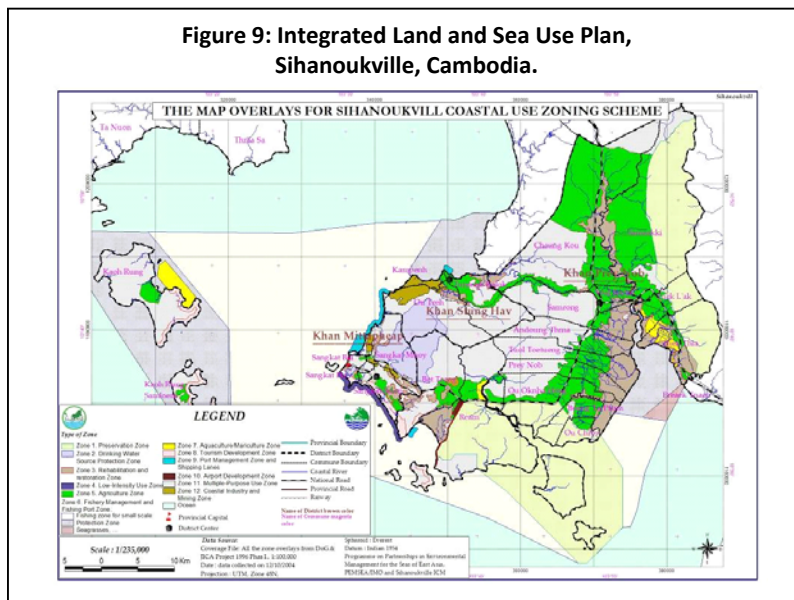


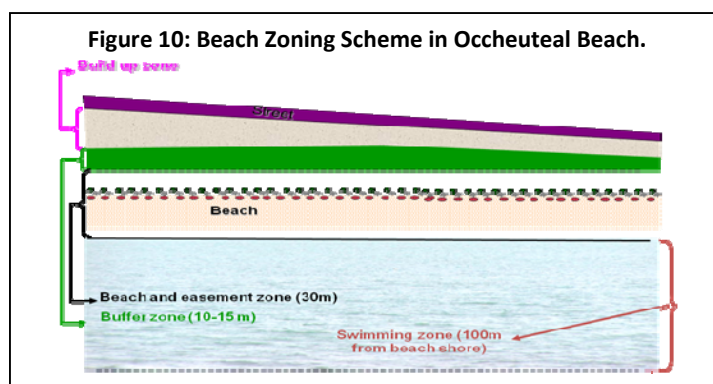
Figure 8: Integrated Land and Sea Use Plan, Municipality of Abucay, Bataan.



3.6 Mr. Prak Visal, ICM Coordinator, Sihanoukville, Cambodia, likewise, described the development and implementation of coastal use zoning scheme in Preah Sihanouk as part of its ICM program. **Figure 9** shows the integrated land and sea use plan of Sihanoukville. The coastal use zoning plan reinforces the beach protection efforts for a sustainable tourism industry in the province, particularly in Occheauteal Beach as well as establishment of a refuge area in Stung Hav District, a marine protected area (MPA) in Prek Kampong Smach in Prey Nop District, and MPA in Koh Kong and Koh Rong Sanloem islands. The implementation of the beach zoning scheme in Occheauteal Beach (**Figure 10**) resulted in improved water quality, access to the beach and security, better tourist facilities, and increase in daily income. It also provided a model for other beaches. Challenges still remain: reforms at the national level to provide specific laws on coastal and marine management; local capacity development for enforcement; scientific inputs and technical guidance from experts to delineate the zones, uses and activities.

Figure 9: Integrated Land and Sea Use Plan, Sihanoukville, Cambodia.





4. SESSION 3: PANEL DISCUSSION AND OPEN FORUM

- 4.1 It was quite clear that the presentations established the need for MSP in East Asia. This is due to increasing pressures from population increase and increased urbanization, new demands, conflicting land and sea uses, climate change (impacts, adaptation and mitigation) and coastal disasters of climate and non-climate origin.
- 4.2 In Europe, MSP focuses on the marine waters, while in East Asia, in practice, ICM and coastal use zoning/marine functional zoning deal with the land-sea interface. In East Asia, ICM encompasses MSP. Individual countries in East Asia are applying MSP and its variants to resolve conflicting uses of coastal and marine resources among stakeholders in support of sustainable development and management of marine and coastal areas.
- 4.3 There is some variation in the methodology or application of MSP, with zoning remaining its cornerstone. Two types of classification could be identified in East Asia: zoning according to uses (e.g., shipping, fisheries, military, wind energy farms), and within each zone, the condition of use (primary, secondary, regulated, non-regulated/allowed, restricted/not allowed). With respect to zoning, the harmonization of uses is carried out where relevant to address multiple use conflicts.
- 4.4 Countries in East Asia understand the basic principles of MSP but differ in emphasis. In all countries reporting the use of MSP, there is a clear case on stakeholder involvement in MSP through ICM. Institutional arrangements are also essential to ensure that all sectors are involved in MSP. On the issue of mandate of national and local governments regarding MSP, it is important that the national government provide the policy, guidance and technical support (e.g., national framework, plans on resource uses and coastal development, capacity building) while local governments develop MSP in consultation with their constituents and various stakeholders.
- 4.5 Capacity building is obviously required in many areas with the needs varying among countries. The need would be less in legislation matters, but more in technical and management aspects. Scientific information is still lacking on essential aspects such as sea level rise and the impacts of climate change, and therefore required in many areas for the development of MSP in East Asia. Moreover, capacity for collection and management of information, monitoring and enforcement needs to be strengthened.
- 4.6 Due to socioeconomic developments, technological innovations, and environmental factors, marine spatial plans should be dynamic and adaptable, and subject to regular review to ensure continuing relevance to the sustainable development targets of the national and local governments, resource users and beneficiaries, and other concerned stakeholders.

5. Conclusion

MSP (or its variants – coastal use zoning, marine functional zoning, and integrated land and sea use plan) is a key instrument in ensuring harmonized and sustainable uses of the coastal area and conservation of critical ecosystems. In addition, MSP can be seen as a suitable instrument for addressing climate change impacts, adaptation and mitigation with respect to both coastal and marine environments. MSP can also be applied as a means of fulfilling the potential for alternative ocean-based energy development, sustainable tourism, green ports and shipping, and emerging sectors, while protecting existing uses and benefits of coastal and marine ecosystem services derived by coastal communities. In sum, MSP is an important tool in ICM program development and implementation, in support of sustainable development of coastal and marine resources of the region and for building a Blue Economy in the East Asian region.

ANNEX 1: LIST OF RESOURCE PERSONS

Prof. Raphael Lotilla

Executive Director,
Partnerships in Environmental Management for
the Seas of East Asia (PEMSEA)

Dr. Awni Behnam

President
International Ocean Institute (IOI)

Dr. Werner Ekau

Director, IOI Germany,
Center for Tropical Marine Ecology (ZMT)

Dr. Victoria N. Radchenko

Director, IOI Ukraine,
Institute of Biology of the Southern Seas,
Oceanological Center of
Natural Academy of Science of Ukraine

Dr. Wong Poh Poh

PEMSEA Regional Task Force, Singapore

Dr. Zhou Qiulin

Chief Research Fellow,
Third Institute of Oceanography,
State Oceanic Administration (SOA), PR China

Dr. Ir. Subandono Dipo Saptono

Ministry of Marine Affairs and Fisheries,
Indonesia

Dr. Eirik Adler

Coordinator,
United Nations Environment Programme
(UNEP)
Coordinating Body on the Seas of East Asia
(COBSEA)

Dr. Cherdsak Virapat

Executive Director
IOI Headquarters, Malta

Mr. Alexander Baluyot

PMO Director,
ICM Program, Bataan,
Philippines

Mr. Prak Visal

ICM Coordinator,
Preah Sihanouk,
Cambodia

ANNEX 2: PROGRAMME

Time	Activity/Presentation	Resource Person
1000 – 1030	Opening Address	Prof. Rafael Lotilla Executive Director, Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) Dr. Awni Behnam President, International Ocean Institute (IOI)
1030 – 1200	Session 1: Lessons Learned from International Experience with Marine Spatial Planning	
	<ul style="list-style-type: none"> Progress on marine spatial planning and integrated coastal zone management in Europe 	Dr. Werner Eku Director, IOI Germany, Center for Tropical Marine Ecology (ZMT)
	<ul style="list-style-type: none"> Marine spatial management: Challenges and opportunities in Ukraine 	Dr. Victoria N. Radchenko Director, IOI Ukraine, Institute of Biology of the Southern Seas, Oceanological Center of Natural Academy of Science of Ukraine
	<ul style="list-style-type: none"> Marine spatial planning in relation to climate change in East Asia 	Dr. Wong Poh Poh PEMSEA Regional Task Force, Singapore
1200 – 1230	<ul style="list-style-type: none"> Open Forum 	
1230 – 1400	<i>Lunch break</i>	
1400 – 1600	Session 2: Case Studies Towards Integrated Marine Spatial Planning in the Seas of East Asia	
	<ul style="list-style-type: none"> Development of Marine Spatial Planning in China 	Dr. Zhou Qiulin Chief Research Fellow, Third Institute of Oceanography, State Oceanic Administration (SOA), PR China
	<ul style="list-style-type: none"> Development of Marine Spatial Planning in Indonesia 	Dr. Ir. Subandono Diposaptono, Ministry of Marine Affairs and Fisheries, Indonesia
	<ul style="list-style-type: none"> Coastal spatial planning in the East Asian Seas Region 	Dr. Ellik Adler Coordinator, United Nations Environment Programme (UNEP) Coordinating Body on the Seas of East Asia (COBSEA)
	<ul style="list-style-type: none"> Adaptive learning in tsunami preparedness and response planning in Andaman coastal provinces in Thailand 	Dr. Cherdasak Virapat Executive Director IOI Headquarters, Malta
	<ul style="list-style-type: none"> PEMSEA experiences in coastal use 	

Time	Activity/Presentation	Resource Person
	planning and zoning in East Asian Seas region through integrated coastal management: Case studies <ul style="list-style-type: none"> ○ Bataan, Philippines ○ Sihanoukville, Cambodia 	Mr. Alexander Baluyot PMO Director, ICM Program, Bataan, Philippines Mr. Prak Visal ICM Coordinator, Preah Sihanouk, Cambodia
1600 – 1630	<i>Coffee/tea break</i>	
1630 – 1800	Session 3: Panel Discussion and Open Forum <ul style="list-style-type: none"> • Marine spatial planning as a tool doe sustaining coastal and marine ecosystem services in the Seas of East Asia 	Facilitator: Dr. Wong Poh Poh PEMSEA Regional Task Force, Singapore