EAS Congress 2015
THE EAST ASIAN SEAS CONGRESS

Global Targets Local Benefits

Setting the Sustainable Development Agenda for the Seas of East Asia beyond 2015

16-21 November 2015

Session 1

A Decade of Partnerships in Sustainable Development of the Seas of East Asia: Synergies and Achievements

Workshop 1

Managing Risks in Climate Change and Disasters in the Seas of East Asia

CO-CONVENING AGENCY:

KOEM

KEI

Chair: **Mr. N.M.S.I. Arambepola**
Director
Asian Disaster Preparedness Center (ADPC)

Co-Chairs: **Dr. Chang Man**
Korea Marine Environment Management Corporation (KOEM)
Dr. Park Kwang Kook
Korea Environment Institute (KEI)

PEMSEA gef UNDP WORLD BANK GROUP

Hosted by the Government of Viet Nam
Organized by PEMSEA, Ministry of Natural Resources and Environment (MONRE), Viet Nam Administration of Seas and Islands, and the City Government of Da Nang and supported by GEF and UNDP.

The East Asian Seas Congress 2015
"Global Targets, Local Benefits:
Setting the Sustainable Development Agenda for the Seas of East Asia beyond 2015"
Da Nang, Viet Nam, 16-21 November 2015

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A Decade of Partnerships in Sustainable Development of the Seas of East Asia:
Synergies and Achievements
Workshop 1:
Managing Risks in Climate Change and Disasters in the Seas of East Asia

17-18 November 2015

Co-convening Agencies:
Korea Marine Environment Management Corporation (KOEM) and
Korea Environment Institute (KEI)

Chair:
Mr. N.M.S.I. Arambepola, Asian Disaster Preparedness Center (ADPC)

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Dr. Park Kwang Kook, KEI

INTRODUCTION

a. The 5th East Asian Seas (EAS) Congress, co-organized by the Government of Viet Nam through the Ministry of Environment and Natural Resources (MONRE), Viet Nam Administration of Seas and Islands (VASI), the City Government of Da Nang and the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), was held at the Furama Resort, Da Nang, Viet Nam from 16-21 November 2015. Carrying the theme *"Global Targets, Local Benefits: Setting the Sustainable Development Agenda for the Seas of East Asia beyond 2015"* the EAS Congress 2015 provided participants with the prospect of identifying contributions, progress and achievements in the governance of regional/sub-regional seas within the framework of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), as well as new opportunities for strengthening partnerships, which are essential in charting the sustainable development agenda in the EAS region.

b. The EAS Congress featured the Fifth Ministerial Forum, the International Conference on Sustainable Coastal and Ocean Development, the annual meeting of the PEMSEA Network of Local Governments, the Fourth EAS Youth Forum, an environmental exhibition, and other special events. About 800 stakeholders – policymakers, resource and economic managers, business professionals, scientists, members of the academe, local and international nongovernmental organizations (NGOs), youth and community representatives, and other members of civil society from countries within and outside the EAS region – participated in the Congress.

c. The International Conference on Sustainable Coastal and Ocean Development comprised of three sessions, namely: (1) A Decade of Partnerships in Sustainable Development of the Seas of East Asia: Synergies and Achievements; (2) Accelerating Actions for Sustainable Development and Climate Change; and (3) From Vision to Reality: Aligning the Global Agenda with Local Benefits.

d. The Workshop on "Managing Risks in Climate Change and Disasters in the Seas of East Asia" was one of the workshops under the session, "A Decade of Partnerships in Sustainable Development of the Seas of East Asia: Synergies and Achievements". The workshop was co-convened by the Korea Marine Environment Management Corporation (KOEM) and the Korea Environment Institute (KEI) on 17-18 November 2015.

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e. Dr. Chang Man, President of KOEM, welcomed the participants and underscored the significance of the workshop and the EAS Congress as an invaluable framework for sharing experiences and forging stronger collaboration among different organizations for CCA/DRR in the EAS region. Dr. Chang Man emphasized the urgency to act now and that "climate change is not a problem of tomorrow but a problem of today, not a problem of anyone but a problem of everyone."

f. Mr. N.M.S.I Arambepola, Director of ADPC, served as the workshop chair and provided the overview, including the objectives and expected outputs of the workshop. He noted that the workshop is very timely particularly in re-visiting the efforts of the EAS countries in CCA/DRR and aligning their efforts to the targets set by the three international instruments, i.e., Sendai Framework, UN SDGs and UNFCCC. He also highlighted the importance of the workshop in identifying the existing capacities, as well gaps and challenges in advancing CCA/DRR in the region.

g. The workshop specifically aimed to:

- Re-visit the progress made, including challenges, to advance CCA/DRR in the seas of East Asia;
- Showcase on-the-ground good practices, working models and innovative solutions, as well as highlight how an integrated approach has been helping local governments to adapt, prepare and respond to climate change and disaster risks; and
- Tackle the development of a strategic framework for CCA/DRR in the EAS region, and how to facilitate and scale up its implementation through:
  - the transfer and replication of working models and good practices;
  - identifying priority areas for implementation, key targets, needs and challenges; and
  - identifying opportunities for knowledge sharing and collaborative efforts.

h. The workshop consisted of five parts, namely:

- Part 1: Addressing the new challenges in managing risks
- Part 2: Towards convergence: Unpacking the obstacles on integrating DRR/CCA in the development planning process of governments and regional organizations
- Part 3: Overcoming institutional and practical difficulties

- Part 4: Good practices and working models: Contributions to the Adapt Strategy
- Part 5: Implementing the Adapt Strategy….the way forward

i. The Workshop Programme is presented in Annex 1.

j. The list of resource persons and participants in the workshop is given in Annex 2.

PART 1: ADDRESSING THE NEW CHALLENGES IN MANAGING RISKS

1. The keynote presentation of Mr. Abhilash Panda, UN Office for Disaster Risk Reduction (UNISDR), provided an overview on the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030, which primarily aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years. Mr. Panda outlined the priority actions in the SFDRR to prevent new and reduce existing disaster risks in four focus areas, namely:

    i. Understanding disaster risk;
    ii. Strengthening disaster risk governance to manage disaster risk;
    iii. Investing in disaster reduction for resilience; and
    iv. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

2. Mr. Panda also introduced UNISDR's Resilient Cities Connect Project that will match the needs of cities and local governments with partners, service providers and other local governments in support of the implementation of their resilience plans. Finally, he mentioned the Asia Ministerial Conference on Disaster Risk Reduction, which will be held in New Delhi, India on 14-17 November 2016 and will discuss the implementation of the Regional Plan for the Sendai Framework.

3. Mr. Anisur Rahman, Senior Project Manager/Land Use Planning Specialist, ADPC, outlined ADPC's experiences and efforts in urban disaster risk reduction. ADPC works in 13 countries in Asia (Bangladesh, Cambodia, Indonesia, India, Iran, Lao PDR, Myanmar, Pakistan, Philippines, Nepal, Sri Lanka, Thailand and Viet Nam) and its programs and capacity building activities cover the following thematic areas:

    i. earthquake vulnerability reduction for cities;
    ii. urban flood risks management;
    iii. climate change and climate risk management in changing urban environment;
    iv. governance and disaster risk reduction in urban areas;
    v. GIS for disaster risk management;
    vi. urban disaster risk reduction; and
    vii. coastal hazard resilience.

4. ADPC implements its urban disaster risk management efforts through the development of "how to" resource books, the conduct of regional training programs and regional forums, the provision of technical advice, the implementation of pilot programs in cities, the conduct of research programs and the integration of research outcomes into capacity-building activities.

5. The following information was highlighted during discussions that followed the two presentations:

    i. There is a need for good policies regarding compensation for damages and losses as a consequence of displacement of cities due to climate change.
    ii. There are opportunities for developing countries to learn from available good practices and lessons learned in CCA/DRR, particularly from developed countries.
    iii. The main gap in disaster risk reduction is the limited understanding of risks and/or risk assessment. Risk assessment is commonly lacking in urban planning systems.
    iv. There is a need for long-term capacity building to cope and adapt to climate change. Involving the youth in this area is imperative. It is important that DRR should be integrated in educational systems so that youth will be made aware and better understand how they can contribute to improved CCA/DRR.
    v. It is important to integrate indigenous knowledge into disaster risk reduction.

PART 2: TOWARDS CONVERGENCE: UNPACKING THE OBSTACLES ON INTEGRATING DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION IN DEVELOPMENT PLANNING PROCESS

6. **Panel discussion.** The panel discussion under Part 2 of the Workshop evolved on the obstacles in policy, research and practice including constraints in: international and national policy processes; funding institutions and support mechanisms; and research and sharing of knowledge. The panelists included: Mr. Le Minh Nhat, MONRE, Viet Nam and Mr. Anisur Rahman, ADPC. The following summarizes the highlights of the discussions.

    i. The expectations from the global frameworks (i.e., Sendai Framework, UN SDGs and UNFCCC) should be institutionalized by appropriately integrating them into national policies and practices in the EAS region countries.
    ii. There is a wide gap between policy and investment. Donors and governments may have the fund but do not necessarily know where to invest due to lack/limited understanding on risks in cities and countries.
    iii. Policy changes are essentially needed for a paradigm shift in achieving long-term risk reduction and CCA. As such, it is necessary to mainstream DRR and CCA approaches into sector-based development planning processes. The Philippines has integrated DRR and CCA in the EIA process and is a good example for interventions in integrating DDR and CCA in existing policies.
    iv. Policy directives should be in place for delegating DRR and CCA related responsibilities to local level. Vietnam has taken the initiative to have community-based DRR planning and implementation and serves as a good example for an appropriate local level strategy for DRR and CCA.
    v. The practice of risk information utilization in infrastructure design and development planning need to be promoted with the aim of reducing impacts. Appropriate methodologies should be made available for risk assessment taking into consideration the historical events and future potential events. Lack of capacity for risk assessment should also be addressed.

PART 3: OVERCOMING INSTITUTIONAL AND PRACTICAL DIFFICULTIES

7. Prof. Wong Poh Poh, University of Adelaide, South Australia, gave a presentation on strategies in responding to disappearing coastlines. Prof. Wong explained that coastal erosion is an emerging environmental threat globally that is affected by various physical and human factors, as well as exacerbated by sea level rise. Prof. Wong introduced some of the efforts of UNEP/COBSEA and Mangroves for the Future (MFF) in addressing coastal erosion particularly on the development of a regional resource document on coastal erosion, the processes undertaken in the development of the National Assessment Reports in countries and the implementation of a pilot intervention project in Samut Songkhram in Thailand. The pilot project in Samut Songkhram puts emphasis on ecosystem-based adaptation through mangrove reforestation.

8. Prof. Qiao Fangli, First Institute of Oceanography, PR China presented the status and challenges in ocean observation to increase predictability in CCA in the Asia Pacific region. Prof. Fangli underscored that ocean forecasting and climate forecasting models need appropriate bias corrections coupled with inputs in observation data in order to increase the predictability. The models have been applied in Bohai Sea, Yellow Sea, East China Sea and South China Sea. Prof. Fangli emphasized that "no one country can afford ocean observations" thus joint and collaborative efforts are important. He introduced the UNESCO/IOC/FIO Project on "Indo Pacific Ocean Environment Variation and Air-sea Interaction (IPOVAI) and invited participants to join the initiative.

9. The presentation of Dr. Lee Suk-hui, KOEM, provided information on RO Korea's climate change policies and actions in the ocean and fisheries sector. The country has implemented its National Action Plans in contribution to the achievement of the UNFCCC targets. In the ocean and fisheries sector, the country has adopted its Master Plan for Climate Change Response taking into account future climate predictions. Dr. Lee also introduced some of their on-going initiatives, including coastal vulnerability and sensitivity assessments, review of national laws and policies to integrate climate change, research efforts on CO_2 storage and emission reduction, and implementation of various measures to reduce CO_2 emissions in shipping and fishing sectors. Dr. Lee emphasized the need for all countries to participate in greenhouse gas reduction, the strengthening of cooperation on climate change monitoring and information sharing, and cooperation to develop and disseminate best practices.

10. Mr. Nguyen Tri Thanh, Asia Foundation, gave a presentation on the Foundation's initiative to strengthen public-private partnerships (PPP) for disaster risk management and community resilience in Vietnam. Mr. Nguyen underscored the vulnerability of small-medium enterprises to the impact of natural disasters. Results of the Asia Foundation's study showed that 67%-80% of business enterprises are aware of climate-related risks and impacts to infrastructure, but only half conduct risk evaluation and only 20% have developed risk management strategies for 5-10 year horizon. The PPP initiative of Asia Foundation facilitates the building of institutional linkages between government, business and community; capacity building of businesses in 20 provinces in Vietnam to analyze disaster risks and implement disaster planning; and promoting private sector engagement in CSR targeting DRM activities.

11. The presentation of Dr. Pradeep Kurukulasuriya, UNDP, provided information on available funding mechanisms for climate change adaptation. Several climate financing instruments are available under the implementation of the UNFCCC such as the: GEF managed Special Climate Change Fund and Least Developed Country Fund, Adaptation Fund and the newly created Green Climate Fund.

These funds can be accessed in two result areas: mitigation and adaptation. Examples of UNDP-assisted projects funded through these various funds were presented, including those being implemented in Vietnam, Pakistan, Malawi, Maldives, Uganda and Bangladesh.

12. Dr. Antonio La Viña, East Asian Seas Partnership Council Executive Committee, presented the "Adapt" strategy as PEMSEA's contribution to CCA/DRR in the EAS region. The Adapt strategy is one of the main additions to the updated Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). Dr. La Viña highlighted that the Adapt strategy helps to institutionalize and integrate CCA/DRR in the implementation of coastal management in ICM sites. He provided examples of activities in the PEMSEA ICM sites that already integrate CCA/DRR under the broader implementation of integrated coastal management (ICM). He stressed that "in order to address CCA/DRR, we just have to do sustainable development better…we need not re-invent the wheel. It is important to scale up what is already being done taking into account emerging challenges." He added that CCA/DRR makes it more imperative to develop partnerships and collaboration, synergized actions and strengthened monitoring and evaluation.

