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The Interconnectivity Feature

The interconnectivity of the East Asian Seas (EAS) is a distinct feature of the coastal nations in the region (Figure 1). This interconnectivity is brought about by the geographical linkages of the five large marine ecosystems, i.e., Yellow Sea, East China Sea, South China Sea, Sulu-Sulawesi Sea and Indonesian Seas. The coastal nations consist of those in Northeast Asia, i.e., D.P.R. Korea, Republic of Korea, Japan, and P.R. China and of those in Southeast Asia, i.e., Brunei Darussalam, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

Coastal and Ocean Governance of the Seas of East Asia: Towards an Era of New Regional Cooperation and Partnerships

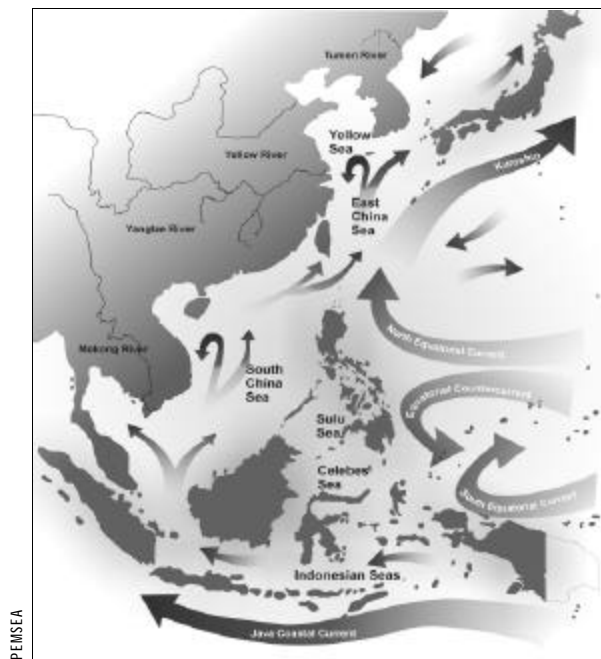


Figure 1. The East Asian Seas.

Social, Cultural, and Political Interconnectivity

The EAS region is socially and culturally interconnected as a result of population movement and commerce that began centuries ago. This interconnectivity can be seen from the interrelationship and mutual influence

among the nations' way of life, which covers cultures, religions, habits, customs, languages, and many other aspects. About 60 percent of the total population of 1.92 billion in the region live within 100 km from the coast (Burke et al. 2001) and contribute to a large part of the national and regional economy. Economic interconnectivity

This article is based on the Keynote Speech by Dr. Chua Thia-Eng at the Second Meeting of the Regional Network of Local Governments Practicing Integrated Coastal Management (RNLG) held in Xiamen, PR China on 20-21 September 2002.

is apparent in maritime trade, shipping, oil exploration and refining, fisheries, tourism, and manufacturing industries. Major ports, which commercially link the countries, have grown in the region. East Asia's economic growth over the last few decades has resulted in an explosion of inter-Asian maritime trade as well as trade with Europe and North America (Meyrick 2000). As a result, container traffic in the region grew by 270 percent from 1985 to 1995, and is expected to reach 50 percent of the total world container traffic throughput by 2005 (Meyrick 2000). About 8.2 million barrels of oil pass through the Straits of Malacca and Singapore each day from the Middle East to various countries in the region (Lloyds of London, Ports of the World, 1997, as cited in Chua and Ross 2002).

In tourism, East Asia and the Pacific captured an 18 percent share of the world market in 2001, growing at an average rate of six percent a year from 1995 to 2001 with an average of over 90 million tourists annually (WTO 2002). While security- and health-related threats resulted in a sharp downturn in late 2002 and early 2003, it is clear that tourism will remain a major source of income for the region. During the last three decades, the emergence of economic growth triangles among East Asian countries further reflects their intricate and inextricable relationship.

