

ISAP 2014

International Forum for Sustainable Asia and the Pacific: ISAP
23-24 July 2014



**Bringing Regional Voices to the Post-2015 Development Agenda:
Solutions for a Low-carbon, Resilient and Inclusive Asia-Pacific**



Copyright © 2014 Institute for Global Environmental Strategies. All rights reserved.

No parts of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without prior permission in writing from IGES.

Although every effort is made to ensure objectivity and balance, the publication of research results or translation does not imply IGES endorsement or acquiescence with its conclusions or the endorsement of IGES financiers.

IGES maintains a position of neutrality at all times on issues concerning public policy. Hence conclusions that are reached in IGES publications should be understood to be those of the authors and not attributed to staff members, officers, directors, trustees, funders, or to IGES itself.

IGES is an international research institute conducting practical and innovative research for realising sustainable development in the Asia-Pacific region.

ISAP2014

International Forum for Sustainable Asia and the Pacific: ISAP
23-24 July 2014

**Bringing Regional Voices to the Post-2015 Development Agenda:
Solutions for a Low-carbon, Resilient and Inclusive Asia-Pacific**



Contents

01 What is ISAP?

ISAP2014

02 Event Outline

04 Opening Remarks

05 Special Message

06 Plenary Sessions

16 Parallel / Lunch Sessions

80 Expert Workshops / Network Meetings

82 Closing Discussion

84 Special Events

86 Programme

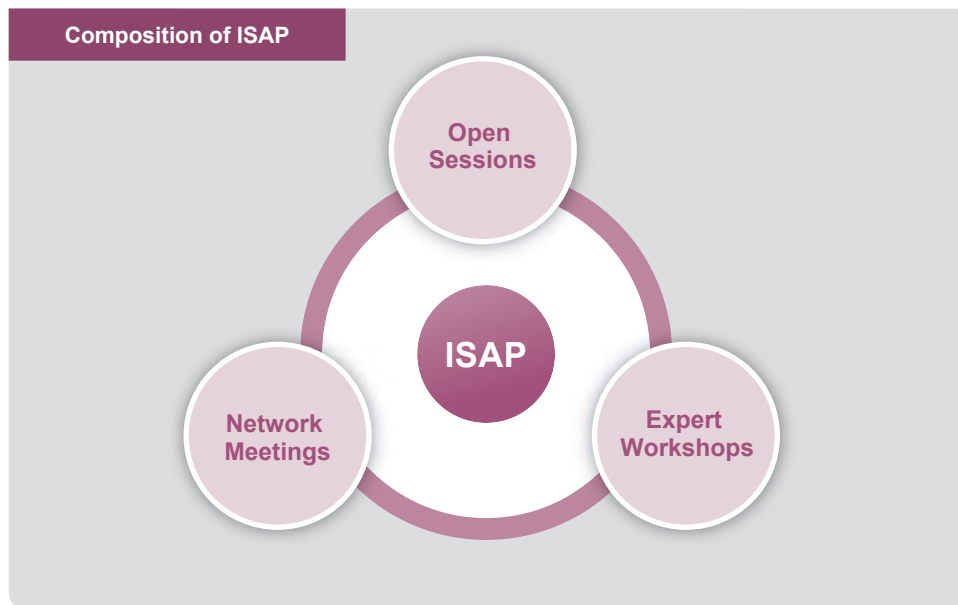
Professional affiliations and titles are correct at the time of the forum.

What is ISAP?

The International Forum for Sustainable Asia and the Pacific (ISAP) is a two-day forum, held once a year with a timely theme, to promote diverse discussions on sustainable development in Asia and the Pacific. It also aims to provide opportunities to boost information-sharing and strengthen collaborative efforts with front-line experts and diverse stakeholders from international organisations, governments, business and NGOs, drawing upon the international/regional networks in which IGES plays an important role.

ISAP is made up of the three components: i) Open Sessions, in which the latest research activities are presented and shared, ii) Expert Workshops, where specific themes are discussed in depth, and iii) Network Meetings in which important issues facing this region are discussed with relevant international/regional networks.

This comprehensive structure is designed to create synergy to promote a sustainability agenda in the region through various discussions and networking among participants.



Event Outline

IGES and the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) organised the International Forum for Sustainable Asia and the Pacific (ISAP2014) on 23-24 July 2014 in Yokohama, Japan.

The Asia-Pacific has seen increased GHG emissions from major economies across the region, with socially marginalised populations being particularly affected by climate change. We must take action to mitigate the changes and also to cope with their impacts. The upsurge in resource consumption due to urbanisation and changes in lifestyles is another major challenge facing this region.

ISAP2014 was an opportunity to consider such challenges and featured discussions on how we can build a low-carbon and resilient society through partnerships between governments, civil society, the private sector and other stakeholders. The knowledge acquired at ISAP2014 forms a message that the Asia-Pacific region can convey to regional and international processes and to consultations on the global development framework.

ISAP2014 at a glance

Open Sessions

Plenary Sessions

- Accelerating Low Carbon, Resilient and Inclusive Development in the Region: Implications of the IPCC Fifth Assessment Report for Asia
- Pursuing a Sustainable Society: Sustainable Development Goals (SDGs), Sustainable Lifestyles and Well-being

Parallel Sessions

- Launch of the Japan 2050 Low Carbon Navigator: Navigating toward Low Carbon Societies
- Building Resilient Cities in Asia: From Theory to Practice
- Bringing SLCPs and PM2.5 into Integrated Air Pollution and Climate Change Strategies in Asia: Linking Science, Models and Action
- Stakeholder Communication for Informed Decisions: Lessons from and for the Displaced Communities of Fukushima (IGES/UNU-IAS session)
- International Climate Regime in 2020 and Initiatives in Asia: Mitigation Actions and a Measuring, Reporting and Verification (MRV) System (IGES/NIES session)
- Key Messages from IPCC AR5 and Its Implications in Asia: Future Perspective of Climate Change Policies in Asia through Integration of Mitigation and Adaptation
- Setting the Direction for Adaptive Development: The Urgent Need to Achieve a Sustainable Asia-Pacific (IGES/Keio Univ./TERI Univ. session)
- Financing Low Carbon Technology Transfer for Small-Medium-Enterprises (SMEs): A Match-making Strategy
- Benefits and Challenges of Community Engagement for the Sustainable Use of Biodiversity: Lessons from Participatory Landscape Management under the Satoyama Initiative (IGES/UNU-IAS session)
- Implementing the Sustainable Development Goals (SDGs) in Asia: Toward a Common Language for Governance
- Making Cities More Sustainable in Asia: Bridging Theory and Practice
- Empowering Stakeholders and Spearheading Innovation for Sustainable Development: Lessons from the Field and Future Perspectives (IGES/UNEP-ROAP session)
- Advancing Education as a Goal for Sustainable Development: On the Road to Nagoya – Moving towards Transformative Learning for Sustainable Lifestyles (IGES/UNU-IAS session)

Lunch Sessions

- Key Messages from IGES White Paper V: How Regional Integration in Asia Can Benefit People and the Environment
- Promoting an Integrated Knowledge-Base System for Scientific Low Carbon Development Policymaking in Asia

Roundtable

- Harnessing Synergies between Adaptation and Disaster Risk Reduction: Pertinent Issues, Success Cases and the Way Forward



Date	23-24 July 2014 (Wed./Thu.)
Venue	PACIFICO YOKOHAMA, Conference Center 5F (1-1-1 Minato Mirai, Nishi-ku, Yokohama, Japan)
Organisers	Institute for Global Environmental Strategies (IGES) United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)
Collaborators	United Nations Environment Programme (UNEP) / United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) / Asian Development Bank (ADB) / Organisation for Economic Co-operation and Development (OECD) / National Institute for Environmental Studies (NIES)
Supporters	Ministry of the Environment, Japan / Kanagawa Prefectural Government / Hyogo Prefectural Government / City of Yokohama / Kawasaki City / City of Kitakyushu / Japan International Cooperation Agency (JICA) / The Energy and Resources Institute (TERI) / Yokohama National University / Global Cooperation Institute for Sustainable Cities, Yokohama City University / Graduate School of Media and Governance, Keio University / Research Institute for Humanity and Nature (RIHN) / Sustainability Science Consortium / Nikkei BP Cleantech Institute / Kanagawa Shimbun
Number of Participants	About 930 persons

Expert Workshops / Network Meetings

- The International Partnership for the Satoyama Initiative (IPSI) Case Study Experts Workshop
- JCM Workshop for Local Governments
- LoCARNet Network Meeting "What Does Asia Expect from the Research Community?"
- 5th Asian Co-benefits Partnership Advisory Group Meeting
- Preparatory Meeting for the Discussion on IGES's JCM Capacity Building Activity
- Closed Study Meeting with OECD on Climate Finance
- The First Working Group of the Integrated Programme on Better Air Quality (IBAQ)
- Asia and Pacific Clean Air Partnership (APCAP): The First MOEJ-UNEP Consultation/Project Review Meeting
- Support for Developing Country through Climate Technology Center and Network (CTCN) in Asia

Exhibition on Research

Poster Session on IGES's
Major Achievements
"Vote for the Top Three"

Poster Session for
Young Researchers

Information-Sharing
& Discussions

Key
Messages

Opening Remarks

Welcome Remarks

Hironori Hamanaka Chair of the Board of Directors, IGES

Kazuhiko Takeuchi Senior Vice-Rector, United Nations University (UNU) / Director and Professor,
Integrated Research System for Sustainability Science (IR3S) The University of Tokyo

Guest Remarks

Soichiro Seki Vice Minister for Global Environment, Ministry of the Environment, Japan

Yuji Kuroiwa Governor, Kanagawa Prefectural Government

Welcome Remarks

Hironori Hamanaka gave some opening remarks to welcome distinguished guests, collaborators, supporters and general audience to ISAP2014. As the Asia Pacific region faces a variety of challenges, ISAP gathers together diverse experts to share information and knowledge, and to formulate solutions to these regional challenges. He mentioned SDGs and good governance as well as the transition to a low-carbon society as some issues up for discussion. He asked for active participation at the forum so that the voices in Asia can be included in resilient and inclusive solutions.

Kazuhiko Takeuchi stated that ISAP is an important and timely forum for discussion on pressing issues related to sustainable development. UNU-IAS is fully committed to the process towards the post-2015 sustainability agenda, and also mentioned its work on Education for Sustainable Development.

Guest Remarks

Soichiro Seki gave some remarks about Japan's contributions to issues on climate change and sustainable development. He introduced the Fun to Share campaign, aiming to encourage citizens to come up with ideas and techniques to start a chain reaction for positive lifestyle innovation, and also mentioned that Japan is ready to assist developing countries to leapfrog the economy-oriented development to achieve a low-carbon society.

Yuji Kuroiwa welcomed participants to Yokohama and explained the efforts made by Kanagawa prefecture on the environment. He mentioned that when he took office in 2011, he wanted to start an energy revolution from Kanagawa and set an agenda to shift from centralised to distributed power generation, aiming for 45% of the total energy in Kanagawa by 2030. By using solar film rather than panels, photovoltaic power generation can become widespread.



Special Message

Speaker via Live Video Link

Jeffrey D. Sachs

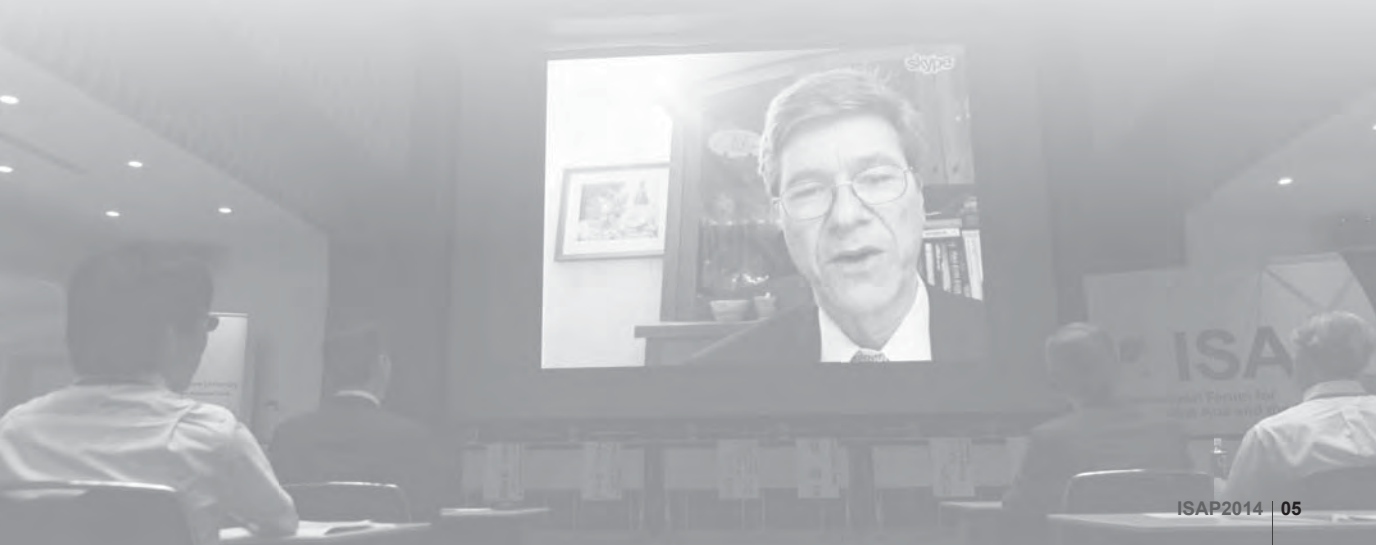
Director, Sustainable Development Solutions Network (SDSN) / Director, The Earth Institute, Columbia University

Jeffrey D. Sachs mentioned three important items on the global development agenda – Sustainable Development Goals (SDGs), international finance for development, and negotiations on a climate agreement at COP21 in Paris, 2015.

He also mentioned a recent report that he and others issued to UN Secretary General and French foreign minister, namely “Pathways to Deep Decarbonization”. The purpose is to inform that the world is on a dangerous trajectory of increasing temperatures that could possibly lead to runaway climate change, with the globally recognised two degree centigrade limit for mean temperature increase as a safety rail for the world. A strong global commitment must be made to a research and development programme on nuclear safety, on carbon capture and sequestration technology, on storage of intermittent wind and solar power, on improved building design and low-cost, high-reliability vehicles. He concluded that Asia must help lead the transition to a low-carbon global energy system.

Key Messages

- **Issuing of a report “Pathways to Deep Decarbonization” sponsored by Sustainable Development Solutions Network (SDSN).**
- **Three fundamental changes are needed in our energy systems: low-carbon electricity; electrification of vehicles and building; and strong movement towards energy efficiency.**
- **Asia has a responsibility of leadership to help lead the transition to a low-carbon global energy system.**



Plenary Sessions

Plenary Session 1

P-1

ACCELERATING LOW CARBON, RESILIENT AND INCLUSIVE DEVELOPMENT IN THE REGION: IMPLICATIONS OF THE IPCC FIFTH ASSESSMENT REPORT FOR ASIA

1 Context/Rationale

Climate change is posing substantial threats to both present and future generations, and action must be taken not only to mitigate but also to adapt to its impacts. With its significant economic expansion and huge population, Asia has seen an increase in greenhouse gas (GHG) emissions. If the carbon intensive development pattern continues, Asia will account for about 50% of global GHG emissions by 2050. In that sense, there has been growing importance in low-carbon development in Asia. Leading experts on climate change and sustainable development were invited to this session to discuss how Asia can lead the world into a sustainable future, fully taking into consideration the implications of the Fifth Assessment Report of IPCC (AR5).

2 Objectives

This session aimed to explore pathways for Asia to lead the world into a sustainable future. Under this objective, two key questions were asked: "What should global policy be like to lead the world into a sustainable future, fully taking into consideration the implications of the AR5?" and "How can Asia contribute to climate stabilisation with its developing strategies?"



3 List of Speakers

[Moderator]

Hironori Hamanaka Chair of the Board of Directors, IGES

[Keynote Speaker & Discussant]

Rajendra K. Pachauri Director-General, The Energy and Resources Institute (TERI) /
Chair, The Intergovernmental Panel on Climate Change (IPCC)

[Speaker]

Shuzo Nishioka Secretary General, International Research Network for Low Carbon Societies (LCS-RNet) and
Low Carbon Asia Research Network (LoCARNet) / Senior Research Advisor, IGES

[Speakers & Discussants]

Rintaro Tamaki Deputy Secretary-General and Acting Chief Economist,
The Organisation for Economic Co-operation and Development (OECD)

Emil Salim Chairman / Council's Member on Economics and Environmental Affairs at the Advisory Council to
The President, The Republic of Indonesia

Abdul Hamid Zakri Science Adviser to the Prime Minister of Malaysia /
Chair, Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

Akimasa Sumi President, National Institute for Environmental Studies (NIES)

Ligia Noronha Director, United Nations Environment Programme's Division of Technology,
Industry and Economics (UNEP-DTIE)

4 Key Messages

- **A stable climate is one component of sustainable development. Climate change is posing substantial threats to both present and future generations, and action must be taken not only to mitigate but also to adapt to its impacts.**
- **The global climate system could be impacted by what development path Asian countries will pursue.**
- **Economic growth with low GHG emissions is possible in Asia. Countries in the region need to revisit their development patterns.**
- **Successful transition to a low-carbon economy needs better policies than now, such as financial policies that lead to low-carbon development.**
- **Asia also should work together for low-carbon development, such in innovation of low-carbon technologies.**
- **It is necessary to show successful, concrete examples of overcoming the barriers against addressing climate change and to establish detailed action plans that make use of various tools.**

5 Summary of Presentation

Rajendra K. Pachauri mentioned that sustainable development should meet the needs of the present without compromising the ability of future generations to meet their own needs. A stable climate is one component of sustainable development, and climate change has caused critical risks against sustainable development. Working Group I of the IPCC clarified that climate change is unequivocal, and it is 95% certain that human influence has been the dominant cause of the observed warming since the mid-20th century. The warming trends and increasing temperature extremes have been observed across most of the Asian region over the past century, and climate change causes future risks in Asia, such as water scarcity, lower rice yields, sea level rise, damage to coral reefs and ocean acidification. Such risks result

in adverse effects on sustainable development. In order to ensure a resilient and sustainable pathway for humanity at large, interaction among climate change mitigation, adaptation and disaster risk management is important. With respect to adaptation and disaster management, each region has unique vulnerabilities and exposure to hazards; hence, effective activities are tailored to local and regