

## APPENDIX G

### Summary of Thematic Session 2

#### a) Thematic Session 2A: Policy and Legal Reform

This session was chaired by Mr. Donovan Storey (Chief, Environment and Development Division, ESCAP) with Mr. Shun Nesaki, JICA as a commentator. A total of 4 presentations were made.

1. **'Green Innovation in Kawasaki'** by Ms. Yoko Maki, (Executive Director, Kawasaki environment Research Institute, Environment Bureau, Kawasaki City, Japan);
2. **'The Liveability Framework'** by Mr. Brian Patrick Tan (Manager, Ministry of National Development (Centre for Liveable Cities), Singapore);
3. **'Promotion of Environmentally Sustainable Cities (ESC) in Lao PDR'** by Mdm. Keobang A Keola (Director General, Department of Pollution Control, Ministry of Natural Resources and Environment, Lao PDR);
4. **'Development of EIA framework in Yangon and Myanmar'** by Dr. Aung Myint Maw (Yangon City Development Committee (YCDC), Myanmar).

**Ms. Yoko Maki (Executive Director, Kawasaki environment Research Institute, Environment Bureau, Kawasaki City, Japan)** presented on 'Green Innovation in Kawasaki'. She first briefly introduced the history of the Kawasaki city's industrial pollution during a period of high economic growth in 1970s. Strong cooperation among citizens, city government, and the business sector was the main driving force for tackling pollution. In the process, a vast amount of environmental and anti-pollution technologies as well as know-how have been accumulated within the city. It now transfers its experiences overseas and contributes to solving the environmental issues on a global scale. The city has received many visitors from abroad to study its environmental technologies and administrative experiences. Kawasaki is unique in a sense that the city managed to improve its environmental quality whilst maintaining a heavy industrial sector, which is the major source of GHG emissions (about 70%) in the city. A key success factor was close public-private collaboration which facilitates green innovation leading to GHG mitigation. Kawasaki city has developed a comprehensive low carbon city framework, encompassing city ordinance with a comprehensive and systematic plan, and promoted environmental education, renewable energy generation,

and other measures.

**Mr. Brian Patrick Tan (Manager, Ministry of National Development (Centre for Liveable Cities), Singapore)** presented 'The Liveability Framework'. The Centre for Liveable Cities (CLC) is based in Singapore and is a knowledge centre with a mission to distil, create and share knowledge on liveable and sustainable cities. Singapore is a densely populated metropolis with more than five million inhabitants. The CLC Framework aim at the three desired outcomes of quality of life, competitive economy, and sustainable environment, underpinned by integrated master planning and development and dynamic urban governance. The CLC Framework derives from Singapore's urban development experience and is not meant to be exhaustive, but is a useful guide for developing sustainable and liveable cities. The strategies outlined are expected to be most relevant to cities that are densely populated with limited natural resources. Meanwhile, the underlying principles for building an effective integrated master planning and development process, and a dynamic urban governance system are worth a look by any city interested in raising and sustaining their liveability standards.

**Mdm. Keobang A Keola, Lao PDR** presented 'Promotion of Environmentally Sustainable Cities (ESC) in Lao PDR'. In 2013, the Ministry of Natural Resources and Environment (MONRE) drafted national ESC Guidelines with the objective of encouraging cities in Lao PDR to be clean, green and beautiful. The guidelines are one of the major outputs of LPPE (Laos Pilot Program for Narrowing the Development Gap towards ASEAN Integration, Environmental Management Components) project, which is a tripartite cooperation project by Lao Government, ASEAN Secretariat and JICA. The ESC guidelines recommends six stages for developing ESC, namely – i) organisational arrangement; ii) study on current status; iii) vision formulation; iv) action plan preparation; v) implementation; and vi) application of lessons. In the LPPE, the ESC guidelines have been tested in three pilot cities – Vientiane Capital, Luang Prabang and Xayabouri – which have now reached stage 'v'. Eventually, MONRE intends to apply the ESC guidelines to all the provinces and respective capitals in the country.

The ESC guidelines have been observed to bring about certain impacts, including fostering active communication among different organisations under the common agenda of ESC, clarification of issues to be dealt with, encouraging the mobilization of local resources, clear demonstration of resolution towards ESC to external agencies

and better understanding by MONRE about the overall environmental status all over the country. The national government plans to officially endorse the ESC guidelines by the year 2015.

**Dr. Aung Myint Maw** presented “Development of EIA framework in Yangon and Myanmar”. The (former) National Commission for Environment Agency (NCEA) follows the guidance of UNEP and ASEAN frameworks of all environment sectors. It gives necessary guidance to the nation in accordance with Environmental Protection law and regulations. Approval procedures of Environmental Impact Assessment (EIA) for both public and private sector projects have been developed. In addition, the National Environmental Conservation Law, promulgated in 2012, pays serious attention on reduction of air pollution, water pollution, and land pollution. The result of sample monitoring in Yangon City shows that the air quality almost complied with WHO standards, but it is necessary to develop a national air quality standards and expand air quality monitoring activities.

Discussion:

1. Policy frameworks need to be adapted to changing circumstances, needs and capacities over time.
2. Good policy is based upon dialogue, cooperation, and transparency between government, citizens, and business sectors.
3. Policy and legal reform should go alongside with information and the sharing of a long-term vision of a broad framework and integrated development strategy.
4. Political and legal reform needs to go hand-in-hand with strategies of implementation, such as action plans.
5. Good initiatives can come from the outside, but they must reflect local circumstances, capacities, and values.
6. Political will and commitment provides a necessary pre-condition for policy and legal reform, but ultimately success depends upon all stakeholders.

## **b) Thematic Session 2B: Urban Resilience and Adaptation**

This session was chaired by Dr. Teresa Leonardo (Global Climate Change Adviser, RDMA-USAID). There were a total of 5 presentations.

1. **'The Climate Resilience Framework: Principles into Practice'** by Dr. Richard Friend (Senior Staff Scientist, ISET);
2. **'Building Urban Climate Resilience – Experiences from Hue City'** by Dr. Phong Tran, Technical Lead, ISET Vietnam);
3. **'Climate Change Initiative for Sihanoukville'** by Mr. Meas Rithy (Deputy Director, Marine and Coastal Resources Management Division and Vice Chief Office, Ministry of Environment, Cambodia);
4. **'ADAPT Asia-Pacific: Facilitating Access to Climate Change Adaptation Funds for Cities in Asia and the Pacific'** by Dr. Nat Pinnoi (Senior Climate Adaptation Finance Specialist, ADAPT-Asia Pacific, USAID);
5. **'Innovations in Disaster Risk Reduction and Climate Change Adaptation'** by Mr. Gilbert C. Gonzales (Department of Environment and Natural Resources, Regional Office V, Philippines).

**Dr. Richard Friend (Senior Staff Scientist, ISET)** presented 'The Climate Resilience Framework: Principles into Practice.' The presentation identified that the pace of urbanisation in ASEAN, accelerating with ASEAN Economic Cooperation (AEC), often occurs in hazardous spaces and that urbanisation can exacerbate climate risks. Development often occurs with only a limited consideration of future climate risks. Cities must also address key technical, capacity and governance challenges. Dr. Friend defined resilience as a bridge between adaptation and mitigation, and emphasised that there was a need for institutions to utilise multi-scale, adaptive, flexible, and learning-oriented processes. Then, he explained the Climate Resilience Framework, not only a conceptual framework, but also a practical approach for informing and structuring public dialogue, assessing vulnerability and identifying resilience building options. Finally, Dr. Friend concluded by observing that much of work on building resilience rests on core characteristics, such as safe failure, redundancy, diversity, access to Information, and public participation. Without addressing these core characteristics it is very difficult to make wise decisions about an increasingly uncertain future.