The formation of the Association of Southeast Asian Nations (ASEAN)

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more than 35 years ago is a testimony of the recognition of the mutual reliance among the countries. The recent economic regionalization, manifested by the impacts of globalization, has expanded the political relationship to cover three nations from the north, i.e., Japan, P.R. China, and the Republic of Korea, resulting in ASEAN + 3.

Ecological Interconnectivity

The physical, chemical, and biological characteristics of the EAS are strongly influenced by major ocean currents such as the Kuroshio current, the north and south equatorial currents, and the Java coastal currents. Specifically, these currents affect ocean temperature, salinity, waves, tides, and sediment transport; influence the distribution of dissolved oxygen, pH, nutrients, and other chemical properties of the seas; and define the distribution of marine flora and fauna. Upwelling zones contribute to high productivity and bring about long-distance dispersal of marine larval recruits of coastal and marine organisms.

The region receives a substantial supply of freshwater from river

basins. Big river basins such as those of the Mekong River, Yangtze River, Yellow River, and Red River, as well as of several small- and medium-sized ones, open directly into the EAS. These cover a total of 6.25 million km² and accommodate about 1.5 billion people (Talaue-McManus, L. 2000; and Yu, et al. 2001). The EAS are the catchment areas of these associated upstream rivers. Thus, the health of the EAS is significantly affected by the river basins and related human activities.

The physical, chemical, and biological characteristics of the seas in the Southeast Asian region have enriched its flora and fauna, making it the world's center of marine biodiversity. The total number of marine fish and hard coral species exceeds that of the Great Barrier Reef or the Caribbean Seas (Chou 1997; and Veron 2001). This indicates that a rich and valuable genetic resource is yet to be fully exploited.

Pelagic fish species, many of them migratory and shared stocks such as tuna, mackerel, and sardines, abound in the region. High biological productivity accounts for the region's significant contribution of fish production to the global supply,

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providing no less than 40 percent of world fish catch and 80 percent of world aquaculture production (FAO 1999a and FAO 1999b).

Socioeconomic and ecological interconnectivity is also reflected in the sharing of environmental hazards, such as typhoons, earthquakes, sandstorms and haze from forest fires, as well as of environmental/public risks associated with red tides, oil spills, nutrient pollution and the impacts of invasive species.

Over the last two decades, the occurrence of harmful algal blooms in the region's waters have increased and spread geographically, resulting in detrimental impacts on human lives and economy. While the total number of spills caused by oil tankers have been reduced globally, these have occurred frequently in the region and caused public alarm across national borders.

Nutrient pollution is one of the most serious problems shared by all countries of the region. Most of the sewage that enters the EAS is barely treated (Chia and Kirkman 2000) – thus, the coastal waters and some

species consumed as seafood are severely contaminated with coliform bacteria, affecting public health. The negative impacts of invasive species from ballast water are of serious concern to the region and the world. Globally, more than 3-5 billion tons of ballast water are transported each year, contributing to no less than 7,000 species of microscopic marine animals and plants that are distributed throughout the world's oceans, causing serious ecological and health threats (Globallast 2003). For instance, between \$750 million and \$1 billion were spent in the United States for control measures of the hazards brought about by the introduction of the zebra mussel from European waters (Globallast 2003).

Many of these environmental risks are transboundary and require collective mitigating measures. The transboundary impacts are less visible although their negative impacts could be more severe compared with those resulting from typhoons, earthquakes and sandstorms – all of which receive greater public attention and concern.

The State of the EAS and Challenges to Sustainable Development

Various reports by the Economic and Social Commission for Asia and the Pacific (ESCAP), United Nations Environment Programme (UNEP), and the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) have indicated that the state of the EAS, like other seas and oceans, is deteriorating, putting the marine life support system at risk. At present, coastal and ocean management is far from effective. Sustainable use of coasts and oceans has not been achieved. Environmental degradation affects the goods and services provided by the ecosystems. This situation is aggravated by contamination or physical destruction of nursery, feeding and spawning grounds, and shelters of marine species; inappropriate physical alteration of coastlines resulting in the weakening of shoreline defense and destabilization of coastal equilibrium; removal of wetlands and coral reefs, affecting the natural pollution and carbon sink; and overexploitation of natural resources, which eventually affects the livelihoods of millions of artisanal fisherfolk. The lack of adequate planning for and management of the natural resource base, and ignorance about the non-market values of the ecosystems, contribute to the failure of proper management measures.

