Special EAS Congress 2006 Issue No.1

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One Vision One Ocean



Part Hand Powince People's Republic of Chima



concerns and analyses

Waves of Change

Stephen Adrian Ross

n the early 1970s, a book was published entitled Limits of Growth, a report of the Club of Rome's project on the predicament of mankind. Its conclusions were stunning. It was ultimately published in 30 languages and sold over 30 million copies. According to a sophisticated MIT computer model, the world would ultimately run out of many key resources. These limits would become the "ultimate predicament" of humankind. Man's use of natural resources would exceed the Earth's capacity to generate those resources by the mid-21st century, resulting in a decrease in economic development and a decline in social well-being of humanity.

Thirty years later, it is apparent that such dire predictions are closer to reality than many realize, or are willing to admit. The Millennium Ecosystem Assessment, which was initiated in 2001 at the request of former UN Secretary-General Kofi Annan, concluded that "...human activity is putting such a strain on the natural functions of the Earth that the ability of the planet's ecosystems to sustain future generations can no longer be taken for granted" (Natural Assets and Human Well-being, Statement of the Millennium Ecosystem Assessment Board, March 2005). Results showed that nearly two-thirds of the services provided by nature to humankind were in decline worldwide, confirming that the benefits reaped from man's 'engineering' of the planet were being achieved at the cost of Earth's natural capital assets. It was indeed a sobering reminder of that 30-year old prediction.

Not surprisingly, the East Asian region is playing an increasingly significant role in creating this overdraft on nature's capital assets, as the region's population and economy continue to grow. The per person demand for renewable natural resources has grown 130 percent since 1961, and currently, the demand is reportedly 75 percent greater than the region's ecological capacity to regenerate (WWF Living Planet Report, 2005). The marine sector, which is a principal driver of the region's economic growth, provides us with some specific insights into the situation.

More than 40 million tons of fish were produced from the region's marine ecosystems in 2004...that's about 51 percent of the production globally, in addition to over 80 percent of the world's aquaculture products, valued at \$50 billion. In the tourism industry, the region captured 12 percent of the global market share of international tourists, resulting in tourist revenues of \$84.5 billion. In the shipping industry, about 50 percent of the world's oil supply and 30 percent of the world's commerce passed through the Straits of Malacca and Singapore that same year, while more than 40,000 ships traversed the South China Sea — that's more than double the number passing through the Suez Canal, and triple the number through the Panama Canal.

On the other side of the balance sheet, it is apparent that the development of industry and the expansion of cities and other commercial activities, such as ports, shrimp farms and tourism, have dramatically altered the characteristics of that ribbon of coastal space where land meets sea. At the current rate of destruction and degradation of coastal habitats, studies warn that the region's coral reefs could face total collapse within 20 years, while mangroves could be gone in 30 years. These resources, along with wetlands, are the biological engines that drive the region's unrivalled marine biodiversity, which supports the aforementioned fisheries, aquaculture and tourism industries. They also serve another role, that of shoreline protection and stabilization of coastlines. It will probably never be known how many lives were lost in the Indian Ocean tsunami due to the loss of mangroves and coral reefs, but it is widely accepted that areas with less damage to the natural coastline were better protected from the force of the tidal wave than areas with altered coastlines.

Growing populations and their migration to coastal areas in search of employment and a better life are placing ever-increasing demands on the region's coastal and marine waters as a source of food and sustenance, as well as a sink for sewage, garbage and other byproducts of human activity. By 2020, forecasts indicate that more than 50 percent of the region's population will be located in urban areas, putting even greater demands on the already overburdened environmental infrastructure of most coastal cities. The potential socioeconomic impact with regard to water-related illnesses and the resulting loss in productivity is staggering, with current estimates in the neighborhood of 1.5 to 7 percent of the GDP of countries.

This issue of Tropical Coasts considers some of the scenarios being devised and/or implemented in East Asia, and in other regions, as possible solutions to the stresses that are building up in the region's natural infrastructure. Participants to the East Asian Seas (EAS) Congress 2006 considered these matters, and others, within the context of improved paradigms for coastal and ocean governance. The setting for the EAS Congress could not have been more appropriate — the beautiful and bustling coastal city of Haikou, Hainan Province, PR China. More than 800 people from 36 countries attended the five-day event, from 12-16 December 2006, graciously hosted by China's State Oceanic Administration, the Hainan Provincial Government, and the Haikou City Government, and co-organized and sponsored by 45 partner organizations.

Some have described the EAS Congress 2006 as a 'marketplace' of intellectual capital for coastal and ocean governance. Certainly, the quality of papers, presentations, and interactions provided during the five-day event would seem to support such a description. To provide our readers with a flavor of the Congress, and more importantly, a look at the actions being developed and undertaken in order to remove underlying barriers to sustainable development of marine and coastal resources, two special issues of Tropical Coasts are being devoted to the event.

In this issue, four of the seven themes¹ of the International Conference on Coastal and Ocean Governance: One Ocean, One People, One Vision are reviewed, namely: Securing the Oceans; Safer Shipping and Cleaner Oceans; Certifying Sustainability; and Local Government Financing for Water, Sewage and Sanitation. A number of important messages emerged from the

continued on page 87 ...

¹The next issue on One Vision, One People will feature the Thematic Workshops on Communities in Sustainable Development; Ecosystem-based Management: From River Basins to Coastal Seas; and Applying Management-related Science and Technology.

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On the Cover

One Vision, One Ocean

This special issue on the outputs and outcomes of the East Asian Seas Congress 2006 focuses on the Thematic Workshops on Securing the Oceans; Safer Shipping and Cleaner Oceans; Certifying Sustainability; and Local Government Financing for Water, Sewage and Sanitation. Side Events during the EAS Congress are also presented in the issue.

December 2006

The Global Environment Facility/United Nations Development Programme/ International Maritime Organization Regional Programme on Partnerships in Environmental Management for the Seas of East Asia (GEF/UNDP/IMO PEMSEA), Sida Marine Science Programme, the Coastal Management Center (CMC), and the United Nations Environment Programme - Global Programme of Action (GPA) publish Tropical Coasts Magazine biannually. This publication is geared towards stimulating an exchange of information and sharing of experiences and ideas with respect to environmental protection and the management of coastal and marine areas. Readers are strongly encouraged to send their contributions to:

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Securing the Oceans

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special features

Second Ministerial Forum and Inaugural Meeting of the **EAS Partnership Council**

Two of the milestone events during the EAS Congress 2006 are featured in this section: The adoption of the Haikou Partnership Agreement on the Implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) by 11 countries during the Ministerial Forum; and the signing of the the Partnership Operating Arrangements by the Stakeholder Partners during the Inaugural Meeting of the EAS Partnership Council.

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Special EAS Congress 2006 Issue







Securing the Oceans

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Securing the Oceans



Ocean governance is going through a significant phase of transformation. Understanding of the ocean environment has changed since the 1970s as the world increasingly recognizes the interdependence between ocean development and human security. Issues arising from continuous pressure on the ocean environment have permeated to the political, sociocultural and economic spheres of society. In recognizing the crucial role of oceans in fulfilling societal aspirations, new developments and thoughts emerged, urging for a comprehensive understanding of ocean governance (Terashima). Along with this new thinking, new approaches, initiatives, mechanisms and various forums in ocean governance have developed at the local, national, regional and international levels in response to the changing needs and concerns of the ocean environment.

The East Asian Seas (EAS) Congress 2006, held in Haikou City, PR China, is one forum that drew particular attention to the evolving concept of security and developments in ocean governance. One of the seven themes during the International Conference is Securing the Oceans. With six interrelated workshops and seminars¹, the theme touched on various issues, constraints and developments in coastal and ocean governance, reviewed policy actions and existing local, national, regional and international governance mechanisms related to coasts and oceans, and shared insights on the dynamics of cooperation in securing the oceans for present and future generations. Lessons learned and best practices from around the world were also analyzed to see how they can be relevant in the East Asian Seas region.

¹ The six workshops/seminars included: 1. Development of National Ocean Policies in East Asia and around the World; 2. The Tokyo Ocean Declaration: Upholding the Advocacy; 3. ICM Experiences, Lessons Learned and Scaling Up; 4. Regime-building in Coastal and Ocean Governance; 5. Advocacy, Leadership, Legislation and Interagency Collaboration in Coastal and Ocean Governance; and 6. Coastal and Ocean Governance: Enabling and Strengthening Institutions for Sustainable Coastal and Ocean Governance.

This article is a synthesis of the key points, conclusions and recommendations put forward under Securing the Oceans.

Redefining Ocean Governance and the Concept of Security

Developments at the International Level

The term "security" was conventionally used to refer to national and military defense (Kuribayashi), however in recent decades the term has been employed in other fields including the environment in general and coastal and ocean affairs in particular.

The adoption of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982 and subsequent instruments, such as the Rio Declaration on Environment and Development in 1992, Agenda 21, World Summit on Sustainable Development (WSSD) and other related instruments pertaining to marine pollution, biodiversity, etc., have been influential in advancing a broader view of the oceans. These instruments emphasize that the ocean is an integral component of the political, social, cultural, ecological and economic facets of society, and impacts on various stakeholders. As such, ocean affairs must be considered in the overall development



Third International Conference on Geo-Agenda for the Future: Securing the Oceans.

framework to ensure sustainable development. This new comprehensive perspective has factored the oceans within the concept of security, and security within ocean governance.

In line with the principles set forth by UNCLOS, the Rio Declaration and other international instruments on ocean protection and development, a series of conferences on Geo-Agenda for the Future: Securing the Ocean were initiated in early 2000, hosted by the Ocean Policy Research Foundation (OPRF)² of Japan, and culminating in the adoption of the Tokyo Ocean Declaration on Securing the Oceans: Proposals for a New Ocean Security in December 2004.

The Tokyo Ocean Declaration advocates for a new comprehensive security concept toward peaceful and sustainable development of the oceans that "brings within its purview all ocean aspects and their attendant security concerns, including navigation, natural resources, the environment, military activities and scientific research" (Akimoto).

As a means to realize the concept, the Tokyo Ocean Declaration identified several measures to promote the building of political will and the implementation of the new security concept, including: the creation of an international ocean think tank; the establishment of outreach programs, a coordinating mechanism and cross-sectoral body for ocean affairs; the involvement of states and international organizations to promote the concept; holding of regular conferences or venues for dialogue and knowledge sharing; international cooperation for capacity building; and the formulation of systems and strategies for confidence building and the protection of ecosystems and the environment (Tokyo Ocean Declaration, 2004).

² The OPRF was previously known as the Ship and Ocean Foundation. The Tokyo Ocean Declaration is a product of deliberations by 26 eminent ocean law and policy experts. For more information, see: http://www.sof.or.jp. "In today's world, it is no longer sufficient to define peace as simply 'the absence of war'; rather new thought urges that peace should mean 'that condition in which people can fulfill their various desires as human beings'...thus, there is increasing support for a new 'comprehensive security'."

Tokyo Ocean Declaration, 2004

Ocean Governance at the Regional Level

State sovereignty is said to be evolving towards a law of humanity whereby states recognize their obligation toward all, particularly in cases where international issues should be addressed (Magallona). The unprecedented degree of collaboration between states, particularly with the growth of regional mechanisms in the past 30 years, signifies the recognition that ocean issues are too overwhelming for states to resolve alone.

The move towards regionalization in ocean governance began in the 1970s with the establishment of the Regional Seas Programme of the United Nations Environment Programme. To date, 14 regional seas programs have been established based upon regional conventions or legally binding agreements³ (Black Sea, Caspian Sea, Eastern Africa, Kuwait region/ROPME, Mediterranean, Northeast Pacific, Red Sea and Gulf of Aden, Southeast Pacific, South Pacific, West and Central Africa, Wider Caribbean, Baltic Sea, Northeast Atlantic, and Antarctic Region), while four regional mechanisms are anchored on nonbinding instruments (East Asian Seas, South Asian Seas, Northwest Pacific and Arctic Region).

Taking into consideration the distinctive characteristics, uses and concerns of different regional sea areas, regional integration is seen as a good option to address the needs of each region and offers certain opportunities for management actions. While the approaches, developments and achievements in coastal and ocean management/ governance vary across regions, the ultimate goals behind the establishment of regional mechanisms have been the same to protect and ensure sustainable and environmentally sound development through comprehensive and integrated management involving stakeholders.

In reviewing and analyzing the regional regime formations in the past decades, the Nippon Foundation Research Task Force, in particular, has led several initiatives on the study of regional sea areas.⁴ From these initiatives, several issues and challenges can be derived.

Issues/Challenges

Jurisdictional fragmentation

Regional cooperative agreements and initiatives are complex, encompassing various scales and issue areas. As such, considerable overlap with other programs and arrangements can be observed. In general, five main types of overlap were cited (VanderZwaag, a):

- a. Regional seas programs and regional fisheries bodies – about 30 are active;
- b. Regional seas programs and large marine ecosystems (LMEs)– 64 LMEs have been identified by the National Oceanic and Atmospheric Administration (NOAA), USA; the World Conservation Union (IUCN); and other organizations as possible

³ "Overview of Regional Cooperation in Coastal and Ocean Governance," presented by David VanderZwaag, identifies three main variations in the 14 regional seas programs established upon legally binding agreements — the first 11 regions mentioned follow a framework convention and subsequent protocol approach, the Baltic and Northeast Atlantic are basic conventions with annexes addressing specific pollution and conservation concerns and the Antarctic region follows an "incremental treaty system" (developing a series of agreements negotiated over time).

⁴ The Nippon Foundation Research Task Force co-funded the publication of the Tropical Coasts issue From Ripples to Waves (Vol. 13, No.1), which featured the dynamics of regime-building and various case studies on regional ocean governance.

ecosystem-based management units;

- c. Regional fisheries bodies
 overlapping within regions e.g.,
 In the Northwest Atlantic, three
 separate regional fisheries
 management bodies have been
 established for specific fish stocks;
- d. Regional wildlife and nature conservation agreements/ initiatives overlapping with regional seas programs and other regional arrangements – e.g., key regional agreements on nature conservation in Africa, ASEAN, Europe, the South Pacific and the Western Hemisphere; and
- e. Trade-related and economic cooperation agreements overlapping with other regional arrangements – e.g., APEC has various working groups on ocean governance: marine resources conservation and fisheries; and hosting of ocean-related ministerial meetings.
- Ratifying/accepting global conventions and regional agreements/amendments

One issue is securing ratification/ acceptance of global conventions and regional agreements by states within regions, as in the case of the 1972 London Convention and its 1996 Protocol on Control of Ocean Dumping, which only four East Asian state parties (PR China, Japan, Philippines, RO Korea) have ratified. Another case is the Mediterranean Taking into consideration the distinctive characteristics, uses and concerns of different regional sea areas, regional integration is seen as a good option to address the needs of each region and offers certain opportunities for management actions.

protocols on transboundary hazardous waste movements and seabed activities, which have yet to enter into force (VanderZwaag, a). The ratification and implementation of the MARPOL Convention (73/78) and its additional annexes on the prevention of pollution from ships in the Straits of Malacca and Singapore provides another example. As one of the busiest transit passages in the world, the Straits of Malacca and Singapore is one area where adherence to MARPOL is crucial. However, of the three littoral states, only Singapore is party to all the additional annexes. Malaysia is party only to Annex V (garbage from ships) and Indonesia is not a party to any of the additional annexes (Beckman).

<u>Getting other actors to share</u>
 <u>responsibility</u>

The case of the Straits of Malacca and Singapore also emphasizes that apart from the three littoral states, user states, the private sector and other stakeholders who benefit from the Straits also need to cooperate to enhance navigational safety and environmental protection. Moreover, it was acknowledged that some countries face difficulty in ratifying or implementing conventions and other instruments due to lack of capacity/resources. In this regard, capacity building and technical assistance from agencies, such as the International Maritime Organization (IMO) and other user states and stakeholders, is encouraged (Beckman; Hamzah).

• Ensuring consistency between national actions and international instruments

It was noted that to maintain peaceful use of the oceans, it is important to ensure consistency between state action and international law principles. There are recent cases where state action challenged consensus forged in international instruments. For instance, Australia's recent proposal to extend the Great Barrier Reef Particularly Sensitive Sea Area (PSSA) to the Torres Strait has attracted IMO's attention because of the compulsory pilotage measure. This proposal imposes criminal sanctions on ships that would infringe the pilotage requirement when they come into Australian ports. Singapore viewed this proposal as a curtailment of the right of transit passage through straits used for international navigation and protested the proposal to the IMO. Another case is the European Union's Directive on Criminal Sanctions for Shipsource Pollution. which seeks to impose criminal liability not only on operational but also accidental pollution by ships in situations of "serious negligence." This is said to be inconsistent with MARPOL 73/ 78, as the Directive is wide enough to impose liability even in situations of genuine accidents. INTERTANKO (International Association of Independent Tanker Owners) challenged the Directive and the case is due to be heard in the European Court of Justice (Tan).

• <u>Resolving whether a legally</u> binding agreement/(s) should be pursued in regional sea areas presently not subject to such agreements

Legally binding instruments are considered crucial in regional cooperation as they establish greater political and bureaucratic commitments, establish firmer institutional and financial foundations, and give "legal teeth" to environmental principles and standards. However, as previously cited, four regions have continuously relied on a nonbinding approach in regional ocean management.

The East Asian Seas region remains one of the few areas in the world without a regional convention. The idea for a regional convention has been brought up in several cases,

primarily by the United Nations Environment Programme (UNEP) East Asian Seas Regional Coordinating Unit (EAS/RCU). However, the countries remain unconvinced that the legally binding approach is the best option for the region, given the wide diversity of countries particularly in terms of sociopolitical and economic capacity aspects. The region, however, has opted to take nonbinding options that would allow the countries more flexibility (Tan; Bernad, b.).

The social, economic, and environmental character of the Arctic region also presents unique challenges and opportunities for regime building and regional cooperation. While progress has been made on national and regional coastal and marine planning and management,



particularly as a consequence of the work done by the Arctic Council, these efforts are, in general, fragmented. Linking various initiatives of the Council to regional approaches, such as the identification of LMEs in the Arctic. can help to build a strong Arctic regime. Regional approaches to governing coastal and ocean areas in the Arctic must be encouraged. Emerging management regimes must be adaptive and flexible, in parallel with the pace of change in the region, and knowledge bases for decisionmaking must be broadened and integrated. Finally. the current definition of northern security must be broadened to include environment, food, sustainability and collective security issues (Hanson, Kennedy and Mathias).

 Addressing territorial and maritime boundary disputes that complicate regional cooperation

While states have started to open up and turn to collaborative activities, it should be emphasized that controversies related to maritime boundaries continue in some parts of the world. It is estimated that over 250 maritime boundaries remain unresolved, including for example, the well-known Spratly Island and Paracel Island tensions in the South China Sea and the Aves Island dispute in the Eastern Caribbean.

Another common controversy is the extraction of resources from

While the approaches, developments and achievements in coastal and ocean management/governance vary across regions, the ultimate goals behind the establishment of regional mechanisms have been the same — to protect and ensure sustainable and environmentally sound development through comprehensive and integrated management involving stakeholders.

the sea. One case cited is the issue between China and Japan over gas and oil extraction in the East China Sea. To address this issue, some experts proposed the joint development approach between the concerned states and the private sector to avoid further dispute and even increase production, which would result in benefits to both countries (Gao and Fu).

 Addressing the socioeconomic, political and ethical dimensions fuelling marine environmental degradations and unsustainable development practices

Poverty and the inequitable distribution of wealth, population growth, consumerism and overconsumerism, utilitarianism (the environment can be traded off in the name of economic and social development) and globalization (extra pressures on marine resources and coastal areas to support international trade) are some of the major problems linked to ocean governance, which need to be considered, particularly with regard to integrating ocean concerns into economic development plans and strategies.

In 2002, the Arafura and Timor Seas Expert Forum was created to foster collaboration between its littoral states towards the achievement of sustainable use of living resources in the respective sea areas. One focal effort of the Forum is to assist in developing sustainable/alternative livelihoods for coastal, traditional and indigenous communities. In line with this, to protect the major sources of sustenance and livelihood, the Forum also focuses its activities on the following areas: preventing, deterring and eliminating illegal, unregulated and unreported (IUU) fishing; sustaining fish stocks and coastal biodiversity; and improving

capacities in information management and sharing between the littoral nations of the Arafura and Timor Seas (Wagey).

 <u>Strengthening regional</u> <u>environmental standards to better</u> <u>protect ecosystems and human</u> <u>health</u>

Most regional seas program standards represent political compromises, such as effluent/ emission controls through licensing or regulation, rather than pollution elimination/ prevention. Setting standards for sewage treatment and industrial wastewater effluents and funding sanitation infrastructure continue to be major shortcomings. Few regions have yet to set timebound targets for pollutant discharges into coastal and marine waters (VanderZwaag, a).

Developments and Innovations

• Environmental improvement

The Helsinki Commission (HELCOM) has undertaken various activities to protect the marine environment of the Baltic Sea from all sources of pollution and to restore and safeguard its ecological balance. The efforts have yielded several significant successes, including: lower discharges of organic pollutants and nutrients from point sources; a 20–25 percent overall reduction in the emissions of oxygen–

consuming substances (biochemical oxygen demand) from the 132 originally identified hotspots since the early 1990s; deletion of about 50 identified hotspots from the list; stricter controls on industry (permits are now compulsory for industrial emissions); improved joint monitoring; and a major international plan to combat marine pollution with active cooperation involving all contracting parties through HELCOM. To sustain these efforts. HELCOM works with various networks, e.g., research institutions, local governments, universities and industrial sectors (Melvasalo).

 Establishing frameworks and mechanisms for sustainable ocean management

The Global Environment Facility (GEF) Programme in the Benguela Current Large Marine Ecosystem (BCLME) began in 2002 with the approval and signing of the BCLME Strategic Action Programme by Angola, Namibia and South Africa. To sustain the efforts made. BCLME institutional structures will have to be established for longterm cooperation. One step towards this goal is the recent signing of the Interim Agreement, which establishes the Benguela Current Commission (BCC). Under this agreement, the Interim BCC will operate primarily as an advisory body to the governments and will have a secretariat, an

ecosystem advisory committee and various working groups to undertake technical and scientific assessments. Once operational, the BCC will require five years for institutional strengthening before it transforms into a permanent BCC (O'Toole).

The European Union (EU) is currently undertaking consultations on the Green Paper towards a future EU Maritime Policy. The EU Maritime Policy is aimed at developing a thriving maritime economy and promoting activities in an environmentally sustainable manner. The Policy also adheres to a broader understanding of the ecosystem approach. In this approach, individual actors will become accountable. The approach also requires that more components of the marine ecosystem are taken into consideration in management and are protected from human activities. Any suite of management measures must be carefully coordinated and checked for compatibility before implementation. Tools to ensure that management is coordinated include a Strategic Environmental Assessment, integrated coastal zone management (ICZM) and systems of spatial planning. The EU has also developed its ICZM policy. The EU believes that strong support from the member countries is crucial to ensuring the success of the policy (Richardson: and Siemers).

• <u>Innovating regional cooperation</u> <u>through partnerships</u>

The partnership approach or establishment of a collaborative network in the East Asian Seas region is a new paradigm in resource management. The GEF/ UNDP/IMO Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is one of the most recent efforts to develop and sustain regional institutions for improved ocean and coastal governance in East Asia, PEMSEA has sought to address many of the problems associated with regional governance by building collaborative networks or partnerships between nations of the region, between sub-regional groupings of nations focusing on specific issues, such as oil spills, and between agencies within countries (Lowry and Chua). Using the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) as a framework. a regional sea mechanism built on the principles of partnership is currently being established.⁵ Governments and stakeholders from international, regional, country and local levels are involved, thereby creating the climate for more effective, vision-

Box 1: Limitations of Regional Arrangements.

It was recognized that while regional cooperation has much to offer in addressing issues on coastal and marine governance, many marine environmental threats cannot be addressed at the regional level alone, particularly with regard to threats posed by external factors (i.e., climate change, long-range transport of chemicals, etc.). Cooperation and linkage of regional efforts to international actions must therefore be encouraged. Regions can also seek to influence extra-regional governance regimes by advocating, for example, negotiations of a global convention to address problems such as heavy metals, and

focused regional cooperation (Bernad, a).

Ocean Governance at the National Level

In Cross National Study of Development of National Ocean Policies around the World, conducted by the Global Forum on Oceans, Coasts and Islands and the Nippon Foundation Research Task Force⁶, it

⁵ The regional mechanism for the implementation of the SDS-SEA will be composed of the EAS Partnership Council (includes both intergovernmental parties and other stakeholders in the region), the PEMSEA Resource Facility, Partnership Fund, EAS Congress and the Ministerial Forum.

⁶ The study covered 16 nations and 3 regions.

⁷ There are three stages of development of national and regional ocean policies, as identified by Dr. Biliana Cicin-Sain in her introductory presentation during the Seminar on National Ocean Policies: a) preparatory stage—informal processes are ongoing to prepare the nation in the formal development of a cross-cutting and integrated national/regional ocean policy; b) formulation stage—a well-defined formal process is underway to develop a cross-cutting and integrated national/regional ocean policy; and c) implementation stage—cross-cutting and integrated national/regional ocean policy; and simplemented with funding.

urge other regions to take actions to curb pollution causing longrange deposition. Regions can also perform a stronger role internationally by giving a "regional face and voice" in global forums addressing global threats for ocean resources and coastal populations.

Moreover, regional arrangements are faced with critical issues, such as disparities in capacities and funding support among countries, duplication of efforts by donors, international agencies and organizations within a region, and lack of information and knowledgesharing among countries, regions, donors and international agencies.

was shown that a "growing number of countries are moving towards more integrated cross-cutting national/ regional ocean policies." However, most of these efforts are still in the preparatory and formulation stages, while very few are in the implementation stage.⁷

In line with the principles and goals provided in various oceanrelated instruments, these regional and national ocean policies generally have the following objectives: to achieve multiple purposes particularly to foster sustainable development of ocean areas and protect biodiversity and vulnerable resources and ecosystems; to develop a vision for the governance of their 200-mile Exclusive Economic Zones (EEZs); and to harmonize existing uses and laws, address conflicts and coordinate the actions of the many government agencies involved in ocean affairs (Cicin–Sain).

 <u>National initiatives and</u> <u>developments</u>

The enactment of Canada's Oceans Act in 1996 has advanced integration of coastal and ocean planning in the country, particularly the development and implementation of integrated management plans for all of Canada's marine waters and national system of marine protected areas (MPAs). The Oceans Act has also spurred the Department of Fisheries and Oceans to move beyond a narrow fisheries management focus. With the Oceans Act. Canada has been labeled as the "leader" in national oceans policy. However, its experience shows that realizing the objectives set in the Oceans Act entails a great deal of time, funding, continuous awareness building and commitment. One good strategy that can be gathered from the country's experience is to take the incremental approach in developing management plans, as it is difficult to develop in all areas at once. In applying this approach, focus was first given to areas where the intensity of ocean uses is greatest and stakeholder capacities/interests exist, before proceeding to develop management plans in other areas. While the country has a number of

successes in integrated ocean management, Canada's quest for ensuring sustainability continues (VanderZwaag, b).

The Republic of Korea enacted the Coastal Management Act in 1998 as a legal mechanism for implementing integrated coastal management (ICM) policy and strategies. [Editor's Note: The ICM Approach is further explained in the succeeding paragraphs.] The Ministry of Maritime Affairs and Fisheries (MOMAF), which was created to harmonize marinerelated government functions and activities in the country, also became the authority in implementing the Coastal Act. As a consequence of these initiatives, RO Korea has been able to establish a marine corps in the Korean Peninsula and shift control to a mechanism of joint implementation by all stakeholders (Nam).

Beginning 1982, there has been rapid development in national marine legislation in China. Two major legislation efforts were the Coastal Zone Management Act and the Sea Area Use Management Law. The latter in particular is being heralded as a first of its kind in Asia if not in the world. The Sea Area Use Management Law provides a framework for three key regimes: sea area use rights management system; functional zoning scheme; and user pay scheme (Gao and Fu).

Japan has developed an Integrated Ocean Law, a product of years of discussion. Although the law is yet to be set in place, a national ocean council has been established and a minister responsible for the ocean work has been assigned (Akiyama).

The Philippine government recently adopted, through Executive Order No. 533, ICM as a national strategy to ensure the sustainable development of the country's coastal and marine resources. This development was a result of the recognition of the benefits gained from the experiences in the Batangas ICM demonstration site and other coastal and marinerelated activities involving interagency and multisectoral cooperation. The Presidential issuance calls for the formulation of a national ICM program, with the Department of Environment and Natural Resources (DENR) as focal agency in coordination with other related agencies and sectors (Jara).

In Indonesia, a draft Presidential Instruction has been prepared and is expected to be signed this year. This will be followed by the development of government regulations to support the Presidential Instruction on Indonesian Ocean Policy 2010– 2025. The said ocean policy is scheduled to be launched in 2009 at the World Ocean Summit (Muhammed).

In general, the move towards the development of integrated oceans

policy is primarily a response to the continuing degradation of marine resources and multipleuse conflicts. Through an oceans policy, countries and regions hope to establish a shared vision for sustainable development, harmonize sectoral policies, protect ecosystems and vulnerable areas, promote social advancement and ensure maritime security. To achieve these objectives, it is also recognized that there must be coordinated effort.

Multistakeholder involvement and support from actors from within and outside the government, and funding and other supporting elements, such as research, science and education support, are crucial to successful integrated oceans management. Once the policy is established and activities are in place, regular monitoring, evaluation and adjustment should be considered to ensure that all actions undertaken are consistent with the targets and objectives set.

Essential Elements of Effective Ocean Governance

In analyzing issues, trends, approaches and mechanisms of ocean governance, a number of key interrelated elements are found to be constant. These elements are considered essentials and serve as major driving forces in effective ocean governance. In general, the move towards the development of integrated oceans policy is primarily a response to the continuing degradation of marine resources and multiple-use conflicts. Through an oceans policy, countries and regions hope to establish a shared vision for sustainable development, harmonize sectoral policies, protect ecosystems and vulnerable areas, promote social advancement and ensure maritime security.

Vision

A vision embodies the aspiration of a group, organization, community, country and region. It provides a guiding picture of desired conditions beginning with a shared image of the desired end state and serves not only as a goal but also as a challenge to all who share the vision. The oceanrelated instruments from UNCLOS, down to issue-specific conventions, regional and national ocean policies and arrangements, have all identified a vision for the oceans. In principle, creating a shared vision for ocean use is a key first step in designing collective actions and committing resources to achieve those outcomes. In practice, creating a shared vision usually requires extensive communication and consultation, mutual education, negotiation and relationship building (Lowry and Chua). Thus far, initiatives in various

areas have shown the growing awareness of the need for a shared vision for sustainable ocean governance (Simard).

Awareness and Education

Awareness refers to knowledge on coastal and marine resources, conditions of the ocean environment, its uses, the institutions or means to address adverse impacts on the environment, effective strategies for improving resource conditions, etc. Building awareness entails the development of consensus on what is known and unknown and the formulation of strategies for filling knowledge gaps and reducing technical uncertainties. Disseminating knowledge and ensuring that they are understood is an important part of awareness building. To do this, communication processes, which

include advocacy, social mobilization and program communication, are necessary. Awareness targets human capacity and understanding, in order to establish a clear vision and purpose, political will, and commitment to establish and sustain effective ocean governance (Lowry and Chua).

It can be said that awareness is closelv intertwined to knowledge/ education. Education in ocean governance⁸, in general, aims to raise awareness, capacity to implement, encourage leadership, build appreciation of the importance of effective ocean governance, and promote the idea of "sufficient consensus" (Reichelt). Environmental education should form part of the value system through which ocean ethic can be developed and nurtured (De Silva). It is important to note, however, that awareness and education cannot be readily enforced by the mere passing of laws but have to be ensured by concerted effort of all stakeholders.

Leadership

Meaningful engagement and the importance of nurturing future leaders are essential in successful ocean governance. It should be underscored that leadership refers not only to rank/position but more on actions. The experiences in Australia, particularly in Victoria's marine protected area campaign, Gippsland Lakes Study and the Great Barrier Reef Marine Park Authority. provide some useful factors on effective leadership. From their experiences, several preconditions for effective leadership in coastal and ocean governance were identified, including: conviction and determination to bring about change; willingness to be a champion; access to resourceful networks; willingness to take risks; efficient team work; innovation and creativity; and action- and outcomeoriented strategies (James).

The role of leaders/champions is critical to success in sustainable coastal and ocean management. There is a need to keep identifying, equipping and empowering persistent, passionate and committed leaders not only from government, but from civil society, business and the community as well.

Legislation

Legislation is crucial in effecting cooperation and action, whether at the international or national level. However, legislation also needs to be updated in response to changing circumstances and emerging issues (Acevedo). One issue in ocean governance, particularly at the

In a Survey of the Extent of Education in Ocean Governance commissioned by the Nippon Foundation, it was found that 71 percent of institutions included in the survey (mostly in the United States, Australia, Canada, France and Sweden) are engaged in education or training in ocean governance.

national level, is that many national legal frameworks are outdated and antiquated. This problem is mainly due to political changes and interagency tensions. In PR China, it was observed that local maritime legislation is often ahead of the national legal framework (Gao and Fu).

Interagency Collaboration

Governments and institutions tend to be organized along rigid sectoral lines. The same is true even at the international level. Experiences have shown that harmonization of actions related to oceans is necessary for ocean governance to be effective. Thus, collaboration between and among ocean-related agencies must be encouraged. Top-level leadership plays an important role in developing mechanisms that would impel interagency collaboration.

Regionalization is one approach that promotes interagency collaboration. The PEMSEA model, which promotes ICM and networking of local governments, has generated support at the local level and promoted interagency and multistakeholder cooperation. The application of ecosystem-based management also needs collaboration across sectors, which can be stimulated through the LME model and MPAs (Kullenberg).

Advocacy and Commitment

In all these elements, longterm commitment is essential among leaders, officials, advocates and community members. In the Philippines, a group of volunteer lawyers, teachers, law enforcement operatives, fisherfolks and ordinary citizens have come together to conserve, protect and restore the Visayan Sea. The Visayan Sea Squadron's inspiring story of ocean advocacy is built on the principles of education, engineering and enforcement. Its activities include the establishment of the School of the Seas, the Sea Camp, etc. Their commitment has helped overcome various hurdles, e.g., enforcement of environmental law to combat illegal fishing and destructive practices, through legal actions such as petitions and lawsuits (Oposa).

In Japan, scientists acting on advocacy have unmasked deception on some developers trying to hide information and manipulating data, which could result to negative effects on people and the environment (Yamashita).

It should also be emphasized that children and the youth are the best motivation for, as well as one of the key actors in securing longterm commitments. Therefore, they must be given more meaningful and concrete roles in partnerships for the environmental management of our seas.



Engaging the Youth: A Key to Societal Change.

The East Asian Seas Region and the Implementation of the SDS-SEA

As in other regional sea areas, the East Asian Seas region is faced with complex issues and challenges on coastal and ocean governance. The discussions, lessons and some recommendations put forward during the workshops/seminars may provide some useful points for the advancement of sound ocean governance in East Asia.

First, countries in the region should be encouraged to ratify and/ or implement various ocean-related instruments, especially those that would bring about regional benefits. The principles of sustainable development, comprehensive security and integrated ocean governance, ecosystem-based principles, etc., should be operationalized at the regional and national levels. In implementing international conventions, other stakeholders, aside from states benefiting from the ocean environment, must also play a crucial role.

At the regional level, while a number of regional sea areas have

forged legally binding agreements, this does not necessarily translate to compliance and improvement in the ocean environment. Agreements between and among countries must take into consideration the needs, capacities and readiness of parties before entering into such instruments. The East Asian Seas region is one of the few areas that continue to rely on nonbinding instruments, however, different collaborative arrangements and efforts have been undertaken within the region and, to some extent, have achieved significant successes. The initiatives of multiple arrangements within the region, however, should be harmonized to avoid redundancy in efforts. Some proposals put forward were: 1) to first develop sub-regional conventions that could later develop into a greater whole; and 2) the merging of various institutional programs on ocean management into a unitary institutional regime (Tan).

New developments and approaches within the region also serve as useful lessons from which other cooperative arrangements may learn. The PEMSEA case, which advocates partnership building, provides another option for cooperation. Through this concept, stakeholders from local to the international level are given the opportunity to be part of the management/governance process. This approach, coupled with the application of ICM principles and strategies, has proven successful in engaging various stakeholders in coastal governance and should be replicated in other areas.

These regional efforts, to be meaningful, must be complemented by actions at the national level, particularly in decisionmaking processes. Policies on integrated coastal and oceans management are essential in advancing better ocean governance. However, it was only very recently that countries in East Asia started to embark on the development of national coastal/ocean policies. Lessons from other countries, particularly the incremental approach used by Canada, may be considered by the countries in the region.



Participants of Securing the Oceans during the EAS Congress 2006.

The devolution of authority to local levels is also seen as progress in ocean governance in various areas. While some countries still prefer the top-down approach, it is said that combination of both bottom-up and top-down approaches may help further strengthen involvement and interaction on ocean affairs within countries.

The application of all essential elements in ocean governance may vary in various countries and regions. In East Asia, a common vision was identified through the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). As the SDS-SEA complements international instruments and other regional instruments, it can serve as a common framework for regional ocean governance in East Asia. For example, the implementation of the SDS-SEA will also make possible the comprehensive security of the oceans in the region, as advocated in the Tokyo Declaration. One important feature of this strategy is its flexibility to allow different programs or mechanisms to come together and contribute as partners and work towards a common goal. Using the SDS-SEA as regional framework opens up opportunities for linkages/networks and integration of various initiatives. As such, the implementation of the SDS-SEA is seen as integral in securing the region's coastal and ocean resource and environment (Yankov).

ICM: A New Paradigm in Coastal and Ocean Governance

One approach that has been recognized internationally in managing complex coastal issues and facilitating sustainable goals is integrated coastal management (ICM). ICM was introduced in East Asia more than two decades ago. The region's experience in ICM has generated useful lessons relevant to the prevailing types and ranges of socioeconomic, environmental and political settings. Within the context of SDS-SEA, it is timely to consider replicating and scaling up existing ICM initiatives and increasing ICM practices so that sustainable development of the coastal and marine areas can be attained with better efficiency.

Some ICM lessons learned in East Asia include:

- ICM provides a blueprint for sustainable coastal development, as demonstrated in many ICM sites and initiatives, by providing a management framework together with processes and tools. In particular, management tools such as the Integrated Information Management System for Coastal and Marine Environment (IIMS), Integrated Environmental Monitoring Program (IEMP), risk assessment/risk management (RA/RM) and land-sea use zoning are useful for addressing critical local issues related to resources utilization and ecosystem protection.
- ICM works better at the local level. Local governments with delegated responsibilities for resource management often suffer from lack of appropriate management and technical capacities and financial resources. ICM strengthens local coastal governance by providing an effective framework of local capacity development and identifying sustainable financing options. National policy support is important from the beginning, but should specify the implementation procedure at the local level and facilitate coordination.
- Successful ICM implementation is highly dependent on the following key ingredients: the presence of jurisdictional "champions" and dedicated lead organizations; availability of adequate scientific information as well as participatory

and integrated planning; appropriate legal and institutional arrangements for multisectoral and interagency coordination; effective compliance monitoring and enforcement; networking and consolidating of local initiatives; incorporation into government programs; and multistakeholder partnerships and awareness building, including NGOs and the private sector. (See Box 2 for Localized Ingredients for Successful ICM Implementation.)

Box 2: Localized Ingredients fpr Successful ICM Implementation.

Essential ingredients that contribute to ICM success vary across the region depending on local needs and conditions.

Key Elements for ICM in Indonesia (with decentralized government system):

- a "champion" in each jurisdiction to drive the program;
- identification of a lead organization;
- information critical to planning;
- inclusive and professional planning to support politicians;
- laws and regulations as legal basis for spending public money; and
- license and compliance monitoring.

Key Elements for ICM in Cambodia (with a more centralized government system):

- clarification of policies and legal instruments;
- institutional framework that is flexible and responsive to changes;
- proper analysis and evaluation of information;
- integration of freshwater watersheds with coastal planning;
- participatory approach; and
- zoning.

 Despite various efforts and initiatives made in past decades, current efforts on ICM need to be further expanded and scaled up to meet the sustainable development goals of the region. ICM scaling up requires concerted efforts of local and national governments and stakeholders as well as international donors and partners, in areas such as local capacity development, formulation of national policies and coordinating mechanisms, and establishment of a systematic mechanism for monitoring ICM progress.

Replication of successful models is the next logical step in scaling up ICM throughout the region (Figure 1). Challenges to scaling up include: a) capacity development for local coastal governance; b) national policy and coordination; and c) monitoring of progress. Strategies for scaling up (Figure 2) are considered in the following recommendations:

 Standardization/codification of ICM development and implementation processes to allow efficient and effective application and expansion of ICM at local levels.

- Linkage of existing ICM demonstration/pilot sites as learning networks and training grounds to facilitate human resource development in integrated planning and management.
- Establishment of a national policy on ocean and coastal management, together with the relevant guidelines, manuals and action plans for implementation.
- Development of an interagency and multisectoral coordinating mechanism for the implementation of national ICM policy and linkage to existing local ICM initiatives.
- Continual improvement/upgrading of institutional, managerial, technical and financial capacities for ICM implementation, at both national and local levels.
- Further strengthening of efforts in applying ICM performance indicators for local, national and regionwide monitoring and evaluation.



A Challenging Future

Indeed, over the years the linkage between the coastal and ocean environment/resources and comprehensive human security and development has become more apparent. This new and more holistic understanding of ocean governance provides intellectual space and opportunities, not only for governments, but also for other stakeholders to partake in ocean affairs management. Ocean governance now implies that oceanrelated matters are closely linked to social, political and economic systems at the national, regional and global levels.

The objective of Securing the Oceans may be ambitious, but it is an achievable agenda with a concerted effort, political will/commitment, time and resources. The achievement will The application of all essential elements in ocean governance may vary in various countries and regions. In East Asia, a common vision was identified through the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). As the SDS-SEA complements international instruments and other regional instruments, it can serve as a common framework for regional ocean governance in East Asia.

also depend on clear objectives and principles, supporting institutions and mechanisms, sufficient human capacity in the natural and social sciences, stable and adequate funding, broad representation of stakeholders, and evaluation mechanisms for measuring success of regional cooperative efforts. Ultimately, it should be emphasized that the success of securing the oceans lies in cooperation and good governance.

Figure 2. Strategies for ICM Scaling up.



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Presentations

- Acevedo, G.R. "Protection of Marine Environments in China and the Bolivarian Republic of Venezuela: A Diagnostic and Comparative Study of Legal System." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.
- Akimoto, K. "The Content, Consultation Process and Follow-up Activities of the Tokyo Ocean Declaration on Securing the Oceans." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Akiyama, M. "Development of National Ocean Law in Japan." Seminar on the Development of National Ocean Policies in East Asia and around the World.
- Beckman, R. "Enhancing Cooperation to Protect the Marine Environment in the Straits of Malacca and Singapore from Ship-Source Pollution." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Bernad, S. R. (a). "Implementation of the Tokyo Ocean Declaration in the East Asian Seas." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Bernad, S. R. (b). "Regime-building in the East Asian Seas." Workshop on Regime-building in Coastal and Ocean Governance.
- Brown, N. "Role of the Coastal City in Marine Environment Protection and Sustainable Oceans Governance." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Bussarawit, S. "Bridging the Gap: New Approaches for a Better Public Understanding of Marine Sciences." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.
- Chong, S.-M. "Interplay of Human and Natural Environment in Korean Fishing Communities." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.
- Cicin-Sain, B. "Introduction to Panel on National Ocean Policies." Seminar on the

Development of National Ocean Policies in East Asia and around the World.

- Claudio, C. "Building Sustainable Communities in Two Different Worlds." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.
- Cruz, R, C. I. Narcise, B. Gervacio, and E. Estigoy. "Mainstreaming Science into Coastal Governance." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- De Silva, J. "Measures to Strengthen and Propagate the 'Securing the Oceans' Concept." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Dieul, N., P. T. Chin, and N. Bermas-Atrigenio. "Community Implementation of Danang Coastal Strategy." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Factuar, D., D. Bonga, E. Estigoy, L. Rithirak, and L. Zhou. "Developing Capacity through the Process of ICM Development and Implementation." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Fukasawa, Y. "Japan's New National Land Sustainability Plan with Focus on Sea and Coastal Area Management." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Fu, Y. "Joint Development in the East China Sea: A Practical and Positive Arrangement to Maintain Peace." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Gao, Z. and Y. Fu. "Maritime Legislation in China: A Focus on the Sea Area Use Management Law" Workshop on Advocacy, Leadership, Legislation and Interagency Collaboration in Coastal and Ocean Governance.
- Garcia, E., M. Erni, A. Baluyot, and M. C. Ebarvia-Bautista. "Addressing Illegal Fishing and Multiple Use Conflicts through the Partnership with Local Stakeholders in Bataan, Philippines." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Habito, P. "Waves of Change: Learning Communities in Sustainable Development of

the Southeast Asian Seas." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.

- Hamzah, BA. "Geopolitics and Regional Cooperation in the Straits of Malacca and Singapore" Workshop on Regime-building in Coastal and Ocean Governance.
- Hanson, A., J. Kennedy, and J. Mathias. "Arctic Regionalism." Workshop on Regimebuilding in Coastal and Ocean Governance.
- Henocque, Y. "Empowering NGOs and Civil Society Groups as a Third Sector to Coastal Governance: CHARM's Experience." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Hong, S.-B., S.-S. Jang, S.-H. Kahng, and Y.-R. Choi. "Measuring Outcomes of Lake Shihwa Environmental Management Program Activities." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Huasheng, H. and L. Zhou. "Implementation of Coastal Zoning Scheme and Permit System in Xiamen, China: Outcomes, Challenges and Lessons Learned." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- James, D. "Leadership is Action." Workshop on Advocacy, Leadership, Legislation and Interagency Collaboration in Coastal and Ocean Governance.
- Jara, R. "Development of Ocean Policy in the Philippines." Seminar on the Development of National Ocean Policies in East Asia and around the World.
- Jara, R., M. C. Ebarvia-Bautista, E. Estigoy, and R. Geron. "ICM Policy Scaling Up in the Philippines: From Local Government Legislation to National Strategy." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Kullenberg, G. "Global Vision: Interagency Collaboration." Workshop on Advocacy, Leadership, Legislation and Interagency Collaboration in Coastal and Ocean Governance.
- Kuribayashi, T. "Securing the Oceans: A Proposal for Integrating Security of the

Oceans." Thematic Keynote Speech. Thematic Workshop on Securing the Oceans.

- Lowry, K. and T.-E. Chua. "Building Vision, Awareness and Commitment in Regional Ocean Governance." Workshop on Regimebuilding in Coastal and Ocean Governance.
- Lyngby, J. E., G. Jeppesen, and M. Vann. "Integrated Coastal Zone Management and Planning Principles in Cambodia." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Ma'arif, S., I. Idris and D. Watson. "The Replication and Scaling Up of ICM Practices: Indonesia's Experience." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Magallona, M. "Reorienting State Sovereignty: Towards a New Regime of Securing the Oceans under the Tokyo Declaration." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Melvasalo, T. "The Baltic Sea Region." Workshop on Regime-building in Coastal and Ocean Governance.
- Muhammed, A. "Development of Indonesian Ocean Policy." Seminar on the Development of National Ocean Policies in East Asia and around the World.
- Nakajimal, H., S. Kubo, Y. Toda, Y. Sato and K. Furukawa. "Establishing an Environmental Data Platform for Promoting Coastal Zone Environmental Management." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Nam, J. "Development of Integrated Coastal Management Act in RO Korea." Seminar on the Development of National Ocean Policies in East Asia and around the World.
- Nam, J. and D. Kang. "Strengthening ICM Implementation through National Strategy for the Marine Environmental Protection in RO Korea." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Neabnian, T. and J. Pimoljinda. "CHARM's Double-Track Approach for the Bay-wide Coastal Strategy: The Andaman Triangle Case." Workshop on ICM Experiences, Lessons Learned and Scaling Up.

- Oposa, A. "The Visayan Sea Saga." Workshop on Advocacy, Leadership, Legislation and Interagency Collaboration in Coastal and Ocean Governance.
- O'Toole, M. "Implementation of an Ecosystem Approach to Ocean Governance — The Benguela Current Large Marine Ecosystem as a Case Study." Workshop on Regimebuilding in Coastal and Ocean Governance.
- Pak, K. S., Ri S.-I., and Ri K.-H. "On the Implementation of Nampho Coastal Strategy." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Reichelt, R. "Education in Coastal and Ocean Governance." Workshop on Regimebuilding in Coastal and Ocean Governance.
- Richardson, J. "What Maritime Policy for the European Union?" Seminar on the Development of National Ocean Policies in East Asia and around the World.
- Satumanatpan, S. and Y. Henocque. "Developing Self-Assessment Questions for Tracking Progress in Coastal Management: A Journey across CM and Co-management Project Cycle." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Siemers, H. "Regime-building in Coastal and Ocean Governance: Considerations for an EU Maritime Policy." Workshop on Regimebuilding in Coastal and Ocean Governance.
- Simard, F. "Securing the Oceans: From Good Governance to Ecosystem Approach." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Sudiartal, K., W. Sudji, Zulhasni, and A. S. Mapparessa. "Reducing Multiple Use Conflicts through Coastal Zoning Implementation in Southeastern Coast of Bali, Indonesia." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Tan, A. "Re-assessing Prospects for a Regional Convention on Coastal and Ocean Governance in Asia." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.
- Terashima, H. "Tokyo Declaration on Securing the Oceans- Proposals for a New Oceans Security." Workshop on the Tokyo Ocean Declaration: Upholding the Advocacy.

- Thimkrajang, C., S. Tunkijjanukij, N. Wiwekwin and C. I. Narcise. "Mobilizing Stakeholders and Building Long-term Stewardship for the Chonburi ICM Program in Thailand." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- Tandavanitj, S. and D. Silpachai. "Government Decentralization Versus Administrative 'Deconcentration': A Challenge in Coastal Management Initiatives in Thailand." Workshop on ICM Experiences, Lessons Learned and Scaling Up.
- VanderZwaag, D. (a). "Overview on Regional Cooperation in Ocean Governance." Workshop on Regime-building in Coastal and Ocean Governance.
- VanderZwaag, D. (b). "Canada's Experience in National Coastal/Ocean Governance and Policy." Seminar on the Development of National Ocean Policies in East Asia and around the World.
- Wagey, T. "Arafura and Timor Seas Expert Forum (ATSEF) Regional Secretariat." Workshop on Regime-building in Coastal and Ocean Governance.
- Yamashita, H. "Making the Invisible Visible: The Educational Implications." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.
- Yankov, A. "The Importance of Implementation for the Sustainable Development Strategy for the East Asian Seas." Workshop on Regime-building in Coastal and Ocean Governance.
- Zamani, N. "Initial Study for Sustainable Development Strategies of Integrated River Basin and Coastal Management (Ecosystem-based Management) of Jakarta Bay: Case Study Ciliwung River." Special Seminar on Coastal and Ocean Governance: Enabling and Strengthening the Institutions for Sustainable Coastal and Ocean Governance.

References

Tokyo Ocean Declaration on Securing the Oceans — Proposals for a New Ocean Security, 2004.





Safer Shipping and Cleaner Oceans

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Being Safe Is Being Smart



The Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) exhorts the strategy that "The East Asian countries shall PROTECT ecosystems, human health and society from risks which occur as a consequence of human activity, [and those from naturally occurring hazards]." With the International Conference of the East Asian Seas (EAS) Congress 2006 serving as the platform to address this strategy, a thematic workshop was convened, in particular, to tackle and highlight two sets of challenges: one for shipping and maritime concerns and another for risks due to natural and other manmade hazards.

The fundamental tenet of instilling the "culture of safety" governs the mechanisms in addressing these sets of challenges. Call it the basic demand for proactive solutions — the common threads that weave through their initiatives read: preparedness and response mechanisms; contingency planning; and risk assessment. These strategies are very astute strategies as they prevent or minimize incidents and adverse impacts of maritime disaster, marine pollution and natural disaster. However, their primacy rests on saving human lives because it is true that: "One life lost is just one too many."

Safer Shipping and Cleaner Oceans

The workshops under the theme on Safer Shipping and Cleaner Oceans represented a collaborative effort among the International Maritime Organization (IMO), International Petroleum Industry Environmental Conservation Association (IPIECA), Oil Spill Response and East Asia Response Ltd (OSRL/EARL) and Marine Environmental Emergency Preparedness and Response Regional Activity Centre of the Northwest Pacific Action Plan (MERRAC/NOWPAP). These workshops were:

- 1. Regulating International Maritime Shipping: IMO Conventions and Their Implementation;
- 2. Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia: and
- 3. Implementation of Effective **Regional Agreements for** Preparedness and Response to Marine Pollution in East Asia.

The various workshops discussed and built upon the maritime activities of IMO, governments and the shipping industry and focused on issues and mitigation measures of specific topics at the global level, as well as within the East Asian region (Box 1).

Implementation of IMO

Capacity building through

operation Programme;

and marine environment

Regional arrangements for

pollution response in East

Asia's high-risk areas;

Challenges in regional

government-industry co-

IMO's Integrated Technical Co-

Initiatives on maritime safety

Recycling of ships;

Conventions:

protection;

Seafarers of Asia:

•

Box 1: Topics Discussed during the Workshops.

The economic benefits derived from shipping are certainly very well recognized, but it is also important that the impacts of shipping on the environment, especially on the sea, and on human health and society are monitored, properly controlled and managed.

Importance of the Shipping Industry

Shipping has always been the most cost-effective transportation mode for the movement of goods and raw materials in bulk quantity. International maritime shipping currently underpins the global economy and is expected to develop dramatically over the next 30 years. Today, shipping is responsible for

some 90 percent of world trade (Maritime Secretariat Services Ltd, 2005). More than 45,000 merchant ships (manned by over 1.25 million seafarers) are currently registered in over 150 nations trading internationally and transporting every kind of cargo (Maritime Secretariat Services Ltd, 2005).

In East Asia, maritime trade has also significantly fueled its remarkable economic growth. Half of the world's merchant fleets sail through the Straits of Malacca and Singapore, and Sunda and Lombok. In the South China Sea, more than 41,000 ships pass through annually — more than double the number passing through the Suez Canal and nearly triple the total for the Panama Canal (Ji, 2001).

About 50 percent of the world's oil supply and 30 percent of the world's commerce pass through the Straits of Malacca and Singapore. Estimates show that no less than 90,000 ocean-going vessels of more than 100 gross tons passed through the Straits in 2004, including 23,000 oil tankers and 4,000 LPG/LNG

- Access to and transboundary movement of internationally available oil spill equipment and resources:
- Lessons learned from various regional arrangements;
- Hazardous and noxious substances (HNS) preparedness and response: options for raising awareness and tools for planning; and
- **Recent developments in** liability and compensation for oil spills.

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- operation for spill response;



carriers (Nippon Maritime Center, 2006).

Within these traditional navigational lanes are rich fishing grounds and ecologically sensitive coastal habitats, like coral reefs, seagrasses and mangroves (Figure 1). These habitats confer a tremendous and rich marine biological diversity.

The economic benefits derived from shipping are certainly very well recognized, but it is also important that the impacts of shipping on the environment, especially on the sea, and on human health and society are monitored, properly controlled and managed.

Implementation of IMO Conventions

The need to ratify international agreements and agree to universal regulatory standards

In order to operate globally, the international shipping industry must have a globally-accepted regulatory framework and international standards on maritime safety and environment protection. Without the development of international standards, the alternative would be a plethora of conflicting national regulations resulting in commercial distortion and administrative confusion. But when most countries accede to relevant maritime conventions, this can result in countries becoming more confident that ships transiting their waters and received in their ports are not causing unreasonable risk exposure. Ratification of international agreements also provides a common framework to facilitate regional cooperation.

The International Maritime Organization (IMO), a specialized regulatory body of the United Nations for the maritime sector (with a global mandate to promote safer shipping and cleaner oceans) has developed a number of global instruments. These instruments, such as the International Convention for the Safety of Life at Sea (SOLAS 1974), International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), International Convention on Oil Pollution Preparedness, Response and Cooperation or OPRC Convention 1990, the Antifouling Systems Convention (2001), the Ballast Water Management Convention (2004), the London Convention (1972), as well as different protocols, codes and resolutions regulate international shipping and prevent, control, respond to and manage ship-based pollution.

Status of ratification of international conventions in East Asia

To date, there are more than 50 IMO instruments. The East Asian

scorecard with regards to ratification is uneven (Table 1). PR China, Japan, RO Korea and Singapore are party to 30 or more instruments and are considered developed maritime nations in the region. At the other end of the spectrum is Lao PDR with no ratification. Understandably, Lao PDR is a land-locked state and is not expected to prioritize the ratification of the various maritime instruments. Across other countries, each is party to 20 or less.

Several reasons were posited to explain the non-ratification.

Robert Beckman of the National University of Singapore offered several reasons, which include:

- Not a priority for either lead agency or the politicians in the government;
- Not a priority in the region (e.g., ocean dumping);
- Ratification may require legislative approval and governments may not understand it or give it a priority;
- Lead agency may have difficulty obtaining approval from other administrative agencies; and
- Lack of technical and legal expertise.

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Vietnam	91						-				03										

Table 1. International Conventions Relating to Marine Pollution Ratified by East Asian Countries (as of 30 September 2006).

MARPOL - International Convention for the Prevention of Pollution from Ships

- London Convention Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
- Intervention International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties

CLC - International Convention on Civil Liability for Oil Pollution Damage

FUND - International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage Salvage - International Convention on Salvage

OPRC - International Convention on Oil Pollution Preparedness, Response and Cooperation HNS - International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea

Bunkers - International Convention on Civil Liability for Bunker Oil Pollution Damage Antifouling - International Convention on the Control of Harmful Antifouling Systems on Ships Ballast Water - International Convention for the Control and Management of Ships' Ballast Water and Sediments

IMO Conventions and rules are only as effective as their implementation

The ratification of the IMO instruments is just an initial step to ensure safer navigation and protection of our ocean. The ratification of conventions does not necessarily translate to its implementation.

The constraints and the nonimplementation of international maritime rules and standards are wide-ranging. Zhu (2006) notes that the "variance is due, on the one hand, to the diversity of natural conditions, such as country size, population, per capita income or economic development and, on the other hand, to the political commitment to implement high maritime safety standards, as well as different priorities and approaches."

Some countries in the region ratify conventions without the

intention to implement. A number of these ratified instruments remain unimplemented because national legislations are often non-existent. At other times, countries ratify conventions even when they do not have the expertise necessary to understand or implement them. One case in point is Cambodia, which ratified MARPOL 73/78 and five of its annexes. Cambodia may not be able to implement them because of limitations in financial resources and technical capacity. Also the detention rates of ships flying Cambodia's flag are evidence that they have serious problems implementing the conventions they ratified.

Beckman discussed other reasons for non-implementation, including:

- Lack of technical expertise on maritime law to draft the implementing legislation
- Limited capacity to collect necessary information for the

Box 2: Initiatives of IMO to Provide Technical Assistance in the Implementation of Conventions.

- Established a sub-committee on Flag State Implementation
- Developed the Voluntary Member State Audit Scheme (to help governments to discharge their responsibility under the conventions)
- Encouraged the establishment of the Port State Control System

(putting pressure on substandard ships to improve)

- Improved seafarers' and management standards
- Active Technical Co-cooperation
 Committee
- Delivered 220 courses, seminars and workshops, training more than 7,000 participants in 2004– 2005

formulation of policy, to translate policy into implementing measures and effective enforcement

- Implementing legislation may have to be approved by the legislative body
- Number of ports and lack of legal and technical experts
- Several different agencies with conflicting responsibilities may be involved in enforcement
- Language barriers
- Not in the particular country's economic interests

Zafrul Alam of the Maritime and Port Authority of Singapore echoed the fact that developing nations with limited resources are increasingly finding it difficult to accept and implement existing instruments, i.e., instruments that have come into force internationally and those that have been adopted but yet to come into force. This is compounded with the imperative to consider new instruments or amendments to existing instruments that are being developed by the IMO and expected to be adopted in the near future. What advanced maritime nations usually do is to finish all preparatory work (including drafting new legislation) before accepting a convention. In the case of many developing nations, they may opt to accept a convention and allow the IMO Technical Co-operation Committee and Parties to the Convention, as well as global and regional donor agencies, to help implement and enforce a convention (see Box 2). What has generally

become a practice in recent years is to include a provision on technical cooperation in a new convention to help developing nations.

Oil and HNS

"Poster boys" of maritime disaster

Pollutant discharges from the normal operations of ships and from spills caused by accidents pose risks of harm and damage to the coastal and marine environment. Large shipping disasters that cause massive oil spills have always been given extensive media mileage. In positive ways, they in turn have become clear arguments to call for new ways of preparing and responding to oil spills.

The conventions such as the OPRC Convention 1990, as well as those concerned with compensation and liability for pollution damages, have been effective instruments in addressing the aforementioned risks.

The International Tanker Owners Pollution Federation's (ITOPF) 35-year database on oil spills showed that globally, major oil spills (of more than 700 tonnes) averaged more than 25 spills per year in the 1980s but in recent years showed remarkable reduction to four spills per year. However, this dramatic decline is not evident in East Asia, which could be attributed to increasing maritime traffic in Malacca Straits, South and East China Seas, Sea of Japan, Bohai Sea Oil spills remains a big threat to the seas of East Asia but the region has existing capacity for oil spill preparedness and response. These capacities are basically hinged on: legal frameworks and contingency plans; and stakeholder partnerships. Significantly these strategies underpin the mechanisms for operational agreements to become effective.

and in the Sakhalin region. A changing energy pattern is also apparent with the increase in the number of very large crude carriers (VLCC) transiting the region. China is the third largest consumer of oil, after USA and Japan. More than 300 million tons of oil, including crude oil and oil products, were transported along the Chinese coast in 2003 while in 2004, 120 million tons of oil were imported.

Oil spills remain a big threat to the seas of East Asia but the region has existing capacity for oil spill preparedness and response. These capacities are basically hinged on: legal frameworks and contingency plans; and stakeholder partnerships. Significantly these strategies underpin the mechanisms for operational agreements to become effective. Be it local or national, or bior multi-lateral agreements, mechanisms on the use of drills and joint exercises, training and stockpiles and the use of such equipment, all require cooperation between government, industries and other stakeholders.

National initiatives in PR China and Indonesia were highlighted during the discussion (Box 3). Both countries have mechanisms that stipulate reforms in their legal frameworks and contingency plans. Both are also advocates of strengthening capacities that involve further training and drills. China, in fact, has lined up future initiatives to further enhance and strengthen its capacity. These include: 1) formulation of provincial and municipal contingency plans; 2) establishment of oil spill emergency response centers in high-risk areas (Changjiang and Pearl Rivers, Straits of Taiwan, Bohai Bay); and 3) extending the compensation mechanism to other areas, which until recently was only applicable to Hong Kong SAR.

Box 3: Initiatives for Oil Spill Preparedness and Response.

PR China

- Acceded to OPRC in March 1998
- Revised Marine Environmental Protection Law stipulates formulation of national contingency plan
- Promulgated the National Contingency Plan for Marine Oil Spill in April 2000
- Development of oil spill response resources and centers in Yantai and Qinhuangdao, and in major coastal and river harbors
- International and national trainings
- Annual large-scale drills
- International and regional oil spill emergency response cooperation (NOWPAP, Taiwan Straits, South China Sea)

Indonesia

- Future accession to OPRC
- Formulation of the national oil spill contingency plan
- 3-tier response mechanism
- National oil spill response exercises
- Regional oil spill response arrangement:
 - Sulawesi Sea Oil Network Response Plan (1980); the Marine Pollution Exercise (MARPOLEX) between Indonesia and Philippines has been going on since 1986, 15 exercises have been hosted by the two countries alternately
 - SOP for joint oil spill response in the Straits of Malacca (1987)
 - ASEAN Oil Spill Response Action Plan (ASEAN-OSRAP) (1992)

Regional and International Initiatives

Several regional mechanisms in East Asia offer functional partnerships. The ASEAN Oil Spill Preparedness and Response Project (ASEAN–OSPAR), established in 1992, is governed by the fundamental tenet that improving national capacities is part and parcel of strengthening regional cooperation. The sub– regional partnership in the Gulf of Thailand (GOT) by Cambodia, Thailand and Vietnam has recently come out with the Joint Statement to enable these countries to strengthen individual state's response capability to prevent, control and mitigate marine pollution and promote technical cooperation. MERRAC/ NOWPAP has been very active in addressing oil spills, as well as HNS problems. The recent thrust of MERRAC is to develop a regional HNS contingency plan by expanding the existing NOWPAP Regional Oil Spill Contingency Plan.

OSRL/EARL is an effective industry-funded cooperative with a very significant presence in East Asia. It advocates a tiered response approach to oil spills, predicated on cooperation and effective communication.

The Global Initiative (GI) is a joint program between IMO and IPIECA, launched in 1996 in South Africa. Its goal is to encourage government and the industry to work together in improving and sustaining the capacity of developing countries to protect their marine and coastal resources at risk from oil spills.

The GI is governed by espousing three fundamental principles:

- Emphasize the importance of national and regional implementation of the International Conventions and regional agreements associated with marine pollution, in particular, the OPRC and the Liability and Compensation Conventions;
- The Tiered Response Concept, designed to facilitate integrated planning for oil spills whether small/local (Tier 1) or remote/ sizable (Tier 2 and 3), provides access to appropriate levels of operational response capability for any oil spill while preventing the unnecessary proliferation of response centers around the globe
- The Net Environmental Benefit Analysis (NEBA), a method of comparing the advantages and disadvantages of different response options and strategies.

The promotion of the GI principles is through high-level and operational hands-on workshops and training sessions that are delivered jointly by IMO and the industry for delegates from both the government and industry. Through this, common messages are delivered to all who are responsible for oil spill preparedness and in a given location, to lay the groundwork for working together.

The GI has moved to a regional approach with groups now operational in the Black Sea and Caspian region, the Caribbean, the Mediterranean and the West and Central Africa. It is hoped that the GI will be replicated in East Asia.

HNS

Beyond the risk of oil spills, the transport of HNS is steadily increasing worldwide, raising major concerns regarding incidents involving HNS. The Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol 2000). article 2(2) defines HNS as "...any substances other than oil which, if introduced into the marine environment, are likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."

In East Asia, large quantities of HNS are now also being

transported by ships. For example in China, the amount of HNS transport over the past 15 years (1989–2004) has increased by 30 times and the kinds of chemicals by 3 times. Information about transport and HNS incidents in other countries in the Northwest Pacific region also raises major concerns (Table 2). With the increase of HNS transportation, the risk of spills also increases. In China, most pollution accidents were due to operational accidents, only a few were due to severe sea conditions.

There is a global response framework for oil spills — no such system exists for HNS

The OPRC-HNS Protocol, developed over the years, provides a

platform for co-operation and mutual assistance and a framework for the development of national and regional capacity to prepare and respond to HNS spill incidents in the marine environment. The Protocol will enter into force on 14 June 2007. Among the 15 East Asian countries, Singapore is the only country that has acceded to the Protocol (in 2003) and fully implemented its provisions (Table 1).

While many countries have developed the necessary structure and capacity to adequately manage and respond to oil spills — and existing oil spill contingency plans can be used as basis in planning for HNS — the response to chemical spills represents a different challenge. Table 3 shows major differences between oil and HNS; the implications of which would

Table 2. The Transport and HNS Incidents in the Northwest Pacific Region.

	PR China	RO Korea	Japan
Amount of transported HNS	19 million MT (2004)	153 million MT (2005)	
Packed hazardous materials	34%	3 %	
Solid chemicals	4 %	47%	
Noxious liquid	54%	20%	
High pressure/ liquefied gas	8 %	30%	
Incidents	From 1991–2004,	From 2001-2005, 20	Yearly, 30-50
	552 HNS spill	HNS spills occurred	HNS-related
	incidents occurred;		spills
	14 of which spilled		
	more than 100 tons		

Table 3. OIL vs HNS	OIL	HNS				
Strategies for preparedness	Well understood	Difficult or impossible, depending on				
and response		the substance				
Behavior	Although of different types,	Wide variety of substances (8 million+)				
	there is uniformity in	Varying type and degree of hazard				
	properties and behavior	Completely different behavior from				
		substance to substance				
Approach and	The same for different types	Vary depending on chemical and				
equipment options	and relatively standard	physical properties of the substance				
Other possible impacts	Relative danger and hazard	Potential for significant danger				
	to human health is low	(explosive, flammable) and hazard to				
		human health				

NOWPAP members: PR China, Japan, RO Korea, Russia

All NOWPAP members are now in the process of arranging their own national systems for HNS and taking necessary measures for ratification of the HNS Protocol.

National Strategies

PR China

- National legal arrangement for HNS spill
- Develop oil and HNS national contingency plan (2004)
- Expand the resources for emergency response to HNS accidents
- Develop the principles and procedures for emergency response to HNS accidents
- Develop the human resources for emergency response after HNS accidents
- Trial of Compensation Fund in connection with HNS

RO Korea

- Establish national/regional HNS contingency plan
- Establish HNS accident response information system
- Develop HNS accident response manual
- Implement response training and education
- Set-up coordination system among government authorities and private sector

Japan

- Develop National Contingency Plan
- Clarify measures to be taken by those responsible for HNS incidents
- Promote training, research and development, and international cooperation related to the HNS issue
- Strengthen component authorities (e.g., Japan Coast Guard)

Regional Initiatives:

NOWPAP countries recently started to develop a regional cooperation system on HNS spill preparedness and response, especially within the framework of NOWPAP/MERRAC, with professional support from IMO, NOWPAP Regional Coordinating Unit and UNEP.

To increase regional capacity on HNS spills, some of the planned activities are to:

- 1. Increase national response capacities of NOWPAP members;
- 2. Finalize the NOWPAP oil and HNS regional contingency plan and its Memorandum of Understanding;
- 3. Carry out regional cooperative activities of technical aspect;
- 4. Launch regional HNS exercise and training
- 5. Increase capacity of MERRAC to implement regional cooperative activities

The approach of developing a combined oil and HNS spill contingency plan, by adding specific issues to the existing NOWPAP Regional Oil Spill Contingency Plan, is being considered.

necessitate: 1) a different knowledge requirement, approach, protective and response equipment and decontamination needs; as well as 2) a completely different set of skills and expertise, which are sorely lacking within the present maritime administrations.

To assist countries in meeting the requirements of the Protocol and to develop the necessary knowledge and national and regional capacities, IMO provides direct assistance and support through trainings and workshops delivered under the umbrella of its Integrated Technical Co-operation Programme (ITCP). Through its technical committees, IMO has also developed manuals and guidance documents. The initiatives among the NOWPAP member countries, through IMO, UNEP and MERRAC are instructive (Box 4).

The Seafarers from Asia

"The next 50 years belong to Asian seafarers"

Asia is the largest manpower contributor to the global maritime industry (Box 5). A large number of these seafarers are ratings (nonofficers) and there is stiff competition among several Asian countries to meet global demands.

Compounding the challenge of supplying the demand are major issues such as poor quality maritime education/training, inability of educational institutions to meet the standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and inadequacy of governments to regulate the seafarer industry.

Capt. Pradeep Chawla of the Anglo-Eastern Shipping Group in Hong Kong further articulated particular concerns, such as:

- Investments in training institutions of new crewsupplying nations
- Governments cannot afford to give support like the OECD countries
- Many ship owners including those from OECD do not support training
- Availability of good faculty

Box 5: Shift of Crewsupplying Nations.





HNS spill incident in Japan (July 2005).



HNS spill incident in RO Korea (May 2004).

Signposting the Way forward

From the discussions, the workshop participants were able to articulate several conclusions:

"....generally agreed that the universal and uniform implementation of IMO Conventions and other international and regional instruments on maritime safety and marine environment protection would lead to improved national and regional governance, action programs and policies to mitigate marine pollution, such as those relating to oil and hazardous and noxious substances spills."

"....agreed that marine pollution arising from maritime activities could be significantly reduced and/ or prevented if Contracting Parties to international instruments such as MARPOL, London Convention and its 1996 Protocol, Ballast Water Management Convention, Antifouling Systems Convention, OPRC Convention, and OPRC-HNS Protocol, among others, would meet their obligations under the respective instruments, including full implementation and enforcement thereof."

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"...generally agreed that the universal and uniform implementation of IMO Conventions and other international and regional instruments on maritime safety and marine environment protection would lead to improved national and regional governance, action programs and policies to mitigate marine pollution, such as those relating to oil and hazardous and noxious substances spills."

"....recognized the diversity of multi-lateral and bi-lateral cooperation and agreements that are in place in the EAS region and considered the need to review some of these mechanisms to identify success factors and common challenges with a view to strengthening regional cooperation and response to oil and HNS spills, as well as any aspects that might need to be improved."

"....acknowledged the role of cooperative efforts among national/ local governments and industry in fulfilling the objectives of the OPRC Convention and the need to extend similar efforts to the OPRC-HNS Protocol, including building capacity and effective contingency plans."

"....underscored the significant contribution of seafarers from Asia to the global maritime sector and the need to meet industry requirements through effective compliance with the provisions of the 1995 STCW Convention and the strengthening of standards of maritime academic institutions in Asia."

Recommendations

At the conclusion of the International Conference, the Ministerial Forum was invited to consider the following recommendations from the Safer Shipping and Cleaner Oceans thematic workshop and to take action thereon as deemed appropriate:

 Countries in the East Asian region should take measures to enhance the quality of maritime teachers, seafarers (i.e., officers and ratings), maritime administrators and government legal experts by means of improving standards of national maritime academic and training institutions through public-private investment, in-kind support and bi- and multi-lateral arrangements on educational and training facilities, including postgraduate scholarships.

- 2. In order to assist the Region's developing countries in these endeavors, the existing IMO ITCP should be strengthened through partnership arrangements among relevant stakeholders including developed countries, IMO and other international nongovernmental bodies, governments and the industry.
- 3. Countries receiving international and regional technical assistance on maritime safety and marine environment protection, including IMO ITCP's support, should cooperate to evaluate and improve the effectiveness of that assistance. It should be borne in mind that IMO's technical co-operation activities are aligned with the UN Millennium Development Goals, World Summit on Sustainable Development Plan of Implementation and Agenda 21 of the UN Conference on Environment and Development.
- 4. States should cooperate with IMO to ensure that, within the framework of the ITCP and the SDS–SEA, specific regional and national maritime concerns and needs are identified with the objective to develop appropriate capacity– building mechanisms with associated funding through bi– and multi–lateral arrangements with donor agencies, governments and the industry.

Tropical Coasts

- 5. In discharging their obligations as flag, port and coastal states, the countries in the region should, individually and in co-operation with others, endeavor to improve ratification and implementation of, and compliance with, relevant IMO instruments, with a view to:
 - Improving maritime safety;
 - Reducing operational and accidental pollution from ships;
 - Providing adequate port reception facilities;
 - Controlling dumping at sea; and
 - Reviewing and strengthening regional and sub-regional arrangements for marine pollution, preparedness and response.
- 6. More emphasis should be placed on co-ordination and co-operation between maritime administrations and industry groups in the spirit of the IMO/IPIECA Global Initiative, with a view to building and sustaining national and regional capacity for oil pollution preparedness, response and cooperation.
- 7. In view of the imminent entry into force of the OPRC-HNS Protocol, countries in the region that have yet to ratify/accede to the Protocol should consider putting in place mechanisms necessary to ratify/ accede to, and implement and enforce the Protocol, requesting (when necessary and as appropriate) assistance from other countries, international organizations and the chemical,

petroleum and shipping industries.