**Dr. Phong Tran (Technical Lead, ISET Vietnam)** presented 'Building Urban Climate Resilience – Experiences from Hue City.' The work described was supported under

USAID's M-BRACE Program. The resilience planning process in Hue is led by local governments, with the technical assistance of academic and international agencies, and the engagement of with multiple departments and stakeholders. The process emphasises capacity building, shared learning, and collaborative work plan development. The key challenges in resilience planning are that top down planning is commonly practiced, with a primary focus on physical systems. There is need to strengthen focus on institutions and adaptive capacity of people and communities, improve coordination of multi-stakeholders with different perspectives and priorities, address lack of experiences in linking local vision and regional climate information. Further, resilience planning is new for local people and a thought and behavior shift is needed to help communities adopt resilience approach of learning from and adapting to unexpected events. Finally Dr, Phong outlined some recommendations and priority needs, such as development of a long term vision and planning for the urban future; basing urban development plans on a safe failure approach (e.g. a technical review of risk and safe failure options for water infrastructures); and linking resilience planning to existing projects and programmes of the cities. Priority needs included better information about urban expansion and climate issues (e.g. monitoring the expansion in the flood plain and developing e-flood maps using mobile apps), better coordination between government departments, and bringing the private sector and local communities into urban planning process.

**Mr. Meas Rithy (Deputy Director, Marine and Coastal Resources Management Division and Vice Chief Office, Ministry of Environment, Cambodia)** presented 'Climate Change Initiative for Sihanoukville'. The City of Sihanoukville has a population of 200,000 (with 2% annual increase) and faces many urban challenges, such as waste management, water supply and sanitation, destruction of marine and coastal habitats, uncontrolled tourism expansion, coastal erosion, and weak governance. In addition, the city is highly vulnerable to sea level rises, drought, storms and flooding. Climate resilience has been strengthened through building staff capacity, increasing public awareness through continuous dialogues, establishing a local, automatic weather station (AWS), information campaigns, and integrating climate change initiatives into provincial development plans and master plans. Lessons learnt through these activities were: i) climate change is a new concept, hence developing knowledge, skills and reorienting attitudes should be a long-term and regular measure; ii) national level support is very important in ensuring that policies are implemented at the local level; iii) effective coastal and marine management while addressing climate change cannot be

implemented with a single-sector approach, but requires multi-sector coordination and cooperation; iv) zoning has been demonstrated as a good model; others have recognised its benefits of re-locating and are now voluntarily following similar schemes; v) Stakeholders' understanding of the importance of the project and benefits take time; economic benefits need to be demonstrated for convincing stakeholders; and vi) The commitment of staff and local communities are essential.

**Dr. Nat Pinnoi (Senior Climate Adaptation Finance Specialist, ADAPT-Asia Pacific, USAID)** presented presented "ADAPT Asia-Pacific: The Experiences of Facilitating Access to Climate Change Adaptation Funds for Cities in Asia and the Pacific". Adaptation can be defined as reduced vulnerability and increased adaptive capacity. Global adaptation funds are very small compared to needs. Developing country governments will need to shoulder most of the future costs of adaptation. Dr. Pinnoi described a case study from Ho Chi Minh City, to illustrate that it is cost effective to integrate adaptation and resilience planning into projects with other environmental benefits, Ho Chi Minh City was experiencing an estimated annual GDP loss of around USD 1 billion as the result of flooding. The World Bank supported a USD 289 million activity to reduce flooding and increase collection of wastewater. This project is expected to reduce the vulnerability of 96,000 households. This project has both climate adaptation and other environmental benefits, which made the project easier to move forward. ADAPT-Asia –Pacific aims to further implementation of adaptation actions by helping countries and cities access existing climate change adaptation funds. The 5-year USD ~17 million program provides project preparation assistance and capacity building, as well as annual forums and a regional knowledge platform. Dr Pinnoi also emphasised that as global adaptation funds are very limited there is also a need to scale up engagement of the private sector and development of private sector partnerships.

**Mr. Gilbert C. Gonzales (Department of Environment and Natural Resources, Regional Office V, Philippines)** presented 'Innovations in Disaster Risk Reduction and Climate Change Adaptation' which discussed the initiatives in Albay Province, Philippines. The province faced tremendous challenges due to a multi-hazardous environment (climate and geological) and poverty. Albay is susceptible to typhoons, floods, landslides, volcano eruptions and tsunamis. To address these vulnerabilities, the Provincial Government innovated a wide ray of actions including institutionalisation of climate change adaptation into provincial planning and budget allocation, risk mapping,

geostrategic intervention, relocation programme for highly vulnerable households, community-based disaster risk reduction planning, infrastructure development through engineering interventions, capacity building, disaster response, and cluster approach to early recovery. As a result, the province achieved a number of benefits such as a zero disaster casualties in 16 years, a surge in private sector and international investments leading to the fast growth, achievements of Millennium Development Goals (MDGs) ahead of 2015. In addition, two national laws have been enacted based on Albay model for climate adaptation in the country.

#### Discussion:

1. As ASEAN cities continue to face the severe and adverse consequences of dramatic changes in climate patterns, the integration of urban resilience into urban planning and operations is increasingly critical. Achieving sustainability requires an integrated systems-based and cross-sectoral approach in information sharing, coordination, and decision-making to address socio-economic and environmental challenges. The Institute for Social and Environmental Transition (ISET)'s Climate Resilience Framework is an excellent tool to support cross-sectoral strategic planning and operationalize resilience in city planning and implementation.
2. An effective urban resilience system requires the best use of science & technology to understand the magnitude, distribution, and uncertainty of risks over space and time, as well as the potential costs of not mitigating these risks, to inform the application of appropriate policies and actions.
3. Active participation from relevant stakeholders must be fostered to formulate actionable, appropriate, and robust policies. Community engagement and strong participatory systems for implementation, monitoring, and enforcement of policies are an important foundation for strengthening urban resilience.
4. There are opportunities to institutionalise and scale up lessons from urban resilience experiences, by integration of best practices into provincial and national policies, as illustrated by the creation of two national laws in the Philippines based on the leadership of Albay Province, Philippines in disaster risk reduction and urban adaptation.

5. There is a significant gap between urban adaptation needs and available financing. USAID's ADAPT Asia-Pacific Program is directed at helping countries and cities access adaptation finance through targeted project preparation assistance, capacity building, annual fora, and a knowledge platform. Accelerating urban adaptation also requires identifying opportunities to work collaboratively with the private sector in building economically and environmentally resilient cities.
  
6. Peer-to-peer partnerships, training activities, and knowledge sharing events that bring together experienced professionals to share best practices and innovative solutions are needed to help ASEAN meet its sustainability goals and address the challenges faced by its cities today and in the future.

### **c) Thematic 2C: Low Carbon Societies**

This session was chaired by Dr. Junichi Fujino (Senior Researcher, Centre for Social and Environmental Systems Research, NIES) and co-chaired by Dr. Kazuhisa Koakutsu (Director of Market Mechanism, IGES). There were a total of 7 presentations.

1. **'Iskandar Malaysia's Smart City Framework'** by Mr. Boyd Joeman (Senior Vice President, Environment, Iskandar Regional Development Authority (IRDA));
2. **'Tokyo Solutions for Environmentally Sustainable City – Regulative Method and Market Mechanism'** by Mr. Kenji Suzuki (Director, International Cooperation Bureau, Tokyo Metropolitan Government, Japan);
3. **'Green Growth in Fast Growing Asian Cities'** by Dr. Tadashi Matsumoto (Senior Policy Analyst, Regional Policies for Sustainable Development Division, OECD);
4. **'How Industrial Parks Realise Low Carbon Development in China'** by Dr. Wang Peng, Chinese Academy of Science;
5. **'Greenhouse Gas Inventory Accounting for Cities'** by Dr. Wee Kean Fong (Project Manager, GHG Protocol City Project, World Resources Institute);
6. **'ICLEI for the Creation of Low Carbon Societies'** by Ms. Michie Kishigami, (Director, ICLEI Japan Office);
7. **'Livable Cities – The Contribution of Energy Efficient Lighting Solutions to Low Carbon Societies'** by Mr. Edmund Hui (Head of International Business Development, Philips Electronics Pte Ltd.).

**Mr. Boyd Joeman (Senior Vice President, Iskandar Regional Development Authority (IRDA))** presented 'Iskandar Malaysia's Smart City Framework' by 2025. The Iskandar region, located in the state of Johor, Malaysia with a 1.6m population, has a vision to be 'A Strong and Sustainable Metropolis of International Standing' through a Green-Focused Agenda covering land use planning, solid waste management, renewable energy and resources, integrated transportation and low carbon green growth.. IRDA launched its Low Carbon Society Blueprint for Iskandar Malaysia 2025 at COP18 Doha, Qatar in November 2012, and has now started implementing its 12 Actions to reduce GHG emissions by 50% by 2025 and achieve its vision. Four main areas of challenges which IRDA identified in implementing its smart city framework are: (1) Coordinated policies require positive collaboration of all agencies in terms of coordination of policies; (2) Communication infrastructure readiness collaboration of all ICT needs to be in place with competitive pricing in order to ensure readiness in

adopting smart ideas; (3) Robustness of implementation models and initiatives should be privately-driven with some government intervention that ensures continuity and coherency; and (4) Capacity-building on required skillsets in order to attract and retain talent to match the required job skills in a smart environment.

**Mr. Kenji Suzuki (Director, International Cooperation Bureau, Tokyo Metropolitan Government (TMG), Japan)** presented 'Tokyo Solutions for Environmentally Sustainable City – Regulative Method and Market Mechanism'. Achieving emission reductions from buildings is the key strategy in TMG's mitigation plan, since data shows that the building sector emits more than 70% of total CO<sub>2</sub> emissions in the Tokyo Metropolitan Area. The key initiatives by TMG include the Tokyo Cap and Trade Programme (2010 -), which has managed to slash large building's CO<sub>2</sub> emissions by 23% in the commercial and industrial sector within two years. Another initiative is the Green Building Programme, which applies a rating and disclosure system to improve environmental performance of new buildings (about 40% of all buildings). For residential buildings, the government provides support through assignment of energy saving advisers, subsidies for solar energy and Roof Lease Business Matching Programme. These mixture approaches of regulative methods and market mechanism have worked effectively, so that TMG wishes to provide those solutions to Asian cities to promote sustainability in Asian society.

**Dr. Tadashi Matsumoto (Senior Policy Analyst, Regional Policies for Sustainable Development Division, OECD)** presented 'Green Growth in Fast Growing Asian Cities'. He shared OECD's findings from its Green Cities Programme, which highlighted the importance of the role of national governments in achieving green growth at the city level, including national price signals and standards, aligning local and national green growth objectives and harmonising monitoring tools. The study also underlined the need for inter-municipal co-operation, urban revenue structure reform in alignment with green growth goals and private finance for green infrastructure investments. The findings will be summarised and published as the report 'Green Growth in Cities' in May. Then, Dr. Matsumoto introduced three ongoing OECD projects on urban green growth. The OECD National Urban Policy Reviews share OECD countries' solutions and policy experience on national urban policies. Considerable challenges remain in terms of data and the OECD is filling this gap through their OECD Metropolitan Database which defines the OECD metropolitan areas in an internationally comparable manner

(<http://measuringurban.oecd.org>). Finally, the forthcoming project on Green Growth in Fast Growing Asian Cities aims to analyse economic/environmental performance of cities, assess urban green growth policies with a common methodology and compare them. He explained that this project would be an innovative knowledge sharing exercise among OECD and Asian Cities and encouraged cities to participate.

**Dr Wang Peng, Chinese Academy of Science** presented 'How Industrial Parks Realise Low Carbon Development in China'. To improve control over CO<sub>2</sub> emissions, many local governments have started to prepare to establish the low carbon development plans. Guangzhou Institute of Energy Conversion has drawn up a low carbon development plan for a new industrial park, where low carbon regulations will be implemented. He pointed out that the dissemination of low carbon technology is key for developing low carbon industrial parks, and research and capacity building is fundamental to form the low carbon economy with rigid environment policy. Finally, he also emphasised that it is important to develop measurable indicators to assess the progress of low carbon economy and enhance the accountability of stakeholders.