The main challenge to sustainable use of the EAS lies in the capability and willingness of the concerned countries in the region to undertake policy reforms for improving coastal and ocean governance at local and national levels; appropriate structural reforms to strengthen institutional support in terms of interagency and intersectoral coordination; and appropriate pricing policy and market for natural products. Another major challenge especially for developing nations in the region is in the urgency to increase their planning and management capacity at national and local levels so that they are able to provide good governance to address poverty, public health, and livelihood issues, especially with the pressure of rapid urbanization and economic development.

A common issue being increasingly recognized amongst coastal and ocean managers worldwide is the difficulty encountered in interagency and intersectoral coordination at the national level. The essential element for holistic and integrated management is a coordinating mechanism vested with the power and responsibility for interagency and intersectoral coordination to avoid duplication of responsibilities, reduce unnecessary interagency competition for funds and human

PEMSEA



PEMSEA organizes expert meetings to promote better coastal and ocean governance in the region.

resources, and to orient coastal and ocean development towards sustainable development. In most countries, there is neither such a mechanism nor a national agency with these mandates. The lack of a proper “home-base” makes it difficult to implement coastal and ocean governance initiatives.

Opportunities for Action

During the last decade, opportunities have arisen for the region to take a course of action to better manage its coasts and oceans. The demand to reverse the trend of environmental degradation is high on the political agenda of most countries, especially after the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. The need for concrete actions is obvious, especially in alleviating the plight of people living in poverty, including those in urban areas; increasing access to water supply and adequate sanitation; protecting the natural resource base and ensuring sustainable fisheries; and conserving biodiversity through

development of coastal and marine protected areas.

The conflicts between trade globalization, the increasing trend toward economic regionalization and realizing the benefits of regional cooperation, and the strengthening and enhancement of corporate social responsibility, are priority concerns of the region. Reduction of the conflicts will require the joint effort of concerned national and local governments.

Ten Years After UNCED 92

Ten years after the United Nations Conference on Environment and Development (UNCED), there was general consensus that most of the planned activities under Agenda 21 had not been fully implemented and that no appreciable achievements had been made. While there are sufficient grounds to argue that countries could have done better, the process of sustainable development is a long and tedious one and requires substantial effort before positive impacts become visible.

The array of marine-related legislation enacted by the concerned governments in the region well before UNCED is impressive. Moreover, such legislation has increased considerably, probably influenced by the Law of the Sea Convention and UNCED.

Nevertheless, the EAS region has made significant progress since UNCED 92. This conclusion is based on five indicators: (1) development and implementation of National Agenda 21; (2) adoption of institutional arrangements; (3) establishment of national marine affairs institutes; (4) formulation of national legislation; and (5) ratification of international instruments. National governments in the region are serious about the protection of the marine environment and have undertaken necessary institutional reforms and structural improvements. In Japan, Malaysia, P.R. China, Republic of Korea, and Singapore, improvement of the coastal environment is obvious, and much of urban poverty has been effectively eradicated. Similar efforts are now being undertaken in other nations, though under a different scale of operation (see issue pull-out section).

Development and implementation of National Agenda 21. Nine out of the 12 countries in the region have developed their respective National

Agenda 21 and action plans. P.R. China and Republic of Korea each has an Ocean Agenda 21. Although Brunei Darussalam has yet to prepare one, it has already developed a national environmental strategy, which basically covers most of the issues of Agenda 21. This year, Vietnam is preparing its Agenda 21 with the help of UNEP. It is expected that all the countries in the region will have their own National Agenda 21 in the near future. They are in different stages of implementing their Agenda 21 action plans.

Institutional arrangements. Various institutional arrangements have been made in addressing maritime and ocean issues in the region. Most countries have a Ministry of Environment while some aspects of maritime matters are addressed by the Ministry of Transport/Communication. Other countries set up new departments/ministries. The Republic of Korea in 1996 formed a Ministry of Marine Affairs and Fisheries and Indonesia established a similar ministry in

2001. Thailand and Vietnam formed a new Ministry of Natural Resources and Environment by integrating the environment and natural resource-related functions of other ministries. Japan expanded the responsibility of the Ministry of Transport to become a new Ministry of Land, Infrastructure and Transport, which has jurisdiction over most coastal waters.

P.R. China has long given considerable importance to ocean affairs. It established the State Oceanic Administration well before UNCED. In Singapore, the Maritime and Port Authority has evolved into an agency with a key role in the management of coastal and marine waters within its jurisdiction.

Establishment of marine affairs institutes. At least nine of the 12 countries in the region have established institutes related to national marine/maritime affairs to support the efforts of their respective governments in addressing such issues as boundaries, pollution, and marine piracy. These institutions include the China Institute for Marine Affairs (CIMA), Indonesian Center for the Law of the Sea (ICLOS), Ship and Ocean Foundation (SOF) of Japan, Maritime Institute of Malaysia (MIMA), Philippine Center for Marine Affairs (PhilMar), Korean Maritime Institute (KMI), Thailand Institute of Scientific and Technological Research, and the Continental Shelf Committee (CSC) of Vietnam. There are several other institutions related to ocean research

in the region, some of which were established well before UNCED.

National legislation. The array of marine-related legislation enacted by the concerned governments in the region well before UNCED is impressive. Moreover, such legislation has increased considerably, probably influenced by the Law of the Sea Convention and UNCED. While there are obvious gaps requiring legislative improvements, countries of the region have the basic national legislation to regulate human activities regarding the use of marine natural resources, prevention of marine pollution, and protection of natural habitats.

Ratification of International Instruments. The record of ratification of international instruments in the region is also impressive. Since 1992, over 100 ratifications and accessions to international conventions and subscriptions to other instruments related to environmental protection, biodiversity, climate change, and other marine related aspects in the region have been made. The ratified international instruments (Tables 1 and 2), if implemented, will substantially achieve the goals of Chapter 17 of Agenda 21.

International and Regional Initiatives

Several international and regional projects and programs in marine

The region is in a good position to take a quantum leap in meeting the challenges and opportunities posed in the two world summits. To achieve this, it needs to develop a new paradigm in mobilizing collective efforts in the management of the EAS.

sciences, coastal resources management, fisheries, and pollution prevention and management initiated by UN and international agencies as well as by donors and multilateral financial institutions have, over the last three decades, helped lay a solid foundation of technical capacity essential for coastal and ocean governance. The work of the United Nations Educational, Scientific and Cultural Organization in the 1960s and 1970s in marine sciences; Food and Agriculture Organization of the United Nations in the 1970s and 1980s in fisheries and aquaculture; the UNEP Regional Seas Program in the 1980s, and the Global Environment Facility in the 1990s and beyond, as well as other efforts from United Nations Development Programme, International Maritime Organization, World Bank, and Asian Development Bank have all contributed in a complementary manner to the needed knowledge and information, policy and institutional reforms, public awareness, and most importantly, a critical mass of expertise.

In the last two decades, several donor agencies have placed greater emphasis on coastal and marine issues. Many regional projects have made significant contributions in coastal resources management (CRM), particularly the work of the ASEAN/United States Agency for International Development (USAID) CRM Project, and the ASEAN/Canada Marine Science Project, and the ASEAN/ Australian Project on Coastal and Marine Ecosystems. Bilateral support from the international community was also intensified in the early 1980s and 1990, further enhancing national capacities.

The Challenges and Opportunities of WSSD

The principal challenge issued by the WSSD was to execute an implementation plan which focuses on the dual objectives of poverty eradication and environmental improvement. While the percentage of people in the EAS region living in direct poverty is small compared with those in South Asia or Africa, there

Table 1. East Asian ratification of international conventions relating to marine pollution as of 30 June 2003.

COUNTRY	C O N V E N T I O N S																		
	UNCLOS	MARPOL					London Convention		Intervention		CLC		FUND		Salvage	OPRC	OPRC-HNS	HNS	Bunker Oil
	82	73/78 Annex	Annex				Conv	Prot	Conv	Prot	Conv	Prot	Conv	Prot	89	90	00	96	01
		I/II	III	IV	V	VI	72	96	69	73	69	92	71	92					
Brunei Darussalam	96	86								D	02	D	02						
Cambodia		94	94	94	94					94	01		01						
PR China	96	83	94		88		85		90	90	D	99		99*	94	98			
DPR Korea		85	85	85	85														
Indonesia	86	86								D	99	D							
Japan	96	83	83	83	83		80		71		D	94	D	94		95			
Malaysia	96	97			97						95		95			97			
Philippines	84	01	01	01	01		73				97		97						
Rep. of Korea	96	84	96		96		93				D	97	D	97		99			
Singapore	94	90	94		99	00					D	97		97		99			
Thailand																00			
Vietnam	94	91										03							

Numbers represent year of ratification/accession D - denounced *With application to Hong Kong SAR only

are no less than 260 million people in East Asia and the Pacific reported to be living on less than one US dollar per day (World Bank 2003). The situation is most serious in the urban areas of the region, where many of the poor live in slums and have limited or no access to safe drinking water or adequate sanitation facilities.

The WSSD highlights new opportunities for the countries of the region to take concrete actions towards sustainable development. A new era of regional collaboration and partnerships is warranted, to relieve the pressure on unsustainable exploitation and use of natural resources, to prevent further destruction of coastal and marine habitats, and to improve living conditions of the urban poor. A more holistic and integrated planning and management approach towards sustainable coastal and ocean development is needed.

Functional Framework for Regional Cooperation and Collaboration

The region needs a functional framework for:

- Promoting intergovernmental collaboration on global and regional environmental concerns;
- Strengthening synergies and linkages among UN and international agencies;
- Encouraging active participation from the private sector, NGOs, academe, communities and other members of the civil society; and
- Identifying and developing opportunities for environmental investments.

The region also needs a regional platform for integrated implementation of international instruments to:

- Enhance the synergistic relationships among multilateral environmental agreements;
- Strengthen partnerships among governments and intergovernmental bodies and across sectors, and establish multi-tiered arrangements for the cost-effective implementation of multilateral environmental agreements;
- Promote effective use of human and financial resources through shared information systems, information exchange, networking and capacity programs; and
- Establish working models of holistic, integrated environmental management programs at regional, national and subnational levels.

Table 2. East Asian ratification of international conventions relating to the marine environment as of 31 October 2002.

COUNTRY	C O N V E N T I O N S											
	Basel 89	Basel Prot 99	UN FCCC 92	Biodiversity 92	Jakarta Mandate 95	Ramsar 71	CITES 73	Migratory Species 79	World Heritage 72	Whaling 46	GPA on LBS 95	Montreal Declaration 01
Brunei Darussalam	02						90					
Cambodia	01		95	95	Y	99	97		91		Y	Y
PR China	92		93	93	Y	92	81		85	80	Y	Y
DPR Korea			94	94	Y				98			
Indonesia	93		94	94	Y	92	78		89		Y	
Japan	93		93	93	Y	80	80		92	51	Y	Y
Malaysia	93		94	94	Y	95	77		88		Y	Y
Philippines	93		94	93	Y	94	81	94	85	81	Y	Y
Rep. of Korea	94		93	94	Y	97	93		88	78	Y	Y
Singapore	96		97	95			86					
Thailand	97		94			98	83		87		Y	Y
Vietnam	95		94	94	Y	89	94		87			

Numbers represent year of ratification/accession Y - Participated in the Conference

LEGEND:

BASEL	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 1989
BASEL PROTOCOL	Basel Convention Protocol on Liability and Compensation, 2000
BIODIVERSITY or CBD	Convention on Biological Diversity, 1992
BUNKER OIL	International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973
CLC	International Convention on Civil Liability for Oil Pollution Damage, 1969 and its 1992 Protocol
FUND	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 and its 1992 Protocol
GPA	Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
HNS	International Convention On Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996
INTERVENTION	International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances Other Than Oil, 1973
JAKARTA MANDATE	Jakarta Mandate on Marine and Coastal Biological Diversity, 1995
LONDON CONVENTION	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 and its 1996 Protocol
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto
MIGRATORY SPECIES	Convention on the Conservation of Migratory Species of Wild Animals, 1979
MONTREAL DECLARATION	Montreal Declaration on the Protection of the Marine Environment from Land-Based Activities, 2001
OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990
OPRC-HNS	Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000
RAMSAR	Ramsar Convention on Wetlands, 1971
SALVAGE	International Convention on Salvage, 1989
(UN)CLOS or LOSC	(United Nations) Convention on the Law of the Sea, 1982
UNFCCC	United Nations Framework Convention on Climate Change, 1992
WHALING	International Convention for the Regulation of Whaling (1946)
WORLD HERITAGE	Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972

Sustainable Development Strategy for the Seas of East Asia

Three years ago, 12 countries of PEMSEA embarked on the development of a functional framework to streamline national, regional, and international environmental management efforts in the EAS. A draft framework document, entitled "Sustainable Development Strategy for the Seas of East Asia" is a product of three years of

consultation with stakeholders, including governments, users and beneficiaries, NGOs, academe, international and intergovernmental organizations, and business communities. The framework document is designed to:

- Promote regional cooperation for addressing environmental relationships across national boundaries;
- Harmonize interactions and enhance synergies between

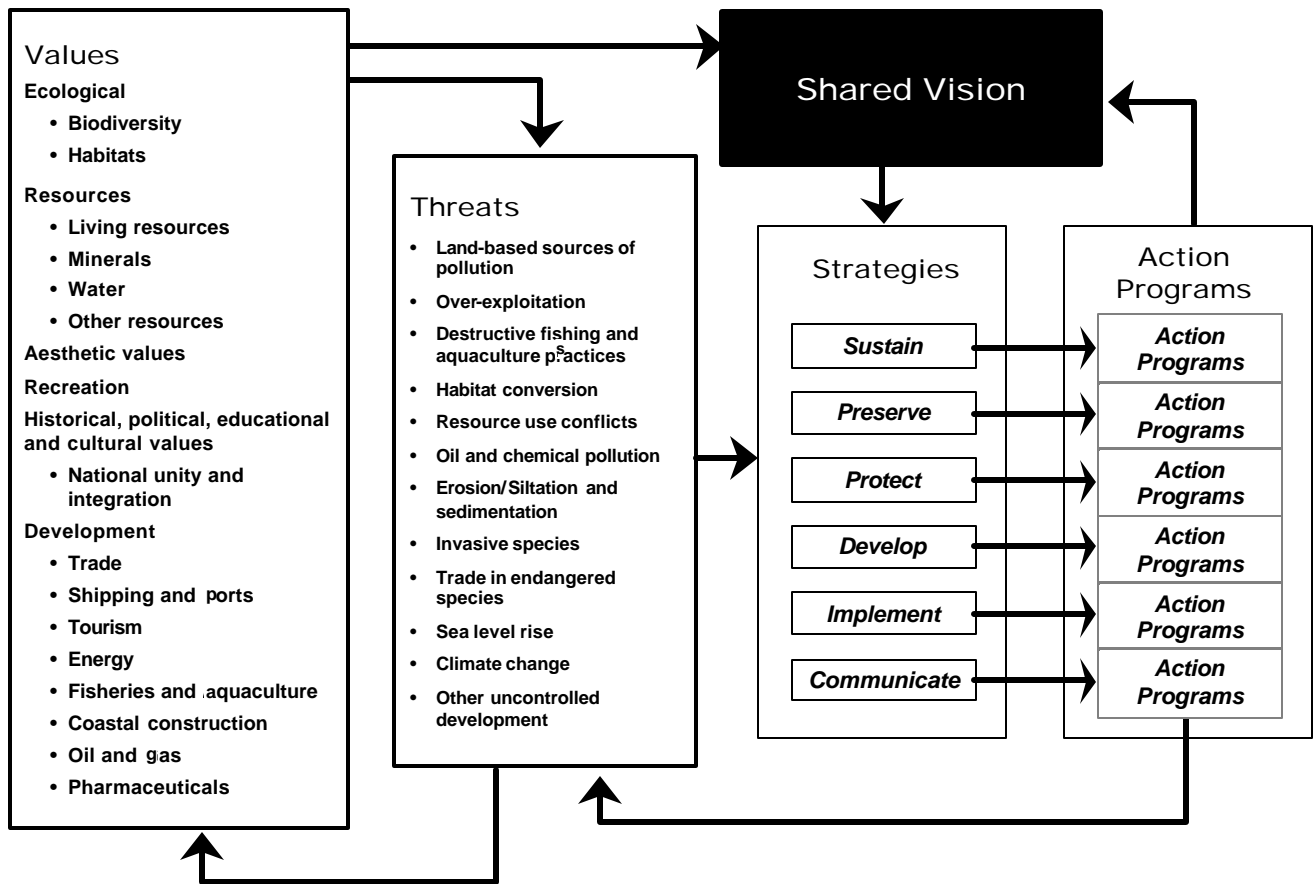


Figure 2. Strategic Framework of the Sustainable Development Strategy.

economic development and environmental management;

- Reinforce relationships between a healthy environment and social issues, such as poverty alleviation, food security, employment and human health; and
- Provide a platform for partnerships among countries of the region, the private sector, NGOs, academe, local communities and other members of the civil society, and UN and international agencies.

The strategic framework is developed for achieving a shared

vision forged among countries of the region. The proposed shared vision reads:

“The sustainable resource systems of the Seas of East Asia are a natural heritage for the people of the region, a medium of access to regional and global markets, and a safeguard for healthy food supply, livelihood, economic prosperity and harmonious co-existence for present and future generations.”

Towards achieving the proposed vision, over 200 action programs have been formulated in the strategic framework under six strategies — Sustain, Preserve, Protect, Develop, Implement, and Communicate (Figure. 2). The rationales, principles, and objectives of each strategy are detailed in the draft framework document.

National governments using the SDS-SEA as a guide can develop and implement national coastal and ocean policies and national strategies for sustainable coastal and ocean development. Subnational governments of coastal states/provinces/municipalities can also

develop and implement their own local coastal strategies and action programs in line with the national policy and strategy.

To achieve effective coastal and ocean governance for the EAS, it is essential to ensure that each government is able to put the following in place:

- An institutional mechanism for coordinated actions;
- A national coastal/ocean policy;
- A national coastal/ocean sustainable development strategy;
- Coastal strategies and action plans at the local level; and
- A mechanism to finance the implementation of the national strategy and action plans.

The Way Forward

To respond to the challenges and prepare for opportunities ahead, the participating PEMSEA countries are launching the following initiatives:

1. Adoption of the Sustainable Development Strategy for the Seas of East Asia by holding a Ministerial Forum and International Conference on Coastal and Ocean Governance for the Seas of East Asia in December 2003.
2. Assist national governments in the development of national coastal/ocean policies and strategies.
3. Establish working models on public-private sector partnerships for environmental investments and their duplication.
4. Build partnerships in the local implementation of coastal strategies and integrated management programs in the region.
5. Develop or strengthen appropriate regional coordinating and financing mechanisms to support the implementation of regional, national and subnational coastal and ocean strategies and action programs towards achieving the goals of Agenda 21 and WSSD.

PEMSEA invites partners to achieve these goals. ■

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