13. **Panel discussion**. The panelists included Mr. Titon Mitra, UNDP Philippines; Mr. N.M.S.I. Arambepola, ADPC; Prof. Qiao Fangli, FIO and Dr. Stefan Groenewold, GIZ Vietnam. The panel discussed synergizing actions to complement those set forth by Sendai Framework, UN SDGs and UNFCCC. The highlights of the discussion included:

    i. ICM agenda should be embraced by the EAS countries and will require integration at all levels of government, sectors, and disciplines.
    ii. Specific points for consideration in the implementation of the SDS-SEA's Adapt strategy were raised including:
        a. principles can be strengthened on the need to be risk-informed and building resilience;
        b. long-term risk should be considered in the action agenda;
        c. the need for better understanding of resilience; i.e., it is necessary to consider ways of measuring the level of resilience;
        d. strong articulation of more specific targets; and
        e. consider the on-the ground implementation of the Adapt strategy, including the needed technical and financial capacities of local governments and cities.
    iii. When synergizing actions, it is necessary to determine the knowledge gaps, needs in capacity enhancement, financing and investment needs. It is also important to consider policy level changes in order to complement expectations of important international instruments.
    iv. There is a need for stronger collaboration in terms of monitoring and scientific research. The sharing of experiences among countries is important. The outcome of these experiences can be replicated in other countries or customized to suit the specific country needs.
    v. There is large gap between science and policy decisions. Technical cooperation among donors is now evident to bridge this gap and achieve science-based decisions. PEMSEA can play a key role in enhancing this process, as well as in bridging the results of technical cooperation to other funding sources.
    vi. The objectives of the different global instruments should be conveyed to local level stakeholders in a simple and understandable message. This is important since implementation happens at the local level and they need to have more ownership.

DAY 2: 18 NOVEMBER 2015

LOCAL CONTRIBUTIONS TO CCA/DRR

a. The final day of the workshop showcased local level contributions in the form of working models, case studies and good practices in climate change adaptation/disaster risk reduction (CCA/DRR) implementation, including post-disaster recovery efforts in countries in the EAS region.

b. The keynote presentation by Dr. Park Kwang Kook of Korea Environment Institute, as delivered by Dr. Hyun-Woo Lee, set the tone for the day by emphasizing three key messages:

    i. local actions need all the support coming from a strong national level guidance;
    ii. developing local expertise is essential; and
    iii. the participation of multiple sectors is imperative.

c. The model followed by Korea emanated from the National Climate Change Master Plan which called for the development and implementation of Local Adaptation Action Plans (LAP). Working closely with the Ministry of Environment (MOE), the Korea Adaptation Climate Change Center (KACC) was established in 2009 as the national task force center for adaptation. In 2011, MOE allocated US$ 4 billion for: (1) setting up 35 pilot projects for municipal level adaptation planning; (2) the creation of a guideline for LAP; and (3) the development vulnerability assessment tools to increase capacity. To date, 17 regional governments have completed their LAPs. The expectation that all municipalities would have created their LAPs by May 2016 is high, given that around 80% would have finished theirs by December 2015.

PART 4: GOOD PRACTICES AND WORKING MODELS: CONTRIBUTIONS TO THE ADAPT STRATEGY

Local Contributions to Mainstreaming CCA/DRR in Planning and Management

14. Mr. Nguyen Thanh Tien of the Da Nang Department of Construction presented successful actions in integrating CCA and disasters in Da Nang urban development. These actions were aimed principally at reducing the effects of typhoons and related flooding damages. Risk-informed planning has provided solutions for Da Nang's urban spatial development, including technical analysis of flooding pathways and scenarios. The identification of economic development clusters and the maintenance of open spaces in order to mitigate the impacts of flooding were recommended. The presentation emphasized the significant role of regulatory lakes (i.e., water storage and retention areas) in Da Nang that help to reduce the consequences of flooding during future extreme events. The construction of physical infrastructure has been planned vis-à-vis protecting the environment. The provision for drainage and control of storm water is integrated into the plan, while also emphasizing urban tree management as part and parcel of managing disaster risks.