8. Countries in the region that have yet to ratify/accede to the CLC 92, Fund 92, HNS and Bunkers Convention, should consider ratifying/acceding to these Conventions, bearing in mind that, by doing so, Parties to these Conventions would gain access to compensation for damages caused by oil, including bunkers, and HNS spills in the circumstances stipulated in the said instruments.

Safer Coasts, Living with Risks

The seminar Safer Coasts, Living with Risks was convened to re-visit the Indian Ocean tsunami and highlight the lessons learned in its aftermath. It tackled issues on resilience, adaptation and reconstruction strategies. The seminar also presented approaches that address vulnerabilities to natural coastal hazards that have been caused by a protracted neglect to protect our environment. It highlighted efforts that can mitigate anthropogenic inputs to disasters from unsustainable human activities including unplanned development.

The seminar was jointly convened by IMO, GEF/UNDP/IMO GloBallast Programme and the UNEP/Global Programme of Action for the Protection of the Marine Environment from Land-based Sources (UNEP/GPA).

Vulnerable Coasts

The Indian Ocean tsunami in 2004, Hurricane Katrina in 2005, tropical storms and their attendant flooding in East Asia in 2006: living in coasts has never been fraught with so much risk as today. Through the years, East Asia has started initiatives to cushion the destruction and deaths wrought by natural hazards year after year — the impacts of which have driven significant reforms on public policy and allowed changes on how people relate to these disaster agents. However, with the increasing intensity and frequency of disasters and their attendant devastating economic and social costs, these efforts remained inadequate. It is increasingly being argued that one of the reasons why this trend is happening is because manmade decisions and actions (or inactions) are exacerbating the impacts of natural hazards.

One way of addressing this dilemma is integrating disaster risk reduction with those that look at effective environmental management and issues about societal vulnerabilities. It is common knowledge that a well-managed environment protects us from hazards. On the other hand, resilient communities that are well-informed. well-aware and are able to respond quickly to disasters are able to prevent deaths and can quickly rebuild in the aftermath of these events. Recent initiatives thus give much importance into looking at comprehensive strategies that can mitigate and prevent deaths and

tremendous damages. That is, aside from quickly responding and rebuilding communities following a disaster, a more relevant approach is to lessen the vulnerabilities common to a lot of areas before the disaster agents wreak havoc.

Resilience and Adaptation in the Tsunami Aftermath

The seminar articulated several strategies used in the tsunami aftermath: organization of interagency foreign aid; integrating physical restoration into social and economic restoration; improving the lives of local people; re–evaluation of existing integrated coastal management (ICM) practices; and the need for high–quality baseline data for tsunami modeling.

The Indonesian Government's response to help rebuild lives in the communities in Aceh and Nias is the implementation of the Master Plan for Post-tsunami Rehabilitation and Reconstruction. The fundamental tenets on reconstructing the communities, the economy, infrastructure and governance have been outlined and implemented through a five-year schedule (2005-2009) (Figure 2). Thailand's response, on the other hand, included establishing a national disaster warning center to coordinate the work of government agencies. A national master plan was also developed that included preparedness and education programs, a training center and information database, and a tsunami alert rapid notification system.

The role of nongovernmental organizations (NGOs) in the aftermath of natural disasters has also been highlighted. For instance, the International Ocean Institute's long-term roles, such as education and training, performing risk assessment and promoting cooperation through memorial days, drill exercises and publications are instructive.



Several issues were discussed during the seminar: coastal development and erosion; marine emergency response system to red tides and fish kills; adaptation of coastal communities to climate variability and sea level rise; shipping and transport of invasive species; increasing freshwater withdrawal; and linking unplanned urbanization with increasing risk to natural coastal hazards.

Several strategies have been proven effective in particular areas where vulnerabilities to coastal hazards are evident. In the case of responding to red tides and fish kills in the Philippines, it was shown that reviewing and assessing existing emergency response procedures, training of local government staff, and conducting mock emergencies are linked to an effective program. In another case on vulnerability from climate change and sea level rise, using adaptation-sensitive ICM planning, including land and sea use zoning, insurance coverage for coastal families and properties, and limiting subsidies and incentives that promote excessive coastal development, are proposals that need close study.

The discussion on ballast water called for improved ballast water management through the promotion of global efforts to designing and testing technological solutions, and enhancing global knowledge management and marine electronic communications. Ballast water management involves an alliance of global, regional and country–

Figure 2. Five-year Recovery Process for Aceh and Nias.



Source: Hadi (Aceh-Nias Rehabilitation and Reconstruction Agency, July 2006).

specific partners, representing governments, the shipping industry and NGOs.

Triggers for Change

In recent years, the vulnerability of coastal communities from natural and manmade hazards has increased due to increasing population density along the coast and also from anthropogenic activities along the coast (majority of which are unsustainable). The 2004 tsunami enhanced awareness on the consequences of our "development approach" as applied. It is time to do things differently.

"Building better," "building safer," and "building greener" are generally accepted as principles, but implementation seems to be difficult. The calls for concerted efforts from State and non-state actors at the national and local levels, supported by the international community, underpin the effective implementation of these principles. However, a Adaptive management is critical to improve performance of all programs/ projects. A long-term programmatic approach to initiatives enables appreciation of a continuing need to evaluate and reformulate strategies given parallel dynamic changes along the coasts.

consensus generated during the seminar was that coordination is a challenge both at national and international levels.

The seminar also provided the reminder that massive adaptive and integrated measures are needed to counter the looming and increasing risks in coastal areas. The bottomline is that coastal managers and political leaders must acknowledge that they have a moral obligation to institute mitigation and adaptive measures and not wait for disasters to happen.

Recommendations

Recommendations were put forward at the closing of the seminar on Safer Coasts, Living with Risks:

Need for science and effective communication

strategy. As the boundaries of natural disaster and human-induced disaster are often diffused, there is a need for science-based decisionmaking. The scientific community must communicate their knowledge to policymakers/ implementers in simple language rather than complex formulas/



acinto

An implementable marine environmental emergency response system at the Local Government Unit level is predicated on training and information and education campaigns.

equations. Micro-level experiences must also be used for macro policy formulation.

Adaptive management is critical to improve performance of all programs/projects. A longterm programmatic approach to initiatives enables appreciation of a continuing need to evaluate and reformulate strategies given parallel dynamic changes along the coasts.

Mainstreaming of disaster management policies and programs into national sustainable development strategies and national budgetary processes. A common policy framework across scales ensures effective implementation.

PEMSEA would like to acknowledge the support and active participation of chairs, co-chairs, speakers/ panelists and participants during Theme 4 Workshops and Seminar. Likewise our heartfelt gratitude is specially extended to the following co-convenors: International Maritime Organization (IMO), International Petroleum Industry **Environmental Conservation** Association (IPIECA), Oil Spill **Response and East Asia Response** Ltd (OSRL/EARL), Marine **Environmental Emergency Preparedness and Response Regional Activity Centre of the Northwest Pacific Action Plan** (MERRAC/NOWPAP), GEF/UNDP/IMO GloBallast Programme and UNEP/ Global Programme of Action for the **Protection of the Marine Environment from Land-based** Sources (UNEP/GPA).

Presentations

- Alam, Z. "IMO Conventions and Their Implementation." Workshop on Regulating International Maritime Shipping – IMO Conventions and Their Implementation.
- Beckman, R. Panel discussant. Workshop on Regulating International Maritime Shipping – IMO Conventions and Their Implementation.
- Chawla, P. "Seafarers of Asia Trends and Challenges." Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Hadi, S. "Recovering from Tsunamis by Implementing the Master Plan for Aceh Rehabilitation and Reconstruction." Seminar on Safer Coasts, Living with Risks.
- Jacinto, G. S. "Establishing a Marine Emergency Response System (MERSys) for Mariculture Areas in Pangasinan -Linking Science with Coastal Management." Seminar on Safer Coasts, Living with Risks.
- Jacobsson, M. "Admissibility of Claims Relating to Property Damage, Cleanup and Preventive Measures, Fisheries and Mariculture, Tourism, Environmental Damage and Post-spill Studies and Other Types of Damage." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Jacobsson, M. "Overview of the International Compensation Regimes." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Johnson, R. (a). "Assessment of the Risk of Oil Spills in the East Asian Seas Region." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.

- Johnson, R. (b). "Impact of Oil Spills and Claims Handling." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Johnson, R. (c). "Implications of International Compensation for Regional Arrangements." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Johnson, R. (d). Panel discussant. Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Kang, C.-G. "Regional Agreements in Preparedness and Response: Challenges and Opportunities of NOWPAP)." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Kang, S.-G. "Enhancing Regional Response Capacities for HNS: NOWPAP Experience." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Kamaruzaman, R.D.M.S.R. "Initiatives on Maritime Safety in the East Asian Seas – Prospects and Challenges." Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Kim, Y. "Maritime Initiatives for Marine Environment Protection of the East Asian Seas." Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Kim, Y. Panel discussant. Workshop on Regulating International Maritime Shipping – IMO Conventions and Their Implementation.
- Latief, H. "The Role of Forests to Reduce Impacts of Tsunamis: Case Study of Banda Aceh City, Indonesia). Seminar on Safer Coasts, Living with Risks.
- Lee, S. "Preparedness and Response System in Korea – In Process." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Mapparessa, A. S. "ASEAN-Oil Spill Preparedness and Response (ASEAN-OSPAR): Challenges and Opportunities towards Operational and Effective Regional Cooperation in Oil Spill Preparedness and Response." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Matheickal, J. and J. Paw. "Managing Ballast Water — The Saga Continues." Seminar on Safer Coasts, Living with Risks.
- Mejia, M. Jr. Panel discussant. Workshop on Regulating International Maritime Shipping – IMO Conventions and Their Implementation.
- Mikelis, N. "Development and Issues on Recycling of Ships." Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Morris, C. "IMO/IPIECA Global Initiative: Regional Models of Cooperation." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- O'Driscoll, D. and D. Chan. "An Industry Perspective on Regional Agreements for Oil Spill Response: Stockpiles or Mutual Aid?" Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Oliounine, I. "Marine Natural Disasters What NGOs Can Do." Seminar on Safer Coasts, Living with Risks.
- Palomares, M. "HNS Preparedness and Response: Options for Raising

Awareness and Tools for Planning." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.

- Pimentel, B. "IMO's Technical Co-operation Activities in the East Asian Region." Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Prasertwong, P. "Regional Agreements in Preparedness and Response: Gulf of Thailand." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Sales, R. F. "Vulnerability and Adaptation of Coastal Communities to Climate Variability and Extremes and Sea Level Rise: Their Implications for Integrated Coastal Management in Cavite City, Philippines." Seminar on Safer Coasts, Living with Risks.
- Siringan, F. "Worsening Floods, Subsidence and Overextraction of Groundwater in Metro Manila, Philippines." Seminar on Safer Coasts, Living with Risks.
- Sukmawati, E. "National Strategies to Regional Cooperation." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Tan, F. "Hazardous Noxious Substances Spill Response Challenges." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Tay, L. H. Thematic Keynote Speech. Thematic Workshop on Safer Shipping, Cleaner Oceans.
- Virapat, C. "National Response to the Indian Ocean Disaster of December 2004." Seminar on Safer Coasts, Living with Risks.
- Wong, P. P. "Post-tsunami ICM for Asia-Pacific." Seminar on Safer Coasts, Living with Risks.

- Yang, X. Z. (a). Panel discussant. Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Yang, X.Z. (b). "The Development of Oil Spill Preparedness and Response in China." Workshop on the Implementation of Effective Regional Agreements for Preparedness and Response to Marine Pollution in East Asia.
- Zhu, J. Panel discussant. Workshop on Regional Initiatives on Maritime Safety and Marine Environment Protection in Asia.
- Zou, K. "Regulation of Waste Dumping at Sea: The Chinese Practice." Seminar on Safer Coasts, Living with Risks.

References

- Ji, G. 2001. Rough Waters in the South China Sea: Navigation Issues and Confidencebuilding Measures. Asia-Pacific Issues. Analysis from the East West Center No. 53. August 2001.
- Maritime Secretariat Services Ltd. 2005. " International Shipping – Carrier of World Trade." Available online at www.shippingfacts.com [Accessed April 14, 2006]
- Nippon Maritime Center (in Beckman, Robert). 2006. Enhancing Cooperation to Protect Maritime Environment in the Straits of Malacca and Singapore from Ship-source Pollution. Workshop on Tokyo Ocean Declaration: Upholding the Advocacy. Theme 2: Securing the Oceans. East Asian Seas Congress 2006.
- PEMSEA. 2003. Sustainable Development Strategy for the Seas of East Asia: Regional Implementation of the World Summit on Sustainable Development Requirements for the Coasts and Oceans. PEMSEA, Quezon City, Philippines.
- Zhu, J. 2006. Asia and IMO Technical Cooperation. Ocean and Coastal Management 49(9-10): 627-636.





Certifying Sustainability

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Certifying Sustainability



Sustainability or Sustainable Development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition was popularized in the World Commission on Environment and Development report, Our Common Future, in 1987. While many definitions have evolved, the basic principle remains - that balancing a growing economy, protection for the environment, and social responsibility will lead to an improved quality of life for present and future generations.

In the East Asian Seas (EAS) region, sustainability issues become more challenging in light of the region's diversity and the complex forms of its coasts and seas. Therefore, achieving sustainability implies that policies, agreements, legislation and cooperation among countries must be planned, developed and put into action on a correspondingly more complex level in order to preserve and sustain its resources.

The Thematic Workshop on Certifying Sustainability centered on certification and accreditation as helpful mechanisms to assist in the management of marine and coastal resources and to maintain their environmentally sound conditions. Assurances on the conditions of resources as environmentally sound, socially acceptable and secure are conveyed by the certification of goods and services. Whether it be certification of clean and safe beaches or of live fish and fishery resources or ensuring safe, healthy and environmentally sound port facilities, these mechanisms will be useful in helping sustain and value resources.

This summary will take, in turn, the three separate workshops convened — Certification and Sustainable Fisheries; Port Security, Safety, Health and Environmental Management; and Clean and Safe Beaches — to discuss and recommend initiatives that the EAS region can commence or continue to support.

Certification and Sustainable Fisheries

From Reef to Retail: Certification and the Global Marine Aquarium Trade

Marine aquarium organisms are the highest value-added products to be harvested from coral reefs. As such, the marine aquarium trade continues to grow on a global scale. Based on data from the Global Marine Aquarium Database (GMAD), from 1988 to 2003, imports and exports of aquarium organisms amounted to 7.7 million and 9.4 million, respectively, covering 2,393 species of fish, coral and invertebrates. About 1.5 to 2.0 million hobbyists that keep marine aquaria worldwide sustain the trade estimated at \$500-600 million per year.

The EAS region plays a critical role in this global trade as approximately 85 percent of the global demand for marine ornamentals is supplied by Indonesia and the Philippines. These two countries are geographically unique — situated in their waters is the center for marine biodiversity referred to as the "coral triangle." Aquarium trade, however, has been viewed as a threat to coral reefs due to destructive and unsustainable fishing practices, among which chemical use and dislodging of corals are most prevalent.

Notwithstanding these unsustainable practices, the Marine

Aquarium Council (MAC) has developed international standards and promoted a third party certification system that applies across the global supply chain in the marine aquarium trade "from reef to retail." MAC capacity-building activities support efforts to promote a responsible and sustainable marine aquarium trade, with particular emphasis on conservation and livelihood for coastal communities. MAC Certification applies to four sets of international standards:

- 1. Ecosystem and Fisheries Management (EFM);
- 2. Collection, Fishing and Holding (CFH);
- 3. Husbandry, Handling and Transport (HHT); and
- 4. Mariculture and Aquaculture Management (MAM).

MAC has also been instrumental in facilitating multistakeholder discussions in the development of international standards for the Live Reef Food Fish Trade (LRFFT), and its applications for small-scale fisheries in developing countries.

Obstacles to Sustainable Practices in the Marine Aquarium Trade

Aside from destructive and unsustainable fishing practices, there are also other externalities and complicating factors that render sustainable management approaches difficult in the Asian context (Box 1).

Box 1: Obstacles to Sustainable Practices in the Marine Aquarium Trade (Abraham).

- 1. "Roving collectors;"
- 2. Use of surface-supplied compressed air (commonly referred to as "hookah");
- 3. High mortality rates due to poor post-harvest handling;
- 4. Lack of effective and credible methods for cyanide detection;
- 5. Weak coastal law enforcement capacities;
- 6. Poor policy coordination and implementation;
- Lack of baseline data and commonly understood, timely information on species and their availability;
- 8. Complexity of integrating a global value chain from supply to demand; and
- 9. The need to influence consumer behavior and awareness in demand countries.

MAC and its partners are addressing these through the following initiatives:

- 1. Roving collectors: A seminal "Report on Roving Collectors: Case Studies from Indonesia and the Philippines" has been produced that outlines a series of management options and recommendations (Editor's Note: Document available upon request);
- 2. Compressors: MAC training emphasizes safe diving

When working with communities, it is important to build on "equivalent" management systems already in place, promote local public and private stakeholder participation and utilize a more integrated approach at the level of program implementation under the adaptive management approach.

techniques, informs communities about occupational safety and health hazards, with voluntary phase out of compressor use;

- Mortality: MAC has established a special training program on post-harvest handling, screening, packing and logistics management that targets collectors, traders and staff at exporter facilities;
- Cyanide Detection Testing (CDT): Given the present state of knowledge on CDT, MAC has decided to issue a Request for Proposal (RFP) for the development of a handheld, portable cyanide detection instrument that can be effective in a field situation;
- 5. Coastal Law Enforcement: In the Philippines, MAC acts as a resource for the national Environmental Law Enforcement Working Group and, in

conjunction with the Bureau of Fisheries and Aquatic Resources (BFAR), conducts training for deputization of local fish wardens;

- 6. Policy Coordination and Implementation: MAC does not engage in direct policy development or advocacy work. However, technical assistance is provided to policymaking bodies. At present, governments in Indonesia and the Philippines need to have a better understanding of issues related to the management of the aquarium fishery. MAC programs will eventually transfer responsibility to the appropriate resource management units, which would be the municipal governments in the Philippines and the district governments in Indonesia:
- MAC and its partners have established a series of databases that provide technical, scientific

and management information for each "collection area" where interventions are taking place. This information is captured in Area Profiles, and is supplemented by consolidated Master Species Lists available to exporters, importers and retailers:

- A supply chain task team that consists of professionals in supply and demand countries, who work with existing MACcertified entities to facilitate the flow of certified organisms through the chain of custody.
- 9. MAC and its partners do not have sufficient resources to influence the buying behavior of importers, retailers and hobbyists (consumers). However, outreach with public aquaria, participation in international conferences, trade shows and exhibitions and other events help increase awareness. MAC has recently rolled out a **Certification Preparation Kit. This** kit will help interested companies engage in the MAC Certification Process through a description of all steps to be taken, using a "do it yourself" (DIY) approach. This was well received by the industry and may accelerate the MAC Certification processes for exporters, importers and retailers and facilitate compliance to the MAC International HHT Standard.

In addition, the application of the international standard on LRFFT has been hindered by issues related to the suitability of certification for smallscale tropical fisheries. Among the difficulties encountered include limited institutional and financial capacity, fraudulent reporting, remoteness of fishing grounds, etc.

Making Environmental, Social and Business Objectives Work Together: Essentials of a Sustainable Marine Aquarium Trade

The MAC experience underscores the need for an integrated framework and approach that combines the following elements:

- capacity building and technical support for clients and beneficiaries to achieve international standards;
- solid scientific resource assessment tools and methods;
- business skills and enterprise development model for coastal communities; and
- good partnership development and outreach to multiple stakeholder groups.

For MAC Certification to be successful in marine aquarium fishery, there is a need to define a "road map" for communities that integrates scientific approaches and local management practices while concurrently addressing the social and economic needs of local stakeholders. The MAC Standards and Certification program offers a range of benefits to local fishers, including minimized post-harvest losses, improved fish quality and safer diving techniques that are oriented towards establishing a responsible and sustainable marine aquarium trade.

Reef Check Foundation, a partner of MAC, has developed a series of management tools in support of the MAC EFM Standard, including a coral reef monitoring protocol (MAQTRAC), new scientific methods to determine catch limits for fish and invertebrates including corals and coral reef governance systems (collection area management planning organization), managing marine protected areas and innovative rehabilitation activities using fish post-larvae (in partnership with Ecocean, a French company). These tools were tested in the Philippines and Indonesia and are giving rise to positive results. Subsequent work is focusing on scaling up and diffusion of the technology.

In the case of LRFFT, the application of international standards has been hindered by issues related to the suitability of certification for smallscale tropical fisheries, such as limited institutional and financial capacity, fraudulent reporting, remoteness of fishing grounds, etc. Programs need to be tailored to accommodate situationspecific characteristics. Thus, while the international standards are in existence, there is a need to link them to a certification program. A community-based certification program presents one alternative approach for dealing with the smallscale artisanal nature of LRFFT.

New coastal management approaches in both Indonesia and the Philippines (such as the devolution of authority for fisheries and coastal management to local "resource management units"), alongside government and internationally driven coastal management initiatives, provide a strong foundation upon which to implement the MAC Certification system. When working with communities, it is important to build on "equivalent" management systems already in place, promote local public and private stakeholder participation and utilize a more integrated approach at the level of program implementation under the adaptive management approach.

MAC capacity-building programs are supported through the work of another partner, the Conservation and Community Investment Forum (CCIF).

MAC Certification at Work: Cebu-Mactan Quality Marine Aquarium Fish

The practical application of MAC Certification in a business/trading environment is demonstrated by a marine ornamental export business based in Cebu, Philippines. The Cebu-Mactan Quality Marine Aquarium Fish (CMQMAF) has learned how to work with MAC in making the marine ornamental industry move towards sustainability. CMQMAF achieved MAC Certification in 2005. The company continues to work with

MAC. Reef Check and CCIF in building capacity within collector communities. This includes investment in local infrastructure. provision of supplies, and serving as a conduit for microfinance loans for collectors and traders provided by local banks and credit institutions. CMOMAF has realized some economic. social and environmental benefits. More MAC Certified fish are being traded between CMOMAF and MAC Certified collectors/traders, importers and retailers in the USA. Although CMQMAF pays higher prices to MAC Certified traders for some species collected in MAC Certified areas, there is noticeably reduced wastage in terms of numbers of rejected fish per shipment and reduced mortalities per shipment. Importantly, the quality of organisms has improved due to better handling by collectors and traders due to the intervention of MAC. Reef Check and CCIF.

Certification and Labeling of Sustainable Food Fish: A Bright Future in Asia?

Asia is the world's largest producer and consumer of seafood. Aside from the obvious reason that Asia has been blessed with abundant marine and coastal resources, this can be attributed to the fact that seafood is one of the main sources of animal protein for the region's developing countries and is also one of the rapidly growing sources of export income. (See Box 2 for the fish trade situation in Asia.)

Box 2: Situation of the Live Food Fish Trade in Asia (Subasinghe).

- China leads the live food fish trade with exports valued at \$335 million in 2005, an increase of 12 percent in value over 2004 exports. However, due to growing demand in the domestic market, the volume of exports showed a drop of 16 percent, mainly due to the drop in exports of low-medium value varieties, which constitute over 70 percent of total exports.
- Hong Kong, the main longestablished market for high value species, imported 11,363
 MT of high value coral and other marine fish species in 2005
 valued at \$86.4 million. The main high value species imported included coral trout (2,424 MT) and green grouper (1,148 MT).
 Imports of high-finned grouper and giant grouper have

drastically dropped (10- and 15fold respectively) from 2003– 2005. Hong Kong also imports large volumes of low–medium value species, which stood at 56,000 MT in 2005.

- Hong Kong Imports of grouper species from Australia and Indonesia have somewhat stagnated from 2001–2005, while imports from Thailand, the Philippines and Malaysia have shown significant increase.
- Live fish imports (14,085 MT in 2005) to Taiwan mainly consisted of crabs, lobster, shrimp, swamp eel and several bivalve species, while imports to Singapore (16,425 MT) consisted of mollusks, crabs and a variety of freshwater and marine fish.

Current production and consumption patterns have raised some alarming concerns. Wild harvest fisheries in the region are under enormous pressure and there is considerable concern that the overfishing problems that have plagued fisheries in the western world will grow in scale and intensity in the very near future. In this light, the Marine Stewardship Council (MSC), with the objective of promoting market–based incentives to improve management of fisheries worldwide, established a certification and seafood ecolabeling scheme to promote better management of wild harvest fisheries. So far, MSC has made progress in the region with certification assessments, either underway or due to start, in Japan and Vietnam. Japan provides a valuable market for certified fish from both inside and outside the region but there are other opportunities in North Asia, in particular.

Certification, labeling and the marketing of eco-labeled products create both opportunities and challenges in the Asia-Pacific region. There are clear opportunities for the fishery industry in the region that want to tap into the well-documented market for eco-labeled products in Europe, the United States and now Japan, including opportunities for expanding the Japanese market. The challenges relate to the huge variability in the nature of fisheries management in the region. While there are some equally challenging issues in Europe, for example, there are some major capacity issues in some developing countries in the Asia-Pacific region that would make compliance with the MSC Standards very difficult.

Challenges Facing Seafood Certification and Labeling

Some important issues to ensure resource sustainability through ecolabeling are the creation of consumer awareness on sustainability of species under pressure; development of aquaculture technology for such species; introduction of substitute varieties and their market promotion; and assurance of a chain of custody.

How Can East Asian Seas Constituents Benefit from Certification to Develop Sustainable Fisheries?

After considering the presentations and discussions, the

The Marine Stewardship Council (MSC), with the objective of promoting marketbased incentives to improve management of fisheries worldwide, established a certification and seafood ecolabeling scheme to promote better management of wild harvest fisheries.

workshop discussed various elements on the role of certification and labeling in complementing government and community efforts to seek sustainable fisheries (ornamental, wild harvest and aquaculture). It was agreed that:

- Long-term sustainable use of aquatic resources is in the interest of the marine environment and coastal communities and economic development.
- Private sector conservation

 initiatives, such as certification
 and labeling, have roles to play
 in ensuring sustainable use.
 There is a range of public private partnership (PPP)
 options that should be
 considered, particularly those
 that provide market-based
 incentives, such as access to
 credit.
- Over the past ten years, a number of initiatives, such as the Food and Agriculture Organization (FAO) Guidelines on Ecolabeling, have provided

assurance to industries and governments that ecolabeling schemes can be operated without threatening either trade or the sovereign rights of governments to manage fisheries.

- 4. There needs to be better collection, management and presentation of data and information related to fisheries at local, national, and regional levels. Governments should develop, strengthen and/or harmonize information systems in support of their policy and decision-making processes.
- 5. Corporate social responsibility (CSR) should be considered as one of the key drivers to promoting sustainable fisheries in the region. Governments have a role to play in establishing a framework for CSR, including the tools, methods and incentives that will help private and public enterprises adopt and internalize environment-friendly business practices.

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Ministers from 11 East Asian countries¹ gathered in Haikou City, Hainan Province, PR China, on 15 December 2006 to sign the Haikou Partnership Agreement on the Implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) on board a Chinese environmental surveillance vessel. This was the second Ministerial Forum — the first was held in Putrajaya, Malaysia, in 2003, during which Ministers agreed to adopt the SDS-SEA as a common platform for regional cooperation in managing the seas of East Asia. Eighty participants, including representatives from sixteen international and national organizations, institutions and programs, attended the momentous event.

With the signing of the Haikou Partnership Agreement, the countries took another step forward by creating the coordinating machinery and operating arrangements And cooperation for sustainable dev

for the implementation of the SDS-SEA. The signatory governments agreed to transform PEMSEA from a project-oriented regional operating arrangement into a self-sustaining regional mechanism for SDS-SEA implementation, thus imparting an historic mission, and new responsibilities and challenges to countries and their partners for the sustainable development and management of the regional sea.

Ministers, senior government officials and other stakeholders also received reports on the seven thematic sessions of the International Conference, which preceded the Forum. The Chairs from the seven thematic sessions presented conclusions and recommendations of the workshops for the Ministers to consider, and highlighted a number of key messages, including the need for: improved environmental carrying capacity and ecosystem-based management approaches; the

The 2nd Ministerial Forum

tion of the Sustainable Development Strategy for the Seas of East Asia

Halkou City, Hainan Province, PR China • 14-15 December 2

opens a new chapter in promoting partnership relopment of the Seas of East Asia.

development of rights and incentive based tools in resource management; mainstreaming disaster management programs into national development strategies and budgetary processes; certification of good practices; application of innovative financial schemes (e.g., revolving funds) that combine the strengths of various financial entities to address bottlenecks to environmental investments; and empowerment of women, youth and local communities in SDS-SEA implementation.

The ministers and agency representatives recognized that, due to environmental degradation, the health of the region's large marine ecosystems are suffering from a very serious "fever", which needs urgent treatment by innovative approaches as exemplified by the SDS-SEA. The Forum emphasized that the implementation of the SDS-SEA must be linked up with objectives of poverty alleviation, sustainable livelihood, disaster management and other priority concerns. More specific targets of SDS-SEA implementation should be identified through consensus building and implementing arrangements, in combination with more concrete modes of operation and timelines. To achieve these objectives, greater involvement of countries and various stakeholders is crucial. With the Haikou Partnership Agreement and the strengthened cooperation of various Partners and stakeholders, the Forum expressed the expectation that concrete outcomes from SDS-SEA implementation will be evident at the next Ministerial Forum, to be held during the EAS Congress 2009 in the Philippines.

The 11 countries are Cambodia, People's Republic of China, Democratic People's Republic of Korea, Indonesia, Japan, Lao People's Democratic Republic, Philippines, Republic of Korea, Singapore, Timor-Leste and Vietnam.

East Asian Seas

Inaugural Meeting of the EAS Partnership Council

Haikou City, Hainan Province, PR China • 16 December 2006

The Inaugural Meeting of The East Asian Seas Partnership Council

Haikou City, Hainan, PR China, 16 December 2006

The Haikou Partnership Agreement on the Implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), adopted by 11 countries on 15 December 2006, transformed PEMSEA from an existing project-based arrangement to a self-sustained, regional partnership mechanism with a mandate to pursue the implementation of the SDS-SEA. The Agreement identified the institutional arrangements by which the partnership would operate, including the establishment of the intergovernmental and multisectoral East Asian Seas (EAS) Partnership Council to provide policy and operational guidance for, as well as steer, monitor and review the progress of SDS-SEA implementation.

During the Inaugural Meeting of the EAS Partnership Council on 16 December 2006, the Stakeholder Partners ceremonially signed the Partnership Operating Arrangements (POA) and took their places as PEMSEA Partners with the 11 State Partners in launching the EAS Partnership Council.

The Stakeholder Partners who signed the POA were Conservation International (CI), Coastal Management Center (CMC), UNDP GEF Small Grants Programme (SGP), IOC Subcommission for the Western Pacific (IOC/WESTPAC), Korea Environment Institute (KEI), Korea Maritime Institute (KMI), Korea Ocean Research and Development Institute (KORDI), Ocean Policy Research Foundation (OPRF), Oil Spill Response and East Asia Response Limited (OSRL/EARL), Plymouth Marine Laboratory (PML), UNDP/GEF Yellow Sea Project (YSLME), and UNEP Global Programme of Action (UNEP/GPA). Aside from their representatives, the Meeting was attended by representatives of the Country Partners¹, Observer Organizations² and Sponsoring Agencies³. PR China, represented by the State Oceanic Administration (SOA), hosted the meeting. A signing ceremony for Letters of Cooperation also took place between PEMSEA and four Partners (CMC, CI, IOC/WESTPAC and YSLME). The Letters of Cooperation identify areas of cooperation between the Partners over the next three years for the implementation of the SDS-SEA.

The EAS Partnership Council decided to hold its first business meeting in the second or third quarter of 2007. The Republic of Indonesia, represented by the Ministry of Environment, agreed to host that meeting, subject to the appropriate national approval process.

Labora City, Malan Province, PR China = 16 December 2006

To facilitate the convening of the first business meeting and its proper conduct, the Council adopted Guidelines of the Conduct of Meetings. Among other business matters, the guidelines provide a procedure for the election of Council officers.

Partners and Observers alike expressed satisfaction and hope for future action on the sustainable development of the Seas of East Asia through the Partnership.

¹ Cambodia, People's Republic of China, Democratic People's Republic of Korea, Indonesia, Japan, Lao People's Democratic Republic, Philippines, Republic of Korea, Singapore, Timor-Leste, and Vietnam.

² APEC Marine Resource Conservation Working Group (APEC MRCWG), Food and Agriculture Organization of the United Nations (FAO), International Ocean Institute (IOI), Network of Aquaculture Centres in Asia-Pacific (NACA), National Oceanic and Atmospheric Administration, USA (NOAA), Northwest Pacific Action Plan (NOWPAP), Southeast Asian Fisheries Development Center (SEAFDEC), and the UNEP GEF South China Sea (SCS) Project.

Representatives of the sponsoring Agencies, namely the Global Environment Facility (GEF), United Nations Development Programme (UNDP), the International Maritime Organization (IMO), and the World Bank.

Fold And Signed the Partnership Operating Arrangements on 16 December 2006, at Haikou, Congress Hanna, the People's Republic of China.

Inaugural Meeting of the EAS Partnership Council On behalf of C

PR China . 16 December 2006 Halkou City, Halnan

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December 2006

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Haikou Partnership Agreement on the Implementation of the Sustainable Development Strategy for the Seas of East Asia

Ministerial Forum, East Asian Seas Congress

Haikou City, Hainan Province, The People's Republic of China 15 December 2006

- We, the representatives of the countries of the Seas of East Asia region, have gathered together to establish implementing arrangements for the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), building upon the foundation laid down in the Putrajaya Declaration. On 12 December 2003, this Forum adopted the SDS-SEA, through the Putrajaya Declaration, as the Region's common platform for achieving the goals and objectives of the World Summit on Sustainable Development Plan of Implementation and the United Nations Millennium Development Goals concerning sustainable coastal and ocean development. The Putrajaya Declaration is the first regional expression of commitment to the implementation of SDS-SEA.
- We recognize the importance and urgency of putting into effect the SDS-SEA in order to sustain the resources provided by our seas. In this regard, we consider our cooperation for the SDS-SEA implementation as an essential part of the regional economic cooperation and integration.
- 3. Over the past decades, advocacy, political commitments and conservation efforts have been undertaken at national and regional levels. However, the environment of the Seas of East Asia continues to degrade at an increasing pace. One of the important concerns imparted by the tsunami which swept across the Indian Ocean on 26 December 2004 is how to prevent our people and coasts from being caught unprepared, thereby avoiding such devastating consequences. To arrest the trend of further degradation and to minimize both human and nature induced threats against our shared resource base, people's lives and properties are far more challenging than mere natural disaster response.

Long-term Partnership for the SDS-SEA Implementation

- 4. We believe that participation in the SDS-SEA implementation by all the countries and other stakeholders, within their respective capacities and resources, holds the key to confronting the challenges facing us. In the past, intergovernmental arrangements have placed the responsibility for environmental and resource management primarily on government, with other users and beneficiaries of those resources functioning primarily as interested observers. The partnership approach encourages all stakeholders to work together as complements of each other, to act dynamically and in a coordinated manner to bring into full play the role of each stakeholder within the framework of the SDS-SEA.
- 5. We consider partnership as an effective mechanism to facilitate concerted actions in our common endeavour to implement the SDS-SEA as it gives due consideration to the initiatives, shared responsibilities, desired outcomes, mutually supportive roles and the need to address disparities in capacity among the concerned countries and other stakeholders, including national and local governments, international agencies, non-government organizations (NGOs), the private sector, academic and scientific institutions, communities, financial institutions and donor agencies.
- 6. In this context, we are committed to forging a long-term stakeholder partnership for the implementation of the SDS-SEA. We encourage paradigm shifts, in management concept and action, from singlesector or single-purpose interventions to integrated coastal and ocean governance, from crisis-driven response to long-term capacity-building efforts, and from planning to ground-level implementation.

Priority Targets for SDS-SEA Implementation

- 7. We agree on and endeavour to achieve the following priority targets for the implementation of the SDS-SEA:
 - a. Mobilization of the necessary resources, capacities and services, as well as legal, financial and economic arrangements, including the adoption of a rolling ten-year regional partnership programme and the production of a regional State of the Coasts report by 2009, building on the existing relevant national and regional initiatives and programmes.
 - b. Formulation and implementation of national policies and action plans for sustainable coastal and ocean development in at least 70 percent of the participating countries by 2015, in order to develop and strengthen integrated coastal and ocean governance at the national level.
 - c. Implementation of integrated coastal management (ICM) programmes in at least 20 percent of the Region's coasts by 2015, to achieve the sustainable development of coastal lands and waters and to promote intra-and inter-regional partnerships in ICM capacity building.

Regional Implementing Mechanism for the SDS-SEA

8. We are heartened to see tangible outcomes achieved by the Global Environment Facility/United Nations Development Programme/International Maritime Organization Regional Programme on Building Partnerships in the Environmental Management for the Seas of EastAsia (PEMSEA). Over the past decade, through its pilot and present phases, PEMSEA has put in place and extended on-the-ground integrated coastal and marine management mechanisms and processes for bridging resource sustainability and economic growth; mobilized stakeholder involvement and support; promoted public and private sector partnership processes; and contributed to the formation of critical masses of expertise on the regional, national and local levels in addressing priority coastal and marine issues in policy, science and financing.

- 9. We have noted in particular that these efforts have led to, in many of the program sites, the reduction of multiple use conflicts, the improvement of environmental quality, the restoration of damaged habitats, beach cleanup, and the protection of endangered species such as marine mammals and sea birds. In addition, PEMSEA has catalyzed the concerted efforts by the countries of the Region, regional and international organizations, NGOs, concerned programmes, and financing and donor institutions in the formulation of the SDS-SEA. Furthermore, PEMSEA is actively engaged in the coordination of efforts by the countries of the Region in the implementation of the SDS-SEA through the provision of technical guidance and assistance, as well as the promotion of bilateral and multilateral cooperation. In addition, PEMSEA has demonstrated itself as an effective collaborative mechanism in promoting partnership on the local, national and regional levels.
- 10. We recognize PEMSEA as the regional coordinating mechanism for the implementation of the SDS-SEA and resolve to transform PEMSEA from the existing project-based arrangement to a self-sustained and effective regional collaborative mechanism with a mandate to pursue the implementation of the SDS-SEA through collaborative, synergistic and responsible actions and the accomplishment of our individual commitments. For this purpose, we agree to adopt and implement, within the framework of PEMSEA, the *Partnership Operating Arrangements for the Implementation of the SDS-SEA*, particularly with regard to:
 - An EAS Congress to be held every three years to serve as a vehicle for various stakeholders, partners and the collaborators in the SDS-SEA to share knowledge and monitor the progress of SDS-SEA implementation;
 - An East Asian Seas (EAS) Partnership Council which will provide the policy and operational guidance for, as well as steer, monitor and review the progress of, SDS-SEA implementation;

- c. APEMSEA Resource Facility, which will provide two services in support of SDS-SEA implementation, namely:
 - Secretariat services to the EAS Partnership Council, overseeing the implementation of Council decisions, the organization of the EAS Congress, and monitoring and reporting on the progress of SDS-SEA implementation; and
 - Technical support services to PEMSEA countries, including delivery and mobilization of policy and technical advice, capacity building and technical support for sustainable coastal ocean governance;
- d. A Regional Partnership Fund to channel and ensure the best use of voluntary contributions from interested countries, donor agencies, institutions and individuals.

Follow-up Actions

- 11. Within the next three years, we will undertake the following actions and report on the results at the EAS Congress 2009:
 - a. Developing work plans, mobilizing resources and support, and undertaking concrete measures and steps to achieve the priority targets and *the Partnership Operating Arrangements for the Implementation of the SDS-SEA* as stated above, based on our respective international obligations, national laws and capacities, as well as in consultation and cooperation with our collaborators in the SDS-SEA and other interested parties;
 - Forging collaborative arrangements between and among various stakeholders to enhance and make the best use of the Region's intellectual capital for integrated management

and sustainable uses of coastal and marine environment and natural resources, through stakeholder participation and networking, as well as scientific, technical and information support;

- c. Enhancing our efforts on coastal and marine water pollution reduction at the national and regional levels, particularly for achieving time-bound wastewater emission targets and sustainable access to safe drinking water and sanitation in pollution hotspots;
- Establishing innovative financing mechanisms, with a view to leveraging private sector investment and public-private sector partnerships, in collaboration with interested financing institutions and other stakeholders;
- e. Fostering collaboration, cooperation and partnership between PEMSEA and other relevant regional and international organizations, initiatives and programmes, in order to minimize duplication of efforts and enhance synergy among them;
- f. Developing and strengthening national interagency, multisectoral and multidisciplinary mechanisms and processes for facilitating the implementation of the SDS-SEA, taking into account specific national and local concerns and needs;
- g. Promoting public awareness and stakeholder involvement to ensure broad based participation in the SDS-SEA implementation at the local, national and regional levels.

We thank the People's Republic of China for her hospitality and tremendous efforts in making our Forum a success.

Adopted at the East Asian Seas Congress 2006, Haikou, Hainan, the People's Republic of China, 15 December 2006, in the English language.

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- There is strong and growing interest in the creation of a certification and labeling system for aquaculture. The Asian region dominates this form of seafood production and there is an opportunity for some leadership to be exercised to strengthen support for such a system within the region.
- 7. Illegal, unregulated and unreported (IUU) fishing continues to be a significant issue in both food fish and ornamental fish trades in the region. Efforts should be made to bring these practices within an appropriate management framework. This would have implications for policy and coastal law enforcement at local and national levels.
- 8. Food safety issues represent a key opportunity for

consideration within certification systems and will probably continue to dominate consumer interests in seafood attributes.

Port Security, Safety, Health and Environmental Management

Challenges in Port Management

Between 1999 and 2004, East Asian ports posted a tripling of container cargo throughput reflecting an ever increasing volume in international trade and commerce. To remain competitive amid a rapidly changing market, ports have to continuously seek ways to improve their operations. From their traditional role as the interface between sea and land, modern ports have now become integrated logistics



centers that yield significant impacts to a country's economic growth (Inoue). Increasingly, ports need to continuously improve their operations to provide more valueadded services, ensure port safety, occupational health and security, and improve sustainability through the protection and/or restoration of the marine water environment and ecological systems in and around their jurisdictions.

The Workshop on Port Security, Safety. Health and Environmental Management System highlighted the major efforts undertaken in recent years, contributing to better security, safety and environmental soundness of ports through the implementation of international instruments. The workshop noted that major ports in the region have prioritized the safe handling of dangerous cargoes and the implementation of the International Ship and Port Facility Security (ISPS) Code, which came into force on 1 July 2004. A special measure initiated by the International Maritime Organization (IMO) to enhance maritime security at a global scale, the ISPS Code was adopted to provide a standardized and consistent framework for evaluating security risks and for preventing and combating terrorist acts in the international maritime transport sector.

Promoting Sustainable Practices

Indeed, the port industry has continuously explored ways and

Tropical Coasts

means to address the challenge of balancing safety, security and environmental concerns with the efficiency of port operations — in cooperation with international organizations, regional programs and the scientific community. To balance security concerns with efficiency some options were presented. (See Box 3 for approaches on maritime security.) Various initiatives undertaken in a number of ports in the East Asian region to strengthen capacity in port safety, security and environmental management were presented at the workshop. These were implemented at different levels either by individual ports or regionwide, through the ASEAN Ports Association (APA).

A series of seminars conducted as part of the German Technical Cooperation's (GTZ) project, "Handling of Dangerous Goods in ASEAN Ports" have enhanced awareness of APA member ports on Dangerous Goods (DG) transport, handling and storage, including applicable international instruments. This is GTZ's response to assisting ports in the region in the implementation of the International Maritime Dangerous Goods (IMDG) Code.

One of the good practices discussed in the workshop was the appointment of a designated person to oversee the safe handling and transport of dangerous cargoes. All companies/organizations involved in the handling of dangerous cargoes, including manufacturers, dealers, forwarding and cargo booking agents, stevedores, packers, storekeepers, truckers, port operators and shipping lines are required to appoint a designated person. In some cases, it is necessary to have more than one person for this comprehensive work.

Some ports have benefited from the training program on Port Safety Auditing and a two-volume port audit manual developed by the Regional Programme on Partnerships in Environmental Management for the Seas of East Asia (PEMSEA). PEMSEA assisted port personnel in conducting port audits to determine the strengths, weaknesses and gaps in port regulations/enforcement and to come up with improvement programs to address the gaps.

The Indochina Ecoports Project involving five major ports in Vietnam and Cambodia has introduced an environmental management system (EMS) for ports. The project identified environmental issues in these ports (Box 4) and established baseline information with regard to their environmental performance with the use of the Self Diagnosis Method (SDM). SDM is a concise checklist against which port managers can self-assess the environmental management program of the port, which can be used in setting priorities. Training on how to analyze results of the Self Diagnosis for **Environmental Performance (SDEP)** was provided to local experts. Environmental coordinators of the ports were also trained on how to develop and implement an EMS.

Box 3: Approach to Maritime Security (Tay).

To balance security concerns with efficiency, we should adopt:

- 1. A risk management approach;
- 2. A chain of responsibility approach;
- 3. A multilateral approach; and
- 4. International standards.

Box 4: Major Environmental Issues in Ports (Van der Veen).

- 1. Dredging
- 2. Disposal of dredged materials
- 3. Noise
- 4. Dust
- 5. Air guality
- 6. Ship waste
- 7. Port development
- 8. Water quality

While ports are potential hubs of environmental pollution, it was established that the ports' environmental impacts are not well studied in the project sites. The project also demonstrated how the scientific community can provide support to the port sector.

A relevant activity undertaken in this regard is the establishment of a Port Safety, Health and Environment System (PSHEMS), undertaken by PEMSEA. The PSHEMS is an integrated Bangkok Port has demonstrated its commitment to safety and protection of the environment through implementation of an effective system for the safe handling of DG in ports, which includes the implementation of applicable international codes and guidelines.

approach to port safety, occupational health and protection of the port environment. It encompasses implementation of applicable international instruments with respect to port operations including DG handling, transport and storage, and entails development of health, safety and environmental (HSE) policy, standardized procedures and routines, and the continuous training of concerned personnel.

The Port of Bangkok in Thailand and Port of Tanjung Pelepas (PTP) in Malaysia have implemented the PSHEMS system. In Bangkok Port, the PSHEMS served as a tool in developing a systematic and comprehensive approach for the safe handling, storage and transport of dangerous cargoes. Bangkok Port has demonstrated its commitment to safety and protection of the environment through implementation of an effective system for the safe handling of DG in ports, which includes the implementation of applicable international codes and guidelines

such as the IMDG Code and APELL (Awareness and Preparedness for Emergencies at Local Level), implementation of a long-term capacity development program for personnel handling DG cargoes, development of procedures and routines for DG operation, and activities and implementation of a quality assurance system for DG operations.

On the other hand, the PTP demonstrated how the PSHEMS was integrated into their existing management system. It was emphasized that the introduction of an integrated management system (PSHEMS) has yielded positive results for the port, not only in promoting and enhancing a culture of safety, health and environmental protection into its business process, but also facilitating the advancement of the corporate image of PTP in promoting sustainable development.

The outstanding performances of these ports in their PSHEMS have earned them PEMSEA recognition.

Certification and Recognition Schemes in East Asian Ports

European ports currently use an assessment system called the Performance Environmental Review System (PERS), which was developed by the Ecoports Foundation. PERS is a port-specific standard for EMS based on ISO 14001. A review, as part of PERS, assists ports in setting objectives to improve performance on environmental issues as well as environmental management. A Certificate of Verification is issued to ports that have satisfactorily completed the requirements of PERS. Lloyd's Register, Rotterdam, was designated as initial validating authority on behalf of the Ecoports Foundation. Twenty-five European ports have been certified. The five major ports in Vietnam and Cambodia involved in the Indochina Ecoports Project are currently exploring possibilities to obtain PERS certification.

PEMSEA's PSHEMS recognition scheme was applied to the two pilot ports in the region (Bangkok and PTP) covering an audit process to assess the adequacy and effective implementation of the established PSHEMS. The assessment process assists ports in identifying significant areas for improvement and determining their performance against objectives and targets. A Certificate of Recognition is awarded to ports that have demonstrated satisfactory performance in establishing, implementing and continually improving their PSHEMS.

The Way Forward: Conclusions and Recommendations

In view of their indispensable role in facilitating world trade and commerce, the workshop acknowledged that the ports need to fulfill the twin objectives of implementing effective security, safety and environmental protection regimes and enhancing the efficiency of port and shipping operations. The ports would continue to undertake programs and activities that develop the maritime and port industry. This could be done by addressing the issues in a holistic and comprehensive manner; promoting greater use of technology and encouraging collaboration and technical cooperation (Tay).

The Workshop also concluded that activities currently implemented by the IMO, GTZ, Indochina Ecoports Project and PEMSEA complement each other — all working towards the sustainable development of the port industry. In Cambodia and Vietnam, Port Environmental Management is implemented by the Indochina Ecoports Project, while the GTZ project currently implemented by several ASEAN ports focuses on Handling and Transport of Dangerous Cargoes in Ports. On the other hand, the PEMSEA project, which was implemented in PTP and Bangkok Port, presented an integrated and comprehensive approach towards port safety, health and environmental management.

The above initiatives were acknowledged to enhance the environmental performance, security and safety management of ports and their operational efficiency. However, it was also noted that, while they were able to derive best practices which could be useful for other ports, at some point these approaches may result in confusion due to their varying scope and approaches.

More specifically, the Workshop put forward the following recommendations:

- Governments should support the establishment of an ASEAN Safety Advisory Body with a view towards assisting the ASEAN ports to set up a harmonized and effective port safety, health, and environment management system;
- 2. Governments should consider extending the initiatives of PEMSEA in providing technical support to other ports in the region contemplating the establishment of their port safety, health and environmental management systems.

- Governments should promote the implementation of legal frameworks and regulations for the safe handling of dangerous goods and port operations in general;
- 4. Organizations implementing similar projects in the region should establish linkages and partnerships to streamline efforts towards promoting safety, health and environmental protection in ports. This will optimize available resources and would benefit more ports in the region.

Clean and Safe Beaches

East Asian Seas Beaches: Clean or Dirty?

Two different opinions were voiced during the Seminar on Clean and Safe Beaches. There were claims that some of the beaches in the region are in deteriorating states due to rapid urbanization and unsustainable tourism practices. On



the other hand, an opposing view declared that scientific assessment of the quality of beaches from field evidence and reliable secondary sources indicates that majority of Asian beaches are not polluted and that water quality is good. Nonetheless, the seminar agreed on a common conclusion maintaining cleanliness and safety in beaches is imperative for the overall growth of the East Asian region.

To See Is To Believe: Finding Empirical Evidence

While it has been acknowledged that some of the region's beaches need prompt attention, the Seminar showcased some encouraging results from effective water quality monitoring and public awareness programs.

In the case of Hong Kong, the Environmental Protection Department has been monitoring and managing beach water quality in this Special Administrative Region of PR China for 20 years. This has proven that, through a determined local government program, it is possible to maintain and further improve the cleanliness of beaches, hand in hand with a rapidly modernizing urban environment.

In the Philippines, the Department of Environment and Natural Resources has also embarked on a beach and water quality monitoring program as an initiative to ensure that bathing beaches in the Philippines are safe and clean.

Reports from *Lonely Planet*, a popular tourist guide, have likewise showed that the beaches it surveyed in the EAS region were clean and safe. It must be remembered that these beaches are of particular tourist value and that this assessment was done purely on their physical appearance.



The Blue Flag Example

The Blue Flag Programme is an eco-label for beaches and marinas and is being successfully implemented in Europe, North America, South Africa and the Caribbean through the International Blue Flag Coordination. In 2006, more than 3,200 beaches and marinas were awarded the Blue Flag. Countries such as Brazil, Chile and Russia are currently in the pilot phase of the Programme.

The Blue Flag Programme aims to ensure public safety and health in beaches and marinas and establish a close harmonious relationship between tourism and the environment. If applied in Asia, the Blue Flag would work to realize a number of environmental objectives, such as the implementation of national legislation at the local level, encouraging local authorities to implement laws, attracting more international tourists, giving nongovernmental organizations (NGOs) a chance to cooperate with public authorities, facilitating an environmental network based on NGOs and encouraging eco-tourism.

A benefit of the Blue Flag is that it is widely spread internationally. This is beneficial because it means that many tourists around the world recognize the label, and it provides a very large networking/sharing opportunity and





Mangate Blue Flag Beach, South Africa.

support for the involved countries, municipalities, leaders and non-profit organizations that become involved. International backing is often very helpful in pushing for improvements in water quality, health and safety, etc.

The Green Leaf Programme

Thailand's Green Leaf Programme is a certification program for hotels with the objective of helping them improve their environmental management systems, optimizing energy use and boosting their corporate image in the international market. The Programme was developed by the Green Leaf Foundation (comprising of national government agencies, the private sector and international organizations) and administered by the Tourism Authority of Thailand. The Programme has already achieved initial progress in its efforts to raise awareness in the Thailand tourism industry, in promoting environmental quality and preservation, encouraging a continuous improvement in the efficiency of environmental development in hotels, establishing a nationwide certification of environmental standards in hotels and creating a positive image and competitive advantage for Thailand in the world market.

Is the Region Ready for Certification?

A lively debate on the usefulness of a certification scheme transpired among the participants of the session. The discussion recognized the benefits and costs that can be derived from an international certification program and weighed this option vis-à-vis the unique political, economic, social, cultural

and geophysical characteristics of the EAS region. Thus, while it was noted that the region has potential for developing a certification scheme similar to the Blue Flag system, the participants expressed reservations on applying the same certification scheme in the region. Moreover, before a beach certification is implemented, the participants agreed that it is more important to adequately address more pressing issues first. These issues, which can be considered as prerequisites for an effective certification scheme, are identifying the root causes of pollution and safety hazards in beaches to effectively develop corrective actions and establish preventive measures in beach management.

Recommendations for Beach Management in the EAS region

First Things First: Identifying Root Causes of Beach Pollution and Safety Hazards

 The need to establish a systematic and well functioning water quality monitoring program for beaches has been identified as one of the primary concerns for the region. The monitoring program should be effective in determining the resultant water quality and the root causes of pollution affecting beaches. In particular, the region needs to embark on scientific studies and analyses that will Policy frameworks and institutional mechanisms for existing monitoring systems must be strengthened, simplified and harmonized at national levels to allow sharing and mobilization of resources among national agencies and local authorities.

establish root causes for some beaches that are dirty within their national territories and transnational boundaries and set water quality objectives and parameters. Benchmarks, indicators and standards should be established to provide accurate baseline data.

Gathering Support: Institutional Arrangements, Public Awareness and Civil Society Mobilization

- 2. Policy frameworks and institutional mechanisms for existing monitoring systems must be strengthened, simplified and harmonized at national levels to allow sharing and mobilization of resources among national agencies and local authorities.
- 3. Information from monitoring programs is valuable and public awareness of the results must be continually encouraged. The role of the media and other means of

dissemination must be harnessed through an established communication plan and system that will encourage greater support for advocacy and changes in socioeconomic and political agendas for maintaining clean and safe beaches.

- Capacity building at the local and institutional level must be pursued. Sharing of best practices should be used to assist local authorities develop appropriate methodology, standards and programs for monitoring water quality in their beach areas.
- Information on international accreditation and certification programs should continually be disseminated.
- Participation of local communities, involvement of NGOs, and cooperation from regional and international agencies need to be encouraged to promote long-term

Box 5: Recommendations for Beach Management in the East Asian Region.

- 1. Establish a systematic and well functioning water quality monitoring program;
- 2. Strengthen policy frameworks and institutional mechanisms;
- 3. Disseminate information on the results of monitoring programs;
- 4. Build capacities at local and institutional levels;
- 5. Disseminate information on international accreditation and certification; and
- Promote the participation of local communities, NGOs and regional/international agencies.

sustainability as well as to exert pressure for legislative actions and concerted efforts.

Moving Forward: Practical Actions in Beach Management for the Region

 To address the root causes of poor beaches, the region should invest in sewage treatment plants and other required environmental infrastructure and services. It can also embark on environmental programs, establishing demonstration sites for clean and safe beaches.

- Incentives and recognition should be promoted to encourage greater compliance and support among stakeholders. Investments should be mobilized to support local environmental management programs for installation of sewerage infrastructure.
- 3. Although the strength of international certification programs is recognized, local certification should be encouraged. The Green Leaf Programme of Thailand, for instance, has demonstrated the viability of having a local certification scheme that can be implemented by a local authority such as the Tourism Authority of Thailand.

Acknowledgement is also given to the co-convenors of the Workshop: the Marine Aquarium Council (MAC), Marine **Stewardship Council** (MSC), International **Maritime Organization** (IMO) and the ASEAN Ports Association (APA). **PEMSEA** would also like to acknowledge the support and participation of the workshop chairs, cochairs, speakers and participants.

Presentations

- Abraham, A., P. Holthus, G. Lilley and F. Ramiro. "MAC Certification Systems and Program Implementation in the East Asian Seas Region." Workshop on Certification and Sustainable Fisheries.
- Biller, D. " Valuing Beach Quality." Seminar on Clean and Safe Beaches.
- Boserio, P. and S. Boserio. "The Marine Ornamental Industry, Its Role in Certification." Workshop on Certification and Sustainable Fisheries.
- Cabading, V. "Beach Ecowatch Program in the Philippines." Seminar on Clean and Safe Beaches.
- Chong, L.P. "Improving and Measuring Port Performance through an Integrated Management System." Workshop on Port Security, Safety, Health and Environmental Management.
- Dean, C. "Blue Flag Certification." Seminar on Clean and Safe Beaches.
- Green, S., M. Aguinaldo, R. Montebon and N. Evano. The Science and Management of Marine Aquarium Fisheries. Workshop on Certification and Sustainable Fisheries.
- Ho, E. "Twenty Years of Monitoring and Managing Beach Water Quality in Hong Kong." Seminar on Clean and Safe Beaches.
- Inoue, S. "Recent Developments and Challenges Facing the Port Sector." Workshop on Port Security, Safety, Health and Environmental Management.
- Kirkman, H. "Cleanliness and Safety for Southeast Asian Beaches: The Blue Flag Example." Seminar on Clean and Safe Beaches.
- Leadbitter, D. "Seafood Ecolabeling: The Marine Stewardship Council's Future in Asia." Workshop on Certification and Sustainable Fisheries.
- Mueller, M. "Implementation of the International Maritime Dangerous Goods Code in Ports: Issues and Concerns."

Workshop on Port Security, Safety, Health and Environmental Management.

- Phayakvichien, P. "Green Leaf Programme." Seminar on Clean and Safe Beaches.
- Poopetch, A. "Management of Dangerous Cargoes in Ports: Bangkok Port's Experience." Workshop on Port Security, Safety, Health and Environmental Management.
- Ross, S. A. and D. Factuar. "Promoting a Recognition System for Port Safety, Health and Environmental Management." Workshop on Port Security, Safety, Health and Environmental Management.
- Shiming, X. "Port Security, Safety, Health and Environmental Management in China." Workshop on Port Security, Safety, Health and Environmental Management.
- Subasinghe, S. "Live Fish Trade in Asia Trends and Challenges." Workshop on Certification and Sustainable Fisheries.
- Tay, L. H. "Balancing Safety, Security and Marine Environmental Concerns with the Efficiency of Port and Shipping Operations." Workshop on Port Security, Safety, Health and Environmental Management.
- Van Der Veen, M. and X.Q. Le. "Port Environmental Management in Vietnam and Cambodia." Workshop on Port Security, Safety, Health and Environmental Management.
- Van Der Veen, M. "Port Environmental Review System and Self-diagnosis Methodology." Workshop on Port Security, Safety, Health and Environmental Management.
- Wong, P. P. "Beach Certification: Is It Possible in Asia?" Seminar on Clean and Safe Beaches.
- Zhu, J. and N. Charalambous, "SOLAS Chapter XI-2 and the ISPS Code and Aspects Related with the Assessment of Their Implementation." Workshop on Port Security, Safety, Health and Environmental Management.





Local Government Financing for Water, Sewage and Sanitation

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Local Government Financing for Water, Sewage Treatment and Sanitation

"Vision is not enough; it must be combined with venture. It is not enough to stare up the steps, we must step up the stairs."



Introduction

The urgent requirements in the East Asian Seas (EAS) region for pollution prevention and reduction facilities and services are well recognized. Water resources development and wastewater management remain at the heart of the struggle for economic growth, poverty reduction and sustainable development. The Thematic Workshop on Local Government Financing for Water, Sewage and Sanitation addressed financing for a sector that traditionally is non-profitable — it is severely under-funded in East Asia, with some countries achieving only one percent coverage in sewerage and sanitation services. The workshop focused on the constraints facing the sector, the conditions required to overcome such challenges and successful case studies that can be replicated. With increasing demand and deteriorating environmental quality, coupled with increasing financing requirements, there is a need to improve performance for this sector — financially, technically and operationally. Investing in water supply, sanitation and waste management infrastructure involves a long project cycle. If the targets for the **UN Millennium Development Goals**

(MDGs) and commitments to GPA (Global Programme of Action for the Protection of the Marine Environment from Land-based Sources) implementation are to be achieved, major changes and innovative approaches need to be developed and executed to reduce the time span from policymaking to service provision.

Responding to the need to enhance delivery of targeted outputs of the World Summit on Sustainable Development (WSSD) Plan of Implementation and the MDGs, the workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies focused on issues surrounding investments and private sector participation. Sectors included in the discussions were water, wastewater, sanitation and, in part, solid waste management, with emphasis on the necessary reforms, policies and institutional arrangements, including regulation and incentives, in particular. The workshop was co-organized by The World Bank and PEMSEA and cosponsored by United Nations Environment Programme (UNEP)/ GPA.

In recognition of the outcomes of the Second Intergovernmental Review Meeting of the GPA (IGR-2), the workshop on GPA Implementation – National and Local Government Challenges, co-organized by UNEP/ GPA and PEMSEA, discussed the actions to be pursued in the region for GPA implementation from 2007 to If the targets for the UN Millennium Development Goals (MDGs) and commitments to GPA (Global Programme of Action for the Protection of the Marine Environment from Land-based Sources) implementation are to be achieved, major changes and innovative approaches need to be developed and executed to reduce the time span from policymaking to service provision.

2011, including pollution reduction and coastal management initiatives.

The workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction focused on the challenges facing East Asia in increasing pollution reduction investments. Examples of successful revolving funds, best practices and the concept of a Project Preparation Revolving Fund (PPRF) for East Asia were discussed.

Tradeoffs between Economic Development and the Condition of the Environment and Ecosystems

The world population has multiplied by seven within the two past centuries, generating unprecedented pressures on water resources and terrestrial and marine ecosystems. The East Asian seas are seriously threatened by overfishing, land-based anthropogenic pollution and, increasingly, by sea-based sources of pollution.

Growing population and economies also resulted in growing and competing demand for water for domestic, agricultural and industrial purposes, outstripping present levels of development of water supply to water scarcity or lack of infrastructure. Except for developed countries in the EAS region, the common theme is that of severe shortfall in the provision of piped water and sanitation facilities as well as lack of waste management facilities, which endanger the living environment of many, especially in urban areas. Destruction of forests and watersheds further aggravates the availability of water, and also results in siltation and sedimentation of water reservoirs, irrigation canals, as well as seagrass beds and coral reefs.

The East Asian region is also the largest pig and poultry production region, accounting for considerably and consistently more than half of the world's stock of pigs and more than one-third of the world's stock of poultry. An initial estimate indicates that about 26 percent of the total area in East Asia is suffering from significant nutrient surpluses that emanate mainly from agricultural sources (Zhou). Currently, animal manure is estimated to account for 47 and 16 percent, respectively, of the phosphorus and nitrogen surpluses in the EAS region (Zhou).

The economic costs of environmental degradation are significant. Poor fisherfolk and coastal communities are often most adversely affected by resource degradation, such as overfishing and coral reef damage. In the Philippines, for example, a recent World Bank study pointed out that fish catch by the same effort is estimated to have declined to 30 percent of its levels in the early 1990s (Lovei, b). Moreover, fish loss, export losses and health impacts due to environmental degradation in the Philippines are estimated to be \$160 million annually (Lovei, b). For the East Asian region, the losses associated with not meeting demand for water supply and sanitation are estimated at \$66 billion per year (Hart).

New concerns are also emerging, including the need to address the impacts of climate change and variability that affect coastal areas considerably due to sea level rise and impacts on coral reefs and other ecosystems. About 90 percent of all natural calamities and 70 percent of all the associated deaths over the last three decades have been of hydrometeorological origin. The order of magnitude of the damages caused by water-related disasters reached approximately \$200 billion in 2005 (van Hofwegen). Risks are often magnified due to the conversion and destruction of forests, mangroves, coral reefs and other habitats, which provide protection against natural hazards. Many farmers, fisherfolk and upland dwellers, as well as those living in river deltas and coastal municipalities and cities, are exceedingly vulnerable. Between 1985 and 1999, the least developed countries lost 13.4 percent of their gross domestic product (GDP) to disasters (van Hofwegen). In this way, natural disasters can greatly hinder the development of nations.

Meeting the MDGs

Lack of water — both in quantitative and qualitative terms, combined with increasing variability of climate due to global warming, increase the pressures even more. The demand for strong measures and interventions to simultaneously enhance access and effective use of water, improve sanitation, minimize pollution, rehabilitate waterways and ecosystems, and mitigate the risks associated with natural hazards is apparent. Even further, the linkage between protecting the marine and terrestrial ecosystems, promoting economic growth, creating jobs, allowing children to attend school, and facilitating women to participate in more productive activities because of time and energy savings from water collection and attending to ill children, is a significant driving force in change.

Recognizing the challenge, global and regional commitments by countries and development organizations to protect shared freshwater, marine and coastal resources has grown in the past years (e.g., UN MDGs, WSSD). Furthermore, with the adoption of the Beijing Declaration in 2006, governments unequivocally claimed ownership of the GPA, assumed responsibilities for its implementation and reaffirmed political will to tackle a range of pollution threats to the marine environment (Datta).

The annual investment cost (in 2001 prices) estimated for meeting the MDG targets in water supply and sanitation for East Asia and the Pacific ranges from \$8.11 billion/year (Asian Development Bank estimates) to \$9.5 billion/year (The World Bank estimates). Meeting this challenge involves overcoming: a) rigidities in the policy environment; b) shortsightedness among investors, service providers and politicians; c) lack of access to technology, which is usually proprietary and expensive in developing countries; and d) barriers of trust among government, civil society, private/business sector and financial institutions (Habito). Box 1 also shows the poverty and social implications that need to be

considered in providing sustainable access to safe water sources and improved basic sanitation.

Necessary Ingredients: Incentives, Institutions and Investments

The necessary ingredients to promote and realize the targets in water, sanitation and environmental improvement infrastructure remain to be associated with the three **I**s: Incentives; Institutions; and Investments (Lovei, a; b).

Incentives are necessary to increase investments for reduction of

The results of 'no action' or 'businessas-usual' are significant costs to health and societies, often amounting to as much as four to eight percent of GDP (Lovei, b).

coastal and marine environmental degradation because water, sanitation and pollution reduction facilities are essentially public goods, and there are externalities and asymmetric information problems involved. The broad policy and incentives framework include: a) policy-based incentives involving legal liability and regulatory standards; and b) marketbased incentives geared at increasing the profitability of water, sanitation and sewage treatment and rewarding the use of clean technology and waste management (Biller).

In most developing countries, incentives are often ill-designed. For instance, tax holidays are being given to high-growth, but pollutive industries. At the same time, legal and regulatory frameworks in most

Box 1: Income, Water and Sanitation Indicators.

The table below shows that in the five identified countries, the consumption share of the lowest income group (or lowest 10 percent of households) in the national income ranges from 2.3 to 4 percent while the consumption share of the highest income group (or highest 10 percent of households) ranges from 26.7 to 33.8 percent. This skewness in income distribution and consumption pattern suggests the need to target lower income groups, which usually do not have access to safe water and sanitation among other goods and services, and at the same time, a restructuring of the water tariff rates to make it more 'socialized', i.e., higher income groups will have to pay more.

COUNTRY	C	0	U	N	T.	R	Y	- 9	1	¢ D	0	A	то	R S	2	
	GDP'						GDP per capita'			Household Income or Consumption by Percentage Share'			Access to Safe Water		Access to Basic Sanitation	
									L	owest 10	High	est 10	Urban	Rural	Urban	Rural
Cambodia	PPP	-	\$26.	99 bil	lion	F	opp+ _	\$2,06	5	2.9%	33.8%	(1997)	58%	29%	53%	8%
PR China	PPP	+	\$7.	262 tr	illion	I	pp+ -	\$4,58)	2.4%	30.45	(1998)	92%	68%	69%	29%
Indonesia	PPP*	-	\$827.	4 billi	on	F	PPP* -	\$3,23	2	4.0%	26.7%	6 (1999)	89%	69%	71%	38%
Philippines	PPP*	-	\$430	6 billi	on	F	PPP+ -	\$4,17)	2.3%	31.95	6 (2003)	93%	82%	81%	61%
Vietnam	PPP.	-	\$ 227	2 bill	ion	I	ppr -	\$2,30	3	3.6%	29.95	(1998)	93%	67%	84%	26%

* PPP (Purchasing Power Parity)

- ¹ http://www.cia.gov/cia/publications/factbook/geos/cb.html#Econ
- http://globalis.gvu.unu.edu/indicator_detail.cfm?country=PH&indicatorid=147

Source: Modified from "An Overview of Gaps and Constraints Regarding Public and Private Sector Capacities for Environmental Infrastructure in Five East Asian Countries," PEMSEA Manuscript Series No. 2 (2005). The lack of sewerage and wastewater treatment systems is still one of the most daunting problems in most countries in the EAS region, with impacts and increasing costs to human life and ecosystem integrity. On the positive side, there is growing recognition that sustainable management of freshwater, coastal and marine resources are central to the quality of growth and poverty reduction in the region. With respect to water supply access, approximately 331 million people have gained access to drinking water from 1990 to 2004, representing a 6-7 percent increase (Hart). With respect to access to sanitation, approximately 481 million people have gained access to better sanitation from 1990 to 2004, representing a 20-percent increase (Hart).

developing countries are still weak or not enforced to make polluters internalize the costs of pollution. Market-based incentives, such as user fees, are also not in place, which would have made water and waste management facilities more attractive to investors and service providers. User fees for water and other resources would also give signals on the value of the resource and induce conservation.

Institutions involve three building blocks: government, markets (consumers and producers) and civil society. The government has a catalytic role in transforming capital flows into environmental financing. It should bring out an institutional situation such that private capital flows are directed into the environment and bottlenecks are removed. For markets, there are new elements, such as consumer rights, product certification and corporate social responsibility (CSR). Civil society can also influence the adoption of pollution-reducing policies, methods and technologies through information dissemination, pressure and participation.

governance framework translates into low credibility of the public sector and high-risk perception. This has resulted in high interest rate and short tenors offered by investors and financing institutions. These, in turn, discourage governments to initiate environmental infrastructure projects. A PEMSEA study on private sector investment in environmental infrastructure projects in five countries (Cambodia, PR China, Indonesia, Philippines, Vietnam) found that private banks are facing constraints in extending financing for environmental projects, such as short maturity structure of deposits; low probability of repayment from local government borrowers; and high cost of information and monitoring (Ebarvia-Bautista). On the part of the private operating companies, their participation in the provision of water and sanitation services is limited by lack of: a) transparency in procurements; b) clear set of legal and regulatory framework for private involvement; and c) access to finance. Recognizing the limitations of the public sector, investors would still invest if governments worked to

Weak institutional and

create more predictable and consistent business environments and reduce transactions costs. Hence, there is a need to promote transparency and continuity so investors are not hampered by changing or inconsistent rules, and inefficient legal and judicial systems.

Finally, *investments*, aimed at improving environmental conditions are often not financially viable. In the private sector, weak environmental regulations and enforcement make environmental investments less attractive. In the municipal utility sector, low cost recovery hampers service quality and expansion. Sound municipal financing and planning are essential in the longer term to support the growing need for investments in environmental services, to improve service quality and to attract the private sector in service delivery.

A couple of examples from outside the region were presented during the workshop wherein the carrot-and-stick approach — a combination of regulations, financing incentives and availability of financing mechanism — have resulted in pollution reduction without sacrificing the commercial viability of financing institutions.

In Slovenia, the newly enacted environmental standards created demand from companies for financing sources, which could be utilized to bring them into compliance. The Environment Credit Facility was set up by the European Bank for Reconstruction and Development (EBRD) and Global Environment Facility (GEF) to promote environmental investments by private sector companies and smaller municipalities for pollution reduction in the Slovenia Sava Basin of the Danube River. It offered attractive fees that provided strong financial incentives for companies as well as participating banks.

Another good example was Egypt's Second Pollution Abatement Project (SPAP). The central government has set in place environmental regulations, but industrial companies located in environmental hotspots are offered an attractive financial package to carry out pollution abatement investments (Chalal). Upon satisfactory completion of their projects, companies become eligible for a waiver of 20 percent of their loan principal. This has stimulated companies to internalize their environmental costs and achieve regulatory compliance. The project was also able to engage the banking sector to promote pollution abatement by offering a commercially viable option.

Enabling Ingredients: Information, Awareness, Capacity, Political Will

Government leaders — both national and local — must have a vision of sustainable development and the capacity and political will to push for reforms and implement essential investments in water, sanitation, pollution reduction and resource Sound municipal financing and planning are essential in the longer term to support the growing need for investments in environmental services, to improve service quality and to attract the private sector in service delivery.

management. The results of 'no action' or 'business-as-usual' are significant costs to health and societies, often amounting to as much as four to eight percent of GDP (Lovei, b).

Information and Awareness — Taking the First Strides

Related to the three **I**s is information. It is important to demonstrate to local leaders and stakeholders the benefits to be derived from investing in water, sanitation and sewage treatment, show working models ("what works") and technological and financing options as well as explain what would happen if people do not do anything.

Environmental and Resource Valuation

Change in and improvement of public perception on the benefits of treating pollution is necessary. This requires scientific understanding of environmental services. Particular emphasis needs to be given to economic valuation of coastal and marine resources and environmental services. Valuation can contribute to the development of new policy, legislation and market-based instruments to stipulate use and allocation of water resources and treatment of wastewater (Biller). Valuation also facilitates priority setting and cost-benefit analysis of remediation. Such valuation can show the benefits that environmental services might bring — food security, health, poverty reduction, income redistribution for the poorest and protection of investments and communities from natural hazards.

Stakeholder Participation

Bringing stakeholders together in a strategic planning process can ensure sustainability of operation and maintenance processes by building consensus for services that not only meet immediate needs, but also attract businesses, contribute to employment and economic growth, and develop total commitment of communities.

The respective and mutual roles of civil society, media and judiciary were considered critical for effective policymaking and for program implementation to address land-

based sources of pollution and other environmental agenda. Given the scale and nature of the problem, it has been stated that governments acting alone would not be able to meet the MDG targets and address land-based sources of pollution. A multistakeholder, multipartner approach is seen as a principal tool to achieve water and sanitation targets, advance the implementation of the GPA and replicate successful practices. **Regional cooperative frameworks** are considered important to facilitate exchange of information and for dissemination of best management practices.

In all of these, the role of the youth in convincing their elders to change attitudes, as producers, consumers, political leaders or resource providers, cannot be overemphasized.

Advocacy

Advocacy of water and environment among financial institutions is also important in making funds or credit available for environmental infrastructure projects, which are in their category of low-priority and high-risk projects. CSR must also be promoted so that pollution reduction and resource conservation may be internalized by industrial and commercial establishments. It is essential to have the industrial sector become an active participant in the water and environment debate.

Capacity Building — Taking the Leap Forward

A key challenge is addressing weak institutions and lack of capacity and know-how. Efforts to reach water supply, sanitation and environmental targets must focus on sustainable service delivery, rather than construction of facilities alone. Institutional, financial and technological innovations must be promoted. In some cases, the facilities have been constructed, but lack of trained staff to manage the operations and financing has resulted in poor service delivery and even in the deterioration of the whole system. Thus, besides additional investments. capacity development is needed to realize the MDG targets as well as achieve the goals of the GPA Programme of Work.

Capacity building and change of perception and attitudes are longterm, continuing processes, but outcomes can be realized even in the short to medium term. From the case studies presented, it was clear that pilot projects are successfully demonstrating alternative and innovative approaches, technological choice (e.g., constructed wetlands) and management practices (joint management with involvement of community, private sector and/or civil society organization).

Partnership Investment Fund

Inspired by the Putrajaya Declaration, The World Bank and GEF have initiated the Partnership Investment Fund for Pollution Reduction to help remove barriers such as high investment costs, scarcity of investment resources, and lack of incentives — to more rapid investment in pollution reduction. The \$80-million GEF grant is leveraging at least \$800 million of World Bank investments to be completed by 2015 (Lovei, b).

This program supports innovative approaches to reduce the impact of land-based water pollution on the large marine ecosystems of the East Asian region, such as the Ningbo Water and Environment Project in Zhejiang, PR China. This project involves: a) the use of wetlands for wastewater treatment, biodiversity protection and public education; b) introduction of policies on integrated land development, water management and environmental protection; c) adoption of a full-cost pricing policy; and d) development of performance-based "business" culture within government agencies (Li).

Livestock Wastes

To tackle the issue of livestockinduced, land-based pollution and environmental degradation of the South China Sea, the GEF/World Bankfunded Livestock Waste Management in East Asia Project was launched in mid-2006 involving PR China, Thailand and Vietnam. The project uses a comprehensive approach that integrates: a) affordable technological solutions; b) policy development and enforcement for environmentally sustainable livestock production and waste management; c) capacity building for increasing awareness among line agencies, general public and livestock producers, and improving manure management practices at local and national levels; and d) regional coordination and synergy (Zhou). Although the project is expected to yield only limited direct impact on water quality of the South China Sea, a noticeable pollution reduction is to be achieved through the replication of demonstrated livestock waste management practices in the participating countries.

Integrated Coastal Zone Management

The Southern Mindanao Integrated Coastal Zone Management Project involves integrating protection and management of ecosystems with economic activities from the upland to the coastal ecosystems. It is funded with a loan from Japan Bank for International Cooperation with counterpart financing from the Philippine Government. The project's management interventions include: a) institutional strengthening; b) capability building; c) watershed rehabilitation; d) riverbank stabilization through vegetative and engineering measures; e) construction of septage treatment facilities for coastal municipalities; f) establishment of environmental conservation and protection center; and g) livelihood assistance packages (Basada).

Indonesia

People, including the poor, are prepared to pay for natural resource

services and environmental protection. This is demonstrated in an ongoing program in sewage treatment facilities in Indonesia -SANIMAS, which has been implemented since 2003 in urban poor settlements in 22 provinces and 88 cities, and has benefited approximately 100,000 people. The investment costs for infrastructure is a shared contribution from **BAPPENAS** (the National Planning and Development Agency) and the Ministry of Public Works (20-22 percent), local governments (55-60 percent), Bremen Overseas Research and Development Association (BORDA) network (15–17 percent) and the community (2-5 percent). Public awareness and capacity building are essential since the sanitation and sewage treatment facilities are being managed by

Tale of two cities: conventional and innovative approaches to municipal wastewater treatment...



The city government of Haikou (Hainan, PR China) has worked with the private sector for the design, construction and operation of a sewage treatment plant (Left).

The Water and Environment Project in Ningbo City (Zhejiang, PR China) involves the construction of a wetland for tertiary municipal wastewater treatment and the rehabilitation of a natural wetland for non-point source pollution control, biodiversity protection and environmental education (Right).

In both cases, there will be an introduction of pricing policy, public education and capacity building, and effective separation of roles and responsibilities of government and private enterprise.

community-based organizations (Ismawati). Site selection is competitive-based so communities have to show their commitment from project proposal to planning to operation stages. User fees are also collected to cover operating and maintenance costs.

Another initiative on capacity building is a three-year project — Indonesia Sanitation Sector Development Project — implemented in six cities, financed by the Dutch Trust Fund and Water and Sanitation Program of The World Bank, and administered by BAPPENAS. This project is focused on the development of a national enabling environment and policy and city strategy covering the sanitation sector, capacity building and raising awareness among stakeholders on hygiene and sanitation (Ismawati).

Phnom Penh

In Cambodia, through the Master Plan in 1993, the Phnom Penh Water Supply Authority (PPWSA) has completed the major rehabilitation of the existing facilities and part of the expansion, with support from bilateral donors. The governance and management model contributed to the successful transformation of this utility (Long). The first major step for PPWSA was the 'changing of culture' based on educating, motivating and disciplining its staff and the public. The second was 'house-cleaning' to restructure the whole organization. More dynamic, younger personnel with better qualifications were promoted to higher levels and given more

responsibilities. The third step was to ensure self-sustained operation by continuous improvement of the consumer database, upgrading of the computerized billing system, reducing non-revenue water and improving collection.

PSP/PPP

In terms of operations, partnership arrangements with the private sector is the fastest and most effective way to improve performance and bring in technical and managerial expertise and required financing. Private sector participation (PSP) or public-private partnership (PPP) is essential in developing countries, where publicly-managed utilities perform poorly, are subject to political interference, and their chances to improve performance within the public management domain are slim (Libhaber). In Guangzhou, PR China, city government funds were combined with private sector financing, and various types of partnership arrangements (e.g., build-operatetransfer and design-management) between the local government and private, foreign-owned companies have been made for improved service delivery in sewage and solid waste management (Yuan).

Selecting partners from the private sector also requires a transparent process. In most cases, local governments need guidance and assistance to effectively evaluate technical and financial proposals submitted by investors and project proponents. Wastewater treatment processes must yield the required quality of effluents, yet they must also be simple, low cost and easy to operate, in order to make such services affordable to the communities. Lower cost processes alleviate investment needs and financing problems. Investors also do not have to be large multinationals, but can be small– or medium–sized local companies. This approach has proven successful in Colombia and other South American countries (Libhaber).

The role of central governments in raising awareness and building the capacity of local governments to implement a user fee system was also pointed out. In Thailand, for example, the sense of ownership and capacity of local governments to set and collect appropriate user charges have to be further developed in order to recover existing operating and maintenance expenses (Simachaya).

Political Will and Commitment — Taking the Path to Sustainability

Sanitation and sewage treatment remain low in the usual priorities of local governments, and those that invest in such facilities continue to be a rare breed. This sector is faced with: a) low service coverage in the backdrop of increasing demand; b) traditional financing constraints scarce resources with lingering subsidy mentality; c) tariffs not recovering costs; d) low capacity to service existing debts; e) inherently

inefficient systems and poor operating performance (i.e., no autonomy; no accountability; no customer orientation: no market orientation): f) non-existent or ineffective regulatory framework; and g) governance issues, e.g., nontransparent transactions, political interference in management, setting user fee rates and actual fee collection (Baietti). This can be partly overcome by allowing a private sector operator to manage the network, in return for a concession fee. Additional advantages include rapid injection of capital from the private operator and high technical ability to manage the utility. The use of contractors for service delivery actually makes it easier to develop efficiency measures as costs are clearly defined. There is also less dependence on the political cycle. This allows the delineation of roles and responsibilities between public and private sectors, and the development of the public sector's capacity as a regulator and supervisor rather than being both the regulator and operator.

One set of tools for improving accountability are efficiency measures which compare costs and inputs with the outputs produced or outcomes accomplished. Performance benchmarks are additional tools that help detect problems, and at the same time, build confidence as improvements are tracked over time. A fund channeling and governance framework based on the appropriate allocation of risks and third party agreements is another mechanism needed to align incentives and improve governance (Baietti). Payment and guarantee mechanisms as well as continuity of the projects even with changes in administration or political leadership are deemed more important than direct loans.

Instilling discipline and sense of accountability among government officials is one of the points raised during the discussion as key to improve governance structure, which in turn will attract investments at the local level. Nevertheless, service providers and contractors must also be accountable to local governments and their consumers. Thus, accountability not only refers to the relationship between local government officials and their constituents, but also includes the relationship between contractors and local governments, between consumers and service providers and between local governments and other levels/agencies of government.

Although water supply, sewerage and sanitation services are public goods. PSP and PPP are inevitable given limited resources. Nonetheless, as the water and sewerage sector forms a natural monopoly, it requires a regulator, whose tasks include setting tariffs, determining performance standards, achieving social goals and/or protecting the environment (Guzman). Having an independent regulator also minimizes the problem of political interference and at the same time could ensure more efficient performance of the utility. Two models of regulation of water utilities were presented, namely:



Partnership with the private sector...



Build/Construct-Operate contract with a small private operating company for a water and sewerage system in Nátaga, Colombia, resulted in improved service delivery. User fees are collected from households and commercial establishments to cover operating and maintenance costs.

institution-based or Anglo-American model, and contractbased or French model. In the case of Metro Manila, Philippines, the two types have been mixed, resulting in confusion of the regulatory office as to whether its role was to enforce the regulatory rules set out in the contract/concession agreement, or to try and exercise discretion and effectively change the rules, e.g., tariff rates (Guzman). Thus, a regulator's duties have to be clearly defined for the regulator to function adequately.

Financing – Finding the Right Mix

Another major challenge is access to funds and sustainability. Financing mechanisms are needed by both the public sector to support its various environmental management activities, and the private sector to bankroll the capital and operating costs of environmental facilities and services. The right to water does not mean that water and sanitation provision is free. When water is used for economic purposes it must be paid for, but for basic services, the cost can be handled in multiple ways and proportions, through taxes, cross-subsidies and socially sensitive user fees or tariffs. It is the sharing of cost between taxpayers and users, and the extent to which the poorest can be provided with low-cost and low-price services that should lead the debate (van Hofwegen).

Long-term financing is critical for investments in water and wastewater. Environmental investments to be affordable must be amortized over a long life. Difficulties with usual financing sources (e.g., lack of longterm financing, high interest rates, perceived high risk of local government projects, etc.) can also be addressed by innovative mechanisms that permit complementarity among various financial entities. The Philippine Water Revolving Fund (PWRF) is such a scheme, mixing grants, loans, guarantee mechanism and domestic capital market. The proposed PWRF is being designed and established as a mechanism to manage the transition to marketbased lending, but its success hinges on an appropriate policy and institutional environment and adequate demand from potential investors/clients, e.g., local government units and water districts (Porciuncula).

The EBRD-GEF Environment Credit Facility in Slovenia is an example of a successful revolving fund, which has spurred and motivated private banks to lend for the cleanup of the Danube River. Under this Facility, EBRD is providing funds that are on-lent to local participating commercial banks, which in turn channel sub-loans to private and municipal entities investing in water pollution reduction projects. As one of the first banks to participate, Volksbank – Ljudska Banka d.d. has made 12 investments, having recognized the opportunity to establish new business lines that

would position the bank as more environmentally responsible (Zalar). From a credit perspective, the bank has not experienced any problems with repayment, and nine projects have already been completed, resulting in improved wastewater quality (Zalar).

The Egypt's Pollution Abatement Project is another example of a revolving fund mechanism, involving a pool of soft loans of about \$160 million from international financial institutions. The National Bank of Egypt and participating commercial banks offer commercial loans to creditworthy industrial polluters in identified hotspots for financing pollution abatement investments. The project structure is designed to transform a soft loan into a commercial loan with a grant component, allowing 80 percent of the original loan to revolve, in the sense that the funds will be available for future loans (Chalal). It requires a verv active and coordinated participation of the central government on the policy/ regulatory and investment front.

Since loans from financing institutions and private sector capital contributions need to be paid, costrecovery and payment mechanisms are critical. The case studies demonstrated that, given the right incentives, e.g., tariffs or user fees and full-cost recovery, private operators would invest in water and wastewater infrastructure. It is necessary, however, to inform stakeholders about the basis of the tariffs to increase their willingness to pay. As customers, they need full information about the related costs and benefits of water, sewerage and sanitation as well as the various options available. Transparent pricing through user fees — instead of hiding service delivery costs in general taxes — makes the trade-off clearer.

In some cases, recovering full costs from charges on consumers may not be possible (because of the impact on bills), but desirable (because of the community health benefits). In most medium- and small-sized towns in developing countries, where the population is mainly poor, tariff payment capacity is low, infrastructure investments backlog is large and there is no way to finance all the required investments through tariffs. The only approach available to finance required investments is to complement the income from tariffs with subsidies, which may come from foreign grants, foundations and philanthropists (very limited and unsustainable). or government grants (taxpayer contributions).

It is important to note that governments often justify their use of universal subsidies by asserting that subsidized services will help the poorest. On the other hand, it is exactly because services are subsidized for everyone, including those who could afford to pay, that service providers do not recover sufficient costs to be able to expand and improve service networks in poorer areas. Utilities must fully recover the cost of their services, and governments can assist the poor with When water is used for economic purposes it must be paid for, but for basic services, the cost can be handled in multiple ways and proportions, through taxes, cross-subsidies and socially sensitive user fees or tariffs. It is the sharing of cost between taxpayers and users, and the extent to which the poorest can be provided with low-cost and low-price services that should lead the debate (van Hofwegen).

carefully targeted subsidies. In Colombia, cross-subsidies were applied in towns with populations of markedly different incomes. Water fees were lower in poorer areas, effectively causing the higher income users to cross-subsidize the lower income users. Cross-subsidies could also be used between the water and wastewater sectors. Incentives include adding wastewater fees to the water tariff, and applying this tariff to all users, as in the case of the Manila Water Company. Both cross-subsidies could work substantially. Subsidies for water, sewerage and sanitation, however, must be based on measurable outputs, used prudently, and only in the interim - when there are issues of affordability (i.e., for poor communities), and pressing issues of immediate concern (e.g., to reduce incidence of typhoid, diarrhea, etc., or address epidemics). The poor benefit most from financially sound

and well-run water utilities since the alternative source of water for the poorest sectors of society is from independent water providers often supplying water of questionable quality at a very high price.

No single solution exists, and different models are required for different situations. The higher the cost recovery, however, the more financing and management options are available.

In the tourism municipality of Puerto Galera in Oriental Mindoro, Philippines, traditional financing sources (e.g., taxes, subsidies) and access to loans are severely limited. However, the tourists, residents and establishments are all prepared to pay for a wastewater management system through an environmental user fee, based on the results of a willingness-to-pay survey (Atienza). Setting up a trust fund from the collected user fees, and earmarking it for the protection of the coastal and marine resources (specifically for sewage treatment) will enhance the project viability.

Domestic resources can be supplemented by taking advantage of external financing. Donor interest towards the mitigation and management of transboundary and global environmental problems has been increasing. For example, in Shandong Province, PR China, local government funds were combined with financing from the Economic **Development Cooperation Fund** (EDCF) of RO Korea for a wastewater treatment system (Hun). In Indonesia, community-based sewage treatment projects combined grants, loans, national government funds and user fees paid by the communities. Hence, **Official Development Assistance** (ODA) funds and central government financing through external loans from multilateral financial institutions continue to play an important role in supporting water supply and wastewater management initiatives in the EAS region.

There are existing examples of externally financed environmental fund mechanisms, such as endowments, trust funds and revolving funds. Undersecretary Gil Beltran of the Department of Finance, Philippines, mentioned the Foundation for the Philippine Environment (FPE). The FPE received an initial endowment fund of \$22 million from the United States Agency for International Development for biodiversity conservation through a debt-for-nature swap mechanism. The FPE endowment fund is in the form of Special Series Notes from the Bangko Sentral ng Pilipinas. FPE uses the interest earned from the Bangko Sentral Notes to provide grants to NGOs and people's organizations. A similar mechanism can be explored for waste management projects.

Project Preparation Revolving Fund

A critical bottleneck to scaling up investment in the environmental programs in East Asia has been the shortage of financially viable projects. It has been observed that in most cases, there is demand for water, sewerage and sanitation facilities and that financing is available — from international, government and private financing institutions and private sector companies — but there is lack of bankable projects. Local governments and prospective project sponsors lack the capacity to develop ideas and concepts and package them into fully-developed projects, which can be presented to a funding source or lending institution. While a number of donors and public/private sector institutions have resources available for project lending, there is a severe shortage of funds for project preparation. In view of this, a project preparation revolving fund (PPRF) is envisioned for the EAS region

(initially starting in five countries: Cambodia, PR China, Indonesia, Philippines and Vietnam) by GEF, together with the World Bank, UNDP and PEMSEA.

The PPRF would provide project preparation loans based on an evaluation of applications vis-à-vis criteria on the environmental objectives and financial analysis to determine if the proposed project can get financed by the financing source identified in the proposal (Khan, Ross and Supetran). The project preparation cost (the loan) can be capitalized into project financing; hence, repayment of the loan can occur when the project obtains financing. The panel discussion and open forum involved an animated exchange of views and recommendations that would be valuable in further developing the concept of PPRF (Box 2).

Local Governments: Quo Vadis?

Most of the water, sanitation and wastewater management projects were driven by central government technical knowledge and funding. With decentralization and devolution of functions, such as in Thailand, Philippines and Indonesia, most local governments were unprepared technically, financially and in terms of institutional capacity to deal with the duties imposed on them. Thus, when environmental facilities were handed over to local government authorities to operate and maintain, there had
been inadequate planning for the funding of this long-term duty in a sustainable manner, and the local governments also felt a weak sense of ownership for the new facilities.

Despite this scenario, it has been shown that strides are being taken, and achievements are being made at the local level. For efficiency, equity and sustainability reasons, local governments are best placed to address water, sanitation and resource and environmental management, especially within their jurisdictions (Box 3). Local governments and utilities that are doing well can be role models and 'champions', making it possible for replication in other sites. The dramatic turnaround of Phnom Penh's water supply system can be largely credited to the strong and effective leadership of the water authority, facilitated by a supportive and responsive government and to the change in culture to a more business and consumer-oriented one. Manila Water Company, Inc. underwent corporate transformation and empowerment of employees to improve customer service and performance of the utility. Examples from Puerto Galera, Oriental Mindoro, and San Fernando City, La Union, both in the Philippines, demonstrated some innovative financing mechanisms to address pollution reduction, specifically environmental user fees and real estate taxes. Indonesia's successful sewage treatment projects draw their apparent achievements from strong community participation in planning

Box 2: Project Preparation Revolving Fund for East Asia.

The implementation model(s) for the PPRF are being explored. The workshop provided a forum for exchange of ideas involving the PPRF concept. The key points that are most relevant for the development of the PPRF concept are listed below:

- An important element in the project concept is due diligence – to better understand the prospective public and private client demand for the project preparation loans; local governments (LGs) prefer grants or soft loans for project preparation.
- The prospective borrowers must have flexibility vis-à-vis the selection of consultants; there is a need, in some cases, to utilize and train local consultants to improve project quality.
- General provision of technical assistance (TA) to LGs is not enough, thus, LGs also need instruments, such as the PPRF to prepare good projects and get them financed in a reasonable amount of time.

and implementation. The involvement of local citizens as owners and operators may offer savings as the residents may be more careful to ensure proper maintenance of the system that they have helped put in place or the capital they have contributed themselves.

Funding agencies have begun to relax traditional rigid policies and processes that limit local governments' ability to access their funds. This is partly due to the

- LGs will also value the PPRF as a clearing house for information about financing sources.
- Development Banks will welcome PPRF if it could generate high-quality and bankable projects.
- Involvement of a private financial institution will be essential to implement the PPRF.
- PEMSEA's role as a TA provider and advisor on environmental issues will be critical.
- Given the fund size to population size ratio in Slovenia and Egypt, a PPRF in East Asia would either have to be very large or cover a relatively small percentage of the population.

strong advocacy, political will and demonstration of outputs of some exceptional local government officials and strong support of stakeholders. San Fernando City was able to access loans and technical assistance from the World Bank for its sanitary landfill, and from Deutsche Gesellschaft Technische für Zusammenarbeit (GTZ) for its ecological sanitation project, which combines sanitation, water conservation, solid waste management and agricultural enhancement (Ortega).



Gaining public trust...

The Phnom Penh Water Supply Authority adopted a governance and business-oriented management model that turned around the performance of the utility, including getting stakeholder support through:

- Public information campaigns
- Consumer feedback
- Public consultations
- Receiving public complaints
- Payment facilitation

Our past successes came from our dedication and commitment. It gives us the confidence and courage to pursue our task. Our failures are lessons learned that enable us to move on.

- Long Naro

(Phnom Penh Water Supply Authority)

Box 3: Why Local Governments?

Local governments are best placed to meet the challenge of achieving the MDG targets for the following reasons (Habito):

1. Efficiency:

- more responsive: local government is more accessible, more sympathetic, quicker to respond to people's needs.
- fosters accountability: closeness between people and local government makes it harder to hide irregularities.
- reduces costs: due to stronger accountability and stronger ownership, i.e., resource allocation determined by the beneficiaries themselves.
- better mobilizes local resources: citizens more willing to invest their time and resources if they have a role in decisions affecting their welfare and future.
- encourages innovative solutions: by fostering self-help, localized and tailor-fit approaches (vs. one-size-fits-all solutions) are more likely to emerge.

2. Equity:

- more democratic: promotes participation by people directly affected by decisions.
- protects minorities: permits some degree of self-determination for minority communities.
- promotes broad-based development: helps avoid bias for urban centers and the national capital region; better serves rural development.

3. Sustainability:

- promotes ownership: participation in planning projects gives people a personal stake in their success, and incentive to ensure effective implementation and monitoring.
- promotes political stability: avoids "winner take all" outcomes; permits sharing of political power.

Conclusion and Recommendations

The MDG and WSSD targets and commitments to GPA implementation cannot be achieved without major changes in the approach being taken by countries and reallocation of resources for such objectives. The presenters and participants agreed that ODA and government subsidies (from taxpayers) were necessary in some cases, for example, in the short term, to bridge a financial gap. However, cost recovery, through tariffs or user fees (from consumers), was a vital element in financing local environmental management initiatives and ensuring their sustainability.

The speakers and participants concluded that sustainable utilities could only be achieved with strong. flexible and innovative management, backed by far-sighted and committed local governments. Instilling discipline and political will, and curbing corruption were seen as crucial to enhance credibility. In this context, assistance is needed in order to create awareness among local governments and stakeholders to make environmental management and investments in water, sanitation and sewage treatment high priorities in the government agenda. Furthermore, there is a need to build the capacity of governments to craft and enforce the necessary policies and legislation, adopt transparent processes, and thereby create an

environment that is conducive to private sector participation. Of key importance is the decentralization process — as many forms of coastal and marine degradation are caused by actions taken in different jurisdictions. Intergovernmental and multisectoral relationships thus play a major role.

Public awareness and education are needed to ensure social acceptability and increase stakeholder willingness to pay user fees. This in turn would make it easier for local governments to collect fees. The education of the youth and empowerment of employees and communities for the water and environment agenda are essential to ensure that there will be a pool of well-trained and motivated people to operate and manage water and environmental facilities. This was a key factor in the improved performance of the water authority in Phnom Penh, concessionaire in Manila, and the sewage treatment projects in Indonesia and Colombia.

Financial markets can support sustainable development goals by making certain that flows of capital are directed towards projects that minimize potential damages or lead to the protection, rehabilitation and management of the environment and natural resources. The necessary ingredients to promote and realize the targets in water, sanitation and environmental improvement are related to the three **I**s: incentives; institutions; and investments. The enabling conditions are gaining Public awareness and education are needed to ensure social acceptability and increase stakeholder willingness to pay user fees, and this in turn, would make it easier for local governments/ politicians to collect fees.

access to information, creating awareness, building capacity, inculcating political will and promoting partnerships. Households and industries must also share the responsibility, and governments must facilitate, regulate and enforce. Showing results and improving performance can regain public trust, and leverage additional financing resources.

The following recommendations from the three workshops covered a series of pragmatic steps and proposals for achieving MDG targets and GPArelated objectives in the region over the next three years within the framework of the SDS–SEA implementation program:

 Conduct informationeducation-communication campaigns. Public disclosure of the cost and implications of 'no action', value of environmental services, and benefits to be derived from resource and waste management are crucial to policymaking and policy and project implementation.