**Dr. Wee Kean Fong (Project Manager, GHG Protocol City Project, World Resources Institute)** presented on 'Greenhouse Gas Inventory Accounting for Cities'. It is important to measure GHG emissions for low carbon city planning because 'You can't manage what you can't measure'. Conducting GHG inventory brings a lot of benefits, as it helps cities benchmark their GHG performance by identifying emission sources and reduction opportunities, monitoring the progress and performance, and accessing finance. International standards will be required because current GHG accounting practices are inconsistent and incomplete, have unclear divisions between direct and indirect emissions, which can lead to double counting. A global protocol for community-scale GHG emissions are being jointly developed by WRI, ICLEI, C40, World Bank, UNEP and UN-HABITAT, which will be tested in 30 – 50 pilot cities in Asia in the coming year.

**Ms. Michie Kishigami (Director, ICLEI Japan Office)** presented on 'ICLEI for the Creation of Low Carbon Societies'. ICLEI's mission is to build and serve a worldwide movement of local governments to achieve tangible improvements in global sustainability with special focus on environmental conditions through cumulative local actions. ICLEI provides local governments with opportunities to participate in various

multi-cities projects and events, tools especially tailored for them and common framework of local actions. The Carbon Cities Climate Registry (CCCR) is the world's largest global database of local climate action to which cities can add relevant information on their climate change actions. Local initiatives are the key to achieving low carbon societies. Alliance of local governments will facilitate the exchange of local governments to share difficulties, challenges and experiences and transfer the knowledge in region, country and globally.

**Mr. Edmund Hui (Mr. Edmund Hui (Head of International Business Development, Philips Electronics Pte Ltd.)** presented on 'Livable Cities – The Contribution of Energy Efficient Lighting Solutions to Low Carbon Societies'. Lighting represents 19% of the world's total energy consumption, of which outdoor lighting accounts for over 40%. Energy-efficient lighting can deliver realistic savings of over 40% globally. Light-emitting diode (LED) lamps, combined with smart controls, can cut CO2 emissions 50 - 70%. LED outdoor lighting also reduces costs, enhances public safety, minimises light pollution and makes public spaces friendlier at night. Philips' LED technologies have been used in pilot projects worldwide in roads, green buildings, pedestrian ways as well as solar-powered LED in rural communities.

#### **Discussion:**

1. Enhancing ESC concepts and frameworks to encompass sustainable low-carbon society is a region-wide concern. While cities have differing priorities, challenges and know-how, a common methodology is required to help local governments plan and act to develop environmentally sustainable and low carbon cities.
2. Such a methodology would employ appropriate modelling tools and quantitative data to develop future comprehensive low carbon societies' scenarios, draw roadmaps as well as to inform policy design. Existing initiatives by WRI, ICLEI, World Bank, C40, UN-HABITAT, UNEP and NIES/AIM to provide international accounting protocols for national and local governments to quantify greenhouse gas emissions in wide range of sectors and measure the impacts of mitigation initiatives, which will be critical for designing feasible and robust policy roadmaps and carbon credit trading mechanisms to accelerate global mitigation efforts.
3. Expanding interaction, collaboration and knowledge sharing between local

governments, international organisations (such as the Green Cities Programme of the Organisation for Economic Co-operation and Development (OECD)), private companies, research institutes, NPO/NGOs and the public are essential. The Low Carbon Asia Research Network (LoCARNet), aims to facilitate the informed decision-making process by sharing proven scientific knowledge and increasing interdisciplinary and cross-sectoral research capacity in the region in the scheme of not only north-south cooperation, but also south-south regional cooperation. LoCARNet will be one of the key platforms to provide common foundation among different stakeholders to seek the pathways collaboratively to achieve self-reliant low carbon development in the region.