15. Mr. Jo Yong Chol, Nampho ICM Center of DPR Korea, presented climate friendly urban and coastal development practices in the ICM demonstration site in Nampho. Highlighted was the concern of a dwindling water supply due to climate change and increases in population. Through the ICM process, a technical working group assessed the demand for and identified sources of water. Accordingly, the development of safe and clean water supply system was recommended and a series of consultations were held under the guidance of the Chairman of the People's Community. Strong support from the

communities emanated from this exercise. An integrated environmental monitoring program was also established with collaboration among monitoring agencies. Capacity building was conducted through PEMSEA and a Philippine university provided help in establishing standardized environmental monitoring analysis protocols. The implementation of projects helped stakeholders to understand ICM activities and their roles, responsibilities and priorities. Among lessons learned is that ICM projects should be addressing local peoples problems and interventions should be within local contexts and applicability. Nampho's ICM scaling up is currently under development.

Innovative local solutions to CCA/DRR

16. Mr. Denis Eriska, Sukabumi ICM PMO, Sukabumi, Indonesia, presented approaches for CCA and DRR in coastal areas of West Java province. The CCA and DRR programs developed within the ICM system—and contributing in the implementation of national plans—include, planning documents based on vulnerability and past disaster impacts and identifying risk mitigation measures, waste management and pollution control through the Clean River Program, public awareness, Green City Development Program, mangrove conservation program and the inventory of data on emissions. Highlighted during the presentation was the use of traditional and local wisdom to support and promote the national "Climate Village Programme". A number of villages in Sukabumi believe in "*leuwang tutupan*" (closed forest) which prohibits deforestation. Rules have been instituted to use only local rice seeds in rotational schemes and organic fertilizer. These endemic stocks are stored in granaries called "*leuit*", where rice can last for three years. Micro-hydroelectric generators are also used to generate electricity, which have low-carbon and low-environmental footprints.

17. Dr. Choong-Ki Kim, Korea Environment Institute (KEI) presented the use of ecosystem services framework to inform policy decisions. The InVEST (integrated valuation of environmental services and tradeoffs) modeling approach provided a good example of an integrated, ecosystem services-based, innovative local solution, based upon bio-physical processes layered on technical, social, economic, cultural, and environmental parameters. The decision support tool uses a scenario based analysis to understand known facts, uncertainties and consequences. The application of the model to build a reef natural capital valuation for CCA in Gulf of Mexico argued very well the case of economic benefits of restoration across sectors far outweighing its costs. The example on coastal protection services in the US coasts, layered coastal hazard data and indices vis-à-vis several socioeconomic dimensions, providing diverse sets of decision contexts (e.g., mapping the clusters of communities of the poor and the elderly are important inputs to policies and funding decisions). The BES (biodiversity and ecosystem services) approach is valuable but several challenges exist: (1) scientific gaps in the modeling process; (2) communicating uncertainty to policymakers and decision-takers; and (3) limited data availability.

18. Dr. Park Hansan, Korea Institute of Ocean Science and Technology (KIOST) presented the 3D topographic survey methodology used in land subsidence measurement. The study funded by the Yeosu Project, informed DRR and CCA planning in Jakarta Bay, Indonesia. The presentation provided an example of a good ICM practice to supplement the development of a coastal management plan as it is based on the application of an accurate technical and scientific data. As a tool providing criteria based scientific analysis, it used the case of Puntai Mutiara to highlight vulnerability of the area to coastal flooding. The results provided a basis for a cost-benefit analysis, which in turn were used in formulating scientifically sound policy recommendations to local authorities.

19. Ms. Nisakorn Wiwekwin, Chonburi ICM Program, Chonburi, Thailand, highlighted the contribution that their ICM system had made in arresting the impacts of: coastal erosion; oil spills; pollution in the beach area; and shoreline change. The benefits derived included improving the tourism industry, restoration of the local economy, establishing the city as a university hub, and strengthening the governance mechanism for coastal and environmental management.

20. Panel discussion. The panelists were Dr. Stefan Groenewold, GIZ Vietnam and Mr. Nguyen Tri Thanh, Asia Foundation. They discussed the replicability of, as well as challenges and constraints to implementing good practices and working models in CCA/DRR. The highlights of the discussion included:

i. To replicate practical solutions, understanding the ICM system, its techniques and methods is imperative. Having basic understanding is important in planning for replication of any successful initiatives. Guided by the ICM principles, communicating the "what" and "how" of the ICM practice is simple. Upon closer analysis, ICM is not complicated and it does not warrant replacing every manager from each local sector.
ii. The knowledge about the direct and long-term benefits of interventions is essential. Thus, the planning process and decisionmaking on replication of initiatives should also consider results of cost benefit analysis
iii. It is easy to replicate things in the same country but it might be difficult in another country as policy and institutional arrangements might be different. However, the general tool that should be followed for replication is ICM.
iv. While a planning tool like coastal spatial planning is done by all sectors, ICM puts different sectors together that can result in harmonizing several policy frameworks. Knowledge gaps on application of ICM exists among universities, government agencies etc. but it is much higher in local governments, thus requiring more assistance. Usually science related information comes from universities and it is necessary to provide resources for their research studies.
v. It is necessary to make the ICM process a continuous learning process. Replication in different contexts and under different legal institutional arrangements provides more lessons in practicing ICM.
vi. Finding resources for replication of sound practices might be a challenge in some countries but the private sector may be one source that can help when governments are short of funding. However, the private sector will look for other aspects in supporting such replications and main thing will be the cost effectiveness. So any replication should provide a convincing data in terms of cost effectiveness.
vii. The private sector is also concerned with aspects of trust and transparency, and would like to present such efforts as an action for cooperation. They would not like to be managed, hence projects should be handled not using stringent government policies rather in a more simplified way. The practices have to be feasible and cost effective for private sector to get attracted to undertake replication projects.

Building back better

21. Ms. Alma Evangelista, UNDP Philippines discussed the recovery efforts from Typhoon Haiyan, which devastated one of the poorest regions in the Philippines in 2013. The presentation provided good lessons on better recovery planning and implementation efforts as it covered not only reconstruction of destroyed facilities, houses, infrastructure, etc., but also the restoration of

livelihoods and social services. Planning for recovery was done immediately after the disaster through the Reconstruction Assistance for Yolanda (RAY) which served as basis for allocation of supplemental budget in 2013 to support immediate recovery efforts, and then through the Comprehensive Rehabilitation and Recovery Plan (CRRP), based on the results of a post-disaster needs assessment and informed by the RAY. Both plans promoted a coherent integrated DRRM framework. Building Back Better initiatives in Typhoon Haiyan-affected areas however should not be seen only as an improvement to existing facilities and infrastructure. The key lesson learned from ongoing rehabilitation efforts is that recovery must be seen as integral to DRRM, and not just a task to be pursued post-disaster. Where municipalities had contingency plans based on reliable risk and vulnerability assessments, and where government efforts were supported by other stakeholders including the private sector, CSOs and NGOs, recovery commenced ahead of other municipalities, and progressed more swiftly. Community involvement in recovery planning and implementation is also key. The presentation highlighted that risk-based land use planning should be integral to recovery and reconstruction.

22. Mr. Kazuhiko Honda, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan, presented the post-tsunami recovery of port and harbor areas in Japan after the 2011 Great East Japan earthquake and tsunami. Mr. Honda reported that the 2011 tsunami significantly exceeded the forecasted, designed tsunami scenarios by approximately 2-5 times and caused severe damage to the Pacific Coast of Tohuku region. Significant damage was reported in port facilities which resulted in severe disruptions in operations. Among the lessons learned was that it is necessary to design several tsunami levels with different scenarios, including worst-case scenarios. Mr. Honda reiterated that safe evacuation coupled with damage reduction is important to early recovery and resilience. In ports, the Port Business Continuity Plan (Port-BCP) committed to by the different sectors within a port, ensures early recovery. In much the same way, regional recovery is much faster and enhanced when several ports cooperate through their BCPs; for instance, alternative ports can be utilized during severe scenarios.

23. Dr. Abdul Muhari of the Ministry of Marine Affairs and Fisheries (MOMAF), Indonesia, presented the lessons from the 2004 Indian Ocean Tsunami recovery. After ten years, Dr. Muhari reflected on: Did we actually do better? While the concept and process of recovery and better reconstruction are well recognized and should be based upon several dimensions—social, political, cultural, actors, and regional setting—a mitigation-based land use regulation was missing. He stressed that it should be the basis of the overall reconstruction process. He reported that the devastated villages—which should be a “no build zone” —are now inhabited by the people who survived the tsunami and by new comers. Only about 40% of the total relocated houses are inhabited: the risk similar to the scenario before tsunami has essentially been reconstructed. He concluded that complete infrastructure and livelihood will ensure the implementation of the land use regulation in the long-term perspective. He further stressed that community involvement is important for adequate development of social infrastructure. The success in the implementation reconstruction plan is hugely dependent on local availability; local acceptability; and local applicability.

24. **Panel Discussion**. The panelists were Dr. Wong Poh Poh, University of Adelaide, South Australia, Dr. Abdul Muhari, MOMAF, Indonesia and Mr. N.M.S.I. Arambepola, ADPC. The panelists distilled the lessons learned from post-recovery efforts. They also articulated ways on how ICM can respond to post-recovery efforts. The highlights of the discussion included:

i. Post-disaster, there is the need to create interventions in several levels. The first level requires immediate, practical interventions; foremost of which is the provision of land tenure. Building back better may be construed to be as simple as providing buffer zone. While developed countries can recover faster, developing countries have to grapple with providing proper livelihood immediately, as another practical intervention, possibly starting with work-for-cash in construction. The next level requires changing the mindset and articulating a new paradigm or concept. It is an opportune time to consider PDCM or a post disaster climate management approach.
ii. Recovery means looking at three pillars: (1) Effective governance; (2) money; and (3) thinking out of the box (e.g., escape pods [capsule] for family members during disasters and emergencies).
iii. While the ratio of casualty over the several tsunami episodes has decreased, social and economic losses have risen. There is thus a need strictly enforce land use regulation, although this could be problematic during pre-disaster time, particularly in developing countries.
iv. Strengthening local capability and providing technologies must be dependent on local contexts, norms and culture.
v. Applying ICM principles in preparing for and recovering from disaster is a good practice.

WORKSHOP CONCLUSIONS

25. Adapting to climate change and disasters cannot be decoupled from development and management of coastal and marine areas.

26. Countries in the region should undertake efforts to improve capacity to adapt. Integrating and institutionalizing CCA and DRRM into country level sustainable coastal management and development frameworks are necessary.

27. Managing risks is a priority. Necessary mechanisms and actions should be in place to address the gaps, challenges and overcome constraints.

WORKSHOP RECOMMENDATIONS

28. Commitments from the three international agenda, namely, the Sendai Framework, the UN Sustainable Development Goals (SDGs), and the discussions emerging from United Nations Framework Convention on Climate Change (UNFCCC), need to be institutionalized through integration in to national policies and practices in the countries.

29. Programs developed under the framework of SDS-SEA should target opportunities for capacity enhancement, knowledge and sharing of experiences.

30. Scaling up ICM is an important action agenda that should be embraced by the EAS countries. It requires integration at all levels of government, sectors, and disciplines.

31. In the implementation of the ADAPT Strategy of the SDS-SEA 2015, it is necessary to set appropriate and more specific targets.

32. Program implementation, research and development should be undertaken through multi-country and multi-agency collaborative efforts.

33. Replication of good practices need to suit the specific country needs, and should be considered in capacity building and knowledge transfer efforts.

34. Knowledge products need to be developed based on working models and good practices in order to facilitate improved sharing and replication.

35. Post-disaster recovery efforts need to create risk-based land use and development plans.

ANNEX 1. WORKSHOP PROGRAMME

Time	Activity/Presentation	Possible Speaker/Panelist
Day 1	Focus: International, Regional, National	
Part 1: Addressing the new challenges in managing risks		
1030 - 1035	Opening Remarks	Dr. Chang Man President KOEM
1035 - 1045	Workshop Chair's Introduction • Overview of the workshop • Objectives of the workshop and expected outputs • Introduction of keynote presentation	Mr. N.M.S.I. Arambepola, Workshop Chair ADPC
1045 – 1120	• Keynote presentation ➢ Major international frameworks in the post-2015 era—managing disaster and climate risk for sustainable development	Mr. Abhilash Panda Urban Risk Reduction and Resilience, The Making Cities Resilient Campaign, UN Office for Disaster Risk Reduction (UNISDR)
1120 - 1140	• Towards Urban Risk Reduction: Experience from EAS Region	Mr. N.M.S.I. Arambepola/ Mr. Anisur Rahman ADPC
Part 2: Towards convergence: unpacking the obstacles on integrating disaster risk reduction and climate change adaptation in development planning process		
1140 – 1230	Panel discussion on the obstacles in policy, research and practice including constraints in: international and national policy processes; funding institutions and support mechanisms; research and sharing of knowledge	Panelists: • Mr. Le Minh Nhat, Department of Meteorology, Hydrology and Climate Change, MONRE, Vietnam • Mr. Abhilash Panda, UNISDR • Mr. N.M.S.I. Arambepola, ADPC
1230 – 1400	Lunch break	
Part 3: Overcoming institutional and practical difficulties		
1400 – 1420	Strategies in responding to disappearing coastlines	Prof. Wong Poh Poh Visiting Associate Professor at the School of Social Sciences and Centre for Coastal Research, University of Adelaide, South Australia
1420 - 1440	Ocean observation to increase predictability in climate change adaptation: status of scientific	Prof. Qiao Fangli First Institute of Oceanography

	studies and challenges in Asia and Pacific	(FIO), China
1440 - 1500	Climate change policies and actions in the ocean and fisheries sector of the Republic of Korea	Dr. Lee Suk-hui Deputy General Manager Marine Climate Environment Team KOEM, RO Korea
1500 --1520	Strengthening Public-Private Partnerships for Disaster Risk Management and Community Resilience in Vietnam	Mr. Nguyen Tri Thanh Senior Program Officer, Environment (Vietnam) Asia Foundation
1520 - 1540	Funding mechanisms for CCA and DRR	Mr. Pradeep Kurukulasuriya Head- Climate Change Adaptation (Global) Global Environment Finance Unit Sustainable Development Cluster Bureau for Policy and Programme Support United Nations Development Programme (UNDP)
1540 - 1600	Open forum	
1600 - 1615	**Coffee break**	
1615 - 1645	Strengthening PEMSEA's contribution in CCA/DRR in the EAS region Introduce the Adapt Strategy of the updated Sustainable Development Strategy for the Seas of East Asia and linking lessons learned in the maturation of local governments' ICM systems in the seas of East Asia and their contributions to international, regional and national targets for managing climate change and disaster risks.	Dr. Tony La Viña, PEMSEA
1645 - 1745	Panel discussion on synergizing actions to complement those set forth by the three international instruments o Contributions of international/regional organizations/institutions/national to the Adapt Strategy, including post-disaster recovery	Panelists: • Mr. Titon Mitra, Country Director UNDP Philippines • Mr. Abhilash Panda, UNISDR • Mr. N.M.S.I. Arambepola, ADPC • Prof. Qiao Fangli FIO, China • Dr. Stefan Groenewold, Technical Advisor, Integrated Coastal Management Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Vietnam
1745 - 1800	Wrap up	Workshop Chair

Day 2	**Focus: Local Contributions**	
1030 - 1040	Recap of previous day's discussion	Workshop Chair
1040 - 1110	Responding to climate change and disaster risk through local actions	Dr. Lee Hyun Woo Director Division of Natural Resources Conservation KEI
Part 4: Good practices and working models: Contributions to the Adapt Strategy		
Local contributions to mainstreaming CCA/DRR in planning and management		
1110 - 1130	Integrating CCA/DRR in local planning and management	Mr. Nguyen Thanh Tien Vice Chief Planning and Management and Urban Development Division Danang Department of Construction, Vietnam
1130 - 1150	Environmentally and climate-friendly urban and coastal development for climate change adaptation	Mr. Jo Yong Chol Vice Chair Nampho ICM Center DPR Korea
Innovative local solutions to CCA/DRR		
1150 – 1210	Use of traditional knowledge in responding to climate change and disaster risks	Mr. Denis Eriska Head of Environmental Governance and Environmental Impact Analysis Division Sukabumi ICM PMO Sukabumi, Indonesia
1210 - 1230	Use of ecosystem service framework to inform policy decisions on CCA and DRR	Dr. Choong-Ki Kim Korea Environment Institute, RO Korea
1230 - 1400	Lunch break	
1400 - 1420	Land subsidence and CCA in Jakarta Bay, Indonesia	Dr. Park Hansan Korea Institute of Ocean Science and Technology (KIOST)
1420 – 1440	Sustaining coastal and marine ecosystem services for climate change adaptation and disaster risk reduction	Nisakorn Wiwekwin Chonburi ICM Program Chonburi, Thailand
1440 -- 1515	Panel discussions o Replicability to other sites o Challenges and constraints	Panelists: • Dr. Stefan Groenewold, Technical Advisor, Integrated Coastal Management Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Vietnam

		• Mr. Nguyen Tri Tanh, Asia Foundation
Building Back Better		
1515 – 1535	Post-Haiyan Recovery	Alma Evangelista Team Leader Resilience and Peace Building Unit UNDP Philippines
1535 -- 1555	Post-tsunami Recovery: The 2004 Indian Ocean tsunami in Banda Aceh-Indonesia	Dr. Abdul Muhari Directorate General for Marine, Coasts and Small Islands Ministry of Marine Affairs and Fisheries (MOMAF) Indonesia
1555 –1615	Post-tsunami Recovery: The Japan experience	Mr. Kazuhiko Honda Senior Researcher, Coastal, Marine and Disaster Prevention Department National Institute for Land and Infrastructure Management, Ministry of Land, Infrastructure, Transport and Tourism (MLIT) Japan
1615 - 1630	Coffee break	
1630 - 1700	Panel discussions o Distilling lessons learned from post-recovery efforts o How can ICM respond to post-recovery efforts?	Panelists: • Dr. Wong Poh Poh, University of Adelaide, South Australia • Dr. Abdul Muhari, MOMAF, Indonesia • Mr. N.M.S.I. Arambepola, ADPC
Part 5: Implementing the Adapt strategy…Way Forward		
1700 - 1800	Synthesis, wrap-up and conclusions ➢ Distill the learning experiences from the presented case studies and how these experiences can be scaled up, transferred or replicated in other sites. ➢ Identify priority areas, gaps and challenges for CCA/DRR in the EAS region ➢ Identify opportunities for knowledge-sharing, replication and collaborative efforts for advancing CCA/DRR in the EAS region.	Workshop Chair/Co-Chairs

ANNEX 2.

LIST OF RESOURCE PERSONS AND PARTICIPANTS

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