- Strengthen advocacy efforts among local executives. Mobilize and strengthen national and local government capabilities in developing, adopting and implementing GPA, and in particular the delivery of water, sanitation, sewage treatment, and pollution reduction services. Build capacity and equip governors and mayors to win more champions.
- Integrate the water and environmental agenda and mainstream GPA objectives and actions into policies, programs, and national and local development planning and budgetary mechanisms. Harmonize economic development and environmental protection policies.
- Mobilize domestic resources through application of policy– based and market–based instruments (e.g., user fees) and other tax and investment reforms to create sustainable financial mechanisms and to establish an environment conducive for public–private partnerships. ODA resources would not be enough

to address water and sanitation demand, meet the MDGs, and implement the GPA. Governments must also build a culture of payment and protect the water, sewerage and sanitation services from the political cycle.

- Develop partnership arrangements with the private sector to provide technology, managerial skills and private capital financing required for improved performance of the sector.
- Use appropriate cross-subsidy schemes to address social equity and willingness-to-pay issues for water supply, sanitation and sewage treatment facilities.
 Subsidies must be well targeted, and used only in the interim to bridge a financial gap and address immediate environmental concerns.
- Develop more innovative financing schemes (e.g., revolving funds)

that combine the strengths of various financial entities to address traditional shortcomings, such as high interest rates and short tenors.

- Ensure independence of regulatory bodies; eliminate political interference.
- Improve cooperation and coordination at different levels of government and with nongovernment agencies and private sector. Ensure community support and participation.
- Disseminate best management practices from successful projects that could be replicated elsewhere. Regional cooperative frameworks are considered important to facilitate exchange of information and lessons learned.
- Harness the youth more effectively in changing attitudes and bad habits of the grown-ups.

PEMSEA would like to acknowledge the support of co-convenors: The World Bank and the United Nations Environment Programme/Global Programme of Action for the Protection of the Marine Environment from Land-based Sources (UNEP/GPA). We would also like to acknowledge the support and active participation of the workshop chairs (Dr. Cielito Habito of Ateneo de Manila University, Dr. Anjan Datta of UNEP/ GPA, Mr. Aldo Baietti and Mr. Kamran Khan of The World Bank), speakers, panelists, moderators and participants during the workshops under Theme 6: Local Government Financing for Water, Sewage and Sanitation as well as the plenary keynote speakers, Magda Lovei of The World Bank and Paul van Hofwegen of the World Water Council.

Presentations

- Atienza, A. and R. Cataquiz. "Environmental User Fee System and Trust Fund for Coastal Management and Sustainable Tourism in Puerto Galera." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Baietti, A. "Challenges in Promoting Private Participation in Water and Wastewater: Towards a Financially Sustainable Framework." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Basada, R., J. O. Sampulna and R. L. Calderon. "Investment in Water, Sewage and Sanitation: The Case of Southern Mindanao Integrated Coastal Zone Management Project, Mindanao, Philippines." Seminar on GPA Implementation: National and Local Government Challenges.
- Biller, S.A.D. "Policies and Incentives for the Reduction of Coastal and Marine Environmental Degradation." Workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction.
- Chalal, H. "Case of the Egypt Pollution Abatement Facility." Workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction.
- Datta, A. "Outcomes of the IGR-2 Meeting 2006 and Implementation of the GPA for 2007-2011: Milestones in the MDG and WSSD POI Agenda." Seminar on GPA Implementation: National and Local Government Challenges.
- Ebarvia-Bautista, M.C. and S.A. Ross. "An Overview of Public and Private Sector Capacities in Environmental Investments in Five East Asian Countries." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Fabella, L. and P. Rivera. "Manila Water Company: A Case Study on Public-Private Partnership." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.

- Guzman, A. "Regulation of Water and Sanitation Services." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Habito, C. F. "Local Government Financing for Water, Sewerage and Sanitation: Overview of Issues." Thematic Keynote Speech. Thematic Workshop on Local Government Financing for Water, Sewage and Sanitation.
- Hart, T. "Unmet Demands in Water and Sanitation: What is the Cost to East Asia?" Seminar on GPA Implementation: National and Local Government Challenges.
- Hun S., I.-H. Jung, and D-W. Kim. "Financing Cooperation for the Expansion of Environmental Facilities." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Ismawati, Y. "Challenges and Experiences of Local Governments on Wastewater/Sewage Treatment: The Case of Indonesian Cities." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Khan, K., S. A. Ross and A. Supetran. "Project Preparation Revolving Fund (PPRF) for Pollution Reduction in East Asia." Workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction.
- Li, Z. and Q. Chen. "Ningbo Water and Environment Project." Seminar on GPA Implementation: National and Local Government Challenges.
- Libhaber, M. "Private Specialized Operators of Water and Sanitation Utilities in Smalland Medium-size Municipalities: The Colombia Case Study." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Long, N. "Managing Phnom Penh Water Supply." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.

- Lovei, M. (a). "Financing Environmental Expenditures: Context and International Experience." Workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction.
- Lovei, M. (b). Sustainable Development for the Seas of East Asia. Plenary Keynote Speech.
- Ortega, M. J. Panel Discussant. Workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction.
- Porciuncula, A. "Creative Financing Solution for Water Supply and Sanitation in the Philippines." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Simachaya, W. "Wastewater Tariffs in Thailand." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Su, Y. "China's Opportunities and Challenges in GPA Implementation." Seminar on GPA Implementation: National and Local Government Challenges.
- van Hofwegen, P. Water, Environment and Development: Progress and Initiatives. Plenary Keynote Speech.
- Wang, L. "Haikou City's Corporate Approach to Environmental Services." Seminar on GPA Implementation: National and Local Government Challenges.
- Yuan, X. "Public-Private Partnerships for Sewage Treatment and Solid Waste Management in Guangzhou, China." Workshop on Public and Private Sector Investment in Water, Sewage and Sanitation: Approaches and Case Studies.
- Zalar, I. "EBRD/GEF Environmental Credit Facility in Slovenia." Workshop on Policies and Incentives for Scaling Up Investments for Pollution Reduction.
- Zhou, W. "Management of Livestock Wastes in East Asia." Seminar on GPA Implementation: National and Local Government Challenges.



12-16 December Halkou City, Halnan Province, PR China

Side Events

PEMSEA Network of Local Governments for Sustainable Coastal Development (PNLG) Inaugural Meeting

On the morning of 13 December, the Inaugural Meeting of the PEMSEA Network of Local Governments for Sustainable Coastal Development (PNLG) was opened by Dr. Li Haiqing of the State Oceanic Administration of China and Dr. Chua Thia-Eng, Regional Programme Director of PEMSEA. Both of them highlighted that local governments are at the forefront of our battles against unsustainable practices of marine resources utilization and degradation of precious marine and coastal habitats. In view of their challenging roles, local governments are in critical need of strengthening their managerial, technical, institutional and financial capacities with regard to ocean and coastal governance.

The official birth of the PNLG as a local government-driven, sustainable regional network, through the signing of the PNLG Charter, was highly recognized as it would benefit local governments in various ways. According to the PNLG Charter, the PNLG will facilitate the exchange of ideas and lessons learned among local government members, build awareness within communities and among stakeholder groups on the need and benefits of responsible use and management of natural resources, and serve as an advocacy group for local governments at regional and international forums, promoting the socioeconomic and ecological benefits of ICM and advancing policy reforms in support of integrated management of coastal and marine resources.

Eighteen local governments joined the signing of the PNLG Charter, including Bali, Badung, Buleleng, Denpasar, Gianyar, Karangasem, Klungkung, Tabanan and Sukabumi (Indonesia); Bataan, Batangas and Cavite (Philippines); Chonburi (Thailand), Danang and Quangnam (Vietnam), Shihwa (Kyunggi Province, Republic of Korea), Sihanoukville (Cambodia) and Xiamen (PR China). After the signing ceremony, each representative joined in expressing their governments' commitments to the continued implementation of integrated coastal management as well as their support to the sustainable operation of the PNLG.

The PNLG members elected Mr. Pan Shi Jian (Vice Mayor of Xiamen Municipal Government, PR China) and Mr. Enrique T. Garcia, Jr. (Governor of Bataan Province, Philippines) as PNLG President and Vice President, respectively. The establishment of the PNLG Secretariat within the Xiamen Municipal Government was officially announced, and Mr. Zhou Lumin (Deputy Director General, Xiamen Ocean and Fisheries Bureau and Director, Xiamen ICM Project) was appointed Head of the PNLG Secretariat. The PNLG members also adopted the 2007 Annual Work Program, as presented by Mr. Zhou, and welcomed the offer of Danang Municipality to host the next annual forum in Danang, in September 2007.











Special EAS Congress 2006 Issue

Finding the Common Voice: The ICM Dialogue

As an expanded activity of the PEMSEA Network of Local Governments for Sustainable Coastal Development (PNLG), the ICM Dialogue was organized on the morning of 14 December 2006, in seven language groups, namely Bahasa, Chinese, Khmer, Korean, Filipino, Thai and Vietnamese. Each Dialogue was attended by the representatives of local governments in concerned ICM sties as well as representatives and experts of relevant national government agencies and institutions. In particular, the Thai Dialogue was further enhanced in its scope of discussion by the participation of the Coastal Habitats and Resources Management (CHARM) representatives.

The ICM Dialogue successfully concluded with the achievement of its objectives: 1) to provide unique opportunities for ICM sites to share their experiences, successes and failures, opportunities and barriers in the implementation of ICM at the local level, without being constrained by language barriers; and 2) to explore future long-term strategies for increasing information exchange and capacity building among the concerned sites with a common language.

The plenary session of the ICM Dialogue was chaired by Dr. Rafael D. Guerrero III, Executive Director of the Philippine Council for Aquatic and Marine Research and Development (PCARMD). Each Dialogue group presented their outputs. Overall, the groups agreed on the need to establish a systematic operational mechanism for the ICM Dialogue, so that it can be continued as a part of PNLG activities in the future, thereby facilitating effective knowledge sharing and information exchange. In addition, the following recommendations were made by the participants:

- Conduct review of ongoing ICM projects and initiatives
- Promote national networking of various ICM projects and initiatives
- Establish national coordinating/partnership mechanism
- Create national driving force for ICM scaling up
- Organize regional/national training workshops/forums
 Adjust existing ICM efforts to reflect unique culture
- and socioeconomic situations
- Promote information exchange through websites, cross-site study tours, workshops, within countries or between countries
- Use an information management system for data/information sharing, e.g., IIMS, GIS and websites







Tropical Coasts



Special EAS Congress 2006 Issue

PEMSEA Presents Awards and Recognition to Outstanding Organizations and Individuals

The PEMSEA Awards and Recognition Night was held on 13 December 2006 and had two categories: The Port Safety, Health and Environmental Management System (PSHEMS) and the Integrated Coastal Management (ICM).

The PSHEMS Certificate of Recognition was awarded to two ports demonstrating continued improvement in their commitment to port safety, health and environmental protection. Both ports completed the development and implementation of their respective PSHEMS system and underwent an implementation audit conducted by PEMSEA. The first PSHEMS award was given to the Port of Tanjung Pelepas (PTP), Malaysia, and was presented by Mr. Jianxin Zhu, Deputy Director, Technical Cooperation Division of the International Maritime Organization (IMO). Mr. Othman Ibrahim, Head of Internal Audit, Office of the Chairman and Integrated Management Representative, PTP, accepted the award.

The second PSHEMS Certificate of Recognition was awarded to the Port of Bangkok, Thailand, and was presented by Mr. Jean-Claude Sainlos, Director, Marine Environment Division, IMO. Ms. Sunida Skulratana, Director General of the Port Authority of Thailand, accepted the award.

Three awards were given in the ICM category. The PEMSEA Award for Outstanding Performance as a Partner in ICM was presented to the Bataan Coastal Care Foundation, Incorporated (BCCF), Philippines, for its active involvement in the development and implementation of ICM and in forging partnerships with the government and other stakeholders to achieve environmental sustainability, while providing a harmonious environment for investments. Dr. Magda Lovei, Environment Sector Manager of The World Bank, presented the award to Mr. Ronald Allan Victorino representing BCCF, on behalf of Ms. Marilou Erni, President of BCCF and Executive Director of Petron Foundation.

The PEMSEA Award for Outstanding Performance in ICM went to the Provincial Government of Batangas, Republic of the Philippines, for its significant contributions in the East Asian Seas region, demonstrating persistent efforts and distinguished achievements in effective application of ICM for pollution management, conservation, conflict resolution and improving the standard of living of its people. The award was presented by Dr. Andrew Hudson, Principal Technical Advisor, International Waters, UNDP/GEF, to Hon. Armando Sanchez, Governor of Batangas.

The Xiamen Municipal Government, PR China, was the recipient of the PEMSEA Gold Award for Outstanding Performance in Coastal Governance, for its establishment and continual improvement of institutional arrangements in support of a sustainable coastal governance program. Hon. Pan Shi Jian, Vice Mayor of the Xiamen Municipal Government received the Gold Award presented by Dr. Alfred Duda, Senior Advisor on International Waters, GEF Secretariat.

A special award was also presented to Dr. Chua Thia-Eng, PEMSEA Regional Programme Director, signed by PEMSEA Focal Points, in recognition of his dedicated service in successfully promoting and building partnerships for enhanced capacity in marine and coastal management in the region. The award was presented by Hon. Khieu Muth, representing Hon. Mok Mareth, Minister, Ministry of Environment and National Focal Point of Cambodia.

The Recognition and Awards Night was emceed by Dr. Cielito Habito of the Ateneo De Manila University, Philippines.













The Dynamics of Integrated Coastal Management Launched at the EAS Congress

On 13 December 2006, PEMSEA launched *The Dynamics of Integrated Coastal Management, Practical Applications in the Sustainable Coastal Development in East Asia* during the EAS Congress 2006. The event also celebrated Dr. Chua's 20 years of practical experience in addressing issues related to the integrated management of the coasts and oceans which he shares in the 16-chapter book.

Experts in different fields witnessed the event and some shared their thoughts on the new publication. Dr. Alfred Duda, Senior Advisor on International Waters of the Global Environment Facility (GEF), called the book a definitive reference for ICM.

Dr. Li Haiqing, Director General, International Cooperation Department, State Oceanic Administration of China announced that China has offered to translate the book into Chinese.

Dr. Biliana Cicin-Sain, Director of the Gerard J. Mangone Center for Marine Policy, University of Delaware, USA and Cochair, Global Forum on Oceans, Coasts, and Islands, called the book a "lasting legacy for practitioners," as well as "a new standard text to ICM". In her review of the book, she mentioned that it is "... an essential reading for public officials working in coastal management and for the training of new professionals in the field. Especially useful are the author's insights on "what works" and "what doesn't" in the application of ICM, and the author's recommendations for the scaling up of ICM to encompass a nation's entire coastal zone; the application of systematic indicators, and international certification of ICM programs to enhance their effectiveness and ensure measurable on-the-ground results."

Dr. Gunnar Kullenberg, Former Executive Secretary, International Oceanographic Commission, adds that it is "an extremely useful system-oriented, information loaded overview of integrated coastal management for sustainable development, based on long practice and real field experiences focusing on East Asia but globally applicable."

Dr. Chou Loke Ming, Professor, National University of Singapore; Dr. Kem Lowry, Professor, University of Hawaii; and Dr. Clive Wilkinson, Coordinator, Global Reef Monitoring Network, likewise acknowledged the valuable contribution of the book to students and practitioners.

Before the ceremony ended, Dr. Chua expressed his gratitude to colleagues Nancy Bermas-Atrigenio, Daisy Padayao and Danilo Bonga for their dedication and assistance during the writing of the ICM book.

This 468-paged book explains the rationale underlying the use of the integrated management approach, and the practices used to apply sustainable development principles and international environmental instruments when undertaking ICM programs. It also provides a basic framework within which various problem-solving, management-oriented activities can be developed, and outlines the processes that can be used to guide their planning and implementation.





December 2006

Special EAS Congress 2006 Issue

Capacity Building for Coastal and Ocean Governance

PEMSEA and the United Nations Educational, Scientific and Cultural Organization-Intergovernmental Oceanographic Commission (UNESCO-IOC), in collaboration with the Global Forum for Oceans, Coasts and Small Islands, recently conducted a survey to assess East Asia's capacity building needs in ocean and coastal governance. The survey was undertaken in support of building strategies to strengthen capacity to implement the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA).

The survey was sent to 22 educators; representing 20 universities in East Asia. Because of their important contribution in strengthening capacity in the region, universities outside East Asia were also invited to participate in the survey. The results of the survey and the discussion on problems as well as future actions were presented and discussed during the EAS Congress 2006. PEMSEA and UNESCO-IOC, together with the Global Forum for Oceans, Coasts and Small Islands co-organized this Discussion Group consisting of experts from universities, research institutions and governments to initiate discussion on how best the capacity in ocean and coastal affairs could be further developed and strengthened. The Group consisted of 23 discussants representing 9 countries in East Asia, Australia and the USA.

From both the survey and the discussions during the EAS Congress side meeting, particular issues were articulated relating to:

- Gaps and problems in capacity and the determination of their importance relative to current and future ocean governance initiatives, including national and regional integrated ocean policy development;
- 2. The presence (or absence) of university formal programs related to ocean and coastal management in countries in the region, as well as needs for enhancing these;
- 3. The presence (or absence) of informal programs on ocean and coastal management targeted to decision-makers in countries in the region, as well as enhancing such programs;
- Approaches to institutionalizing "extension" services at the community/local level for problem solving and community education regarding ocean and coastal resources;
- 5. Approaches to accessing and providing support for capacity building and current opportunities for funding;
- 6. The presence (or absence) of public education and participation programs related to ocean and coastal management in countries in the region as well as needs for enhancing these; and
- 7. An outline of the proposed strategic solutions.

These discussions are published in the EAS Congress Workshop Proceedings No. 4 - Assessment of East Asia's Capacity Building in Ocean and Coastal Governance (EAS Congress/WP/2007/04), available at www.pemsea.org/eascongress.

Photos courtesy of the International Institute for Sustainable Development (IISD)/ Earth Negotiations Bulletin.



dialogues, including, for example: a) nature's services can no longer be perceived as free and limitless — effective ocean governance requires that comprehensive ocean-related matters are linked with other social, political and economic systems; b) regional efforts, to be meaningful, must be complemented by national efforts, specifically national policies and programs on integrated coastal and ocean management; c) the devolution of authority to the local level is seen as progress in ocean governance — integrated coastal management (ICM) has strengthened local coastal governance by providing an effective framework for local capacity development and sustainable financing; d) to counter the looming and increasing risks in coastal areas, there is an urgent need to institute mitigation and adaptive measures for natural and manmade disasters, and not wait for disasters to happen; e) proven and reliable certification systems give people the choice of rewarding and promoting sustainability to water does not mean that water and sanitation are free – the focus must be sharing of costs between the taxpayers and the users, and the extent to which the poorest can be provided with low-cost and low-price services.

These messages were articulated by the various international conference Chairs to the Ministers and Senior Government Officials, who attended the Congress' Ministerial Forum on the Implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). Developed as a timely and vital aspect of improved coastal and ocean governance in the region, the Forum provided the Ministers with the opportunity to interact with scientists, managers, practitioners and other interest groups from within and outside of the region, to better understand issues facing the ocean sector. In addition, it provided policymakers the opportunity to connect with each other, to share perspectives, and to consider practical arrangements for mitigating the transboundary impacts of inappropriate human activities, such as land- and sea-based pollution, overfishing and climate change.

On the 15th of December, the Ministers signed the Haikou Partnership Agreement, which formally established an intergovernmental and multisectoral regional mechanism for the implementation of the SDS-SEA — a strategy that encourages government and nongovernment stakeholders to work together as complements of each other, within a framework of agreed strategies, objectives and action programs, aimed at sustaining the marine and coastal resources of the seas of East Asia. At the heart of the Haikou Partnership Agreement is the decision by countries to transform PEMSEA from a projectbased arrangement to a self-sustained and effective regional collaborative mechanism, with a mandate to pursue SDS-SEA implementation through collaborative, responsible and synergistic actions. The following day, 12 non-State organizations showed their support for this multi-sectoral approach, by signing the Partnership Operating Arrangements — a commitment to work with governments to achieve the shared vision of the SDS-SEA.

The endorsement of these two agreements by 11 countries and 12 non-State partners represents a significant milestone in the evolution of coastal and ocean governance in East Asia. Obviously, time will be the best judge of the commitment of the signatories under the new partnership arrangement, and the changes that occur consequently. The region cannot afford to wait another 30 years to verify the East Asia "model" for sustainable development, as was the case for the MIT computer model. The urgency to demonstrate progress is not lost on these new partners and the serious challenges of their task. The next EAS Congress is scheduled for 2009. There, the outcomes of the new partnership arrangement and the SDS-SEA regional strategy will be critically evaluated by stakeholders from all sectors. The principal uncertainty that needs to be answered over the next three years is how effective the partnership is in facilitating the adoption and implementation of policies and programs that aim to satisfy human needs, while exacting a smaller cost on marine ecosystems i.e., early and necessary step towards sustainable development.

East Asian Seas Congress 2009 Featuring an International Conference (filled with workshops and seminars), the Third Ministerial Forum, the EAS an environmental exhibition, The EAS Youth Forum, various Side Meetings Hosted by the Government of the Philippines and Organized by GEF, UNDP, PEMSEA and

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on Angelo Rayes, Secretary, Departm of Environment and Natural Resources (DENR), Philippines, proudly accepts the

EAS Congress flag, as the country agrees

Partnership Council Meeting, plus

and Field Visits

the Philippine Department of Environment

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to host the EAS Congress 2009

23 - 27 November

PHILIPPINES



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WITH ACCESS TO SAFE DRINKING WATER (2004)		41%	77%	100%	77%	100%	51%	%66	85%	92%	100%	%66	58%	85%
FORECAST 2015 (MILLIONS)		18.50	1,418.70	24.3	250.00			27.90	95.80	50.60	4.70	72.40		94.40
AS OF 2004 (MILLIONS)	.36	13.79	1,307.98	22.38	220.07	127.92	5.79	24.89	81.61	47.64	4.27	63.69	88.	83.12
POPULATION AS OF 1990 (MILLIONS)	.25	9.73	1,155.30	19.69	181.41	123.53	4.13	17.84	61.10	42.86	3.01	54.63	.74	66.20
COUNTRY	BRUNEI	CAMBODIA	PR CHINA	DPR KOREA	INDONESIA	JAPAN	LAO PDR	MALAYSIA	PHILIPPINES	RO KOREA	SINGAPORE	THAILAND	TIMOR-LESTE	VIETNAM

SOURCES:

Hart, T. "Unmet Demands in Water and Sanitation: What is the Cost to East Asia"" Seminar on GPA Implementation: National and Local Government Challenges, Local Government Financia for Water, Savega and Sanitation. East Asian Seas Congress 2006. Halkow (GY, PR China, 12-16 December www.pennea.org/eascongress/docs/post-congress/Theme602_GPA_Implementation/02_Tracy%20Hart.pdf

Lovei, M. 2006, "Sustainable Development for the Seaso of East Asia," Plenary keynote presented during the East Asian Seas Congress 2006, historic USP, RC funa, 12-16 December. The Prive Wayness acquescongress (horse) best-congress (herany keynote, magda pdf, http://www.primes.org/seasongress/lose) prive acquescing activity of the prive acquescing activity o

http://www.pemsea.org/eascongress/docs/post-congress/pwrpt_plenarykeynote_Magda.pdf. Accessed April 2007.

PEMSEA and UNEP EAS/RCU COBSEA. 2006. Policy. Brief: Partnership Opportunities, for Enhancing GPA Implementation in the East statu Region (2010)-2011, GEI-UDDEPIDIAD Regional Degramme on Entreveisible in Environmental Management for the Seas of East Asia (PEMSEA) and UNEP East Asian Partnerships in Environmental Management for the Seas of East Asia (COBSEA).

United Nations.2006. Mtllemium Development Goals Report 2006. http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2006/MDGReport2006.pdf.

utions to the global objectives, both in urban and rural areas. Approximately 331 million people pained access to safe drinking water from 1990 to 2004. However, with the population growth of 162 during the same period, the percentage of people which have gained access is around 6–7 percent, espect to sanitation, approximately 481 million people have gained access to better sanitation from he baseline year (1990), indications are that countries of the region have been making significant 2004, representing a 20-percent increase.

zation: 2) Rapid economic development (e.g., tourism) and industrialization; 3) Awareness of the of coastal and maine resources and the services they provide; 4) Competing and confiding uses of all marine resources; 5) Improving access for all, including the poor; 6) Adequate scientific, ies in the EAS region, with increasing impacts and costs to human life and ecosystem integrity. The faces a number of related challenges, which include: 1) Rapid population increase and ck of sewerage and wastewater treatment facility is still one of the most daunting problems in most logies for sewage treatment, solid waste management and agricultural runoff, 8) Project planning cal and management skills/expertise, especially at the local level; 7) Innovative and appropriate velopment; 9) Access to adequate and affordable financing; and 10) Adequate revenue issues fees to cover operating costs (PEMSEA and UNEP EAS/RCU COBSEA, 2006). van Hofwegen, P. 2006. "Water, Environment and Development." Plenary keynote presented during the East Asia Scageres 2006, Haikou City, PR China, L. 2.6. Docember Athri//www.penasea.org/seasongress/docs/post-congress/plenarykeynote. Paul.pdf. http://www.penasea.org/seasongress/docs/post-congress/plenarykeynote. paul.pdf. Accessed April 2007.

WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (WHO/UNICEF JMP). 2006. Meeting the MDG Drawhing Water and Sanitation Target: The Urban Challenge of the Decade. http://www.wsito.org/pdfJMP_06.pdf. Accessed April 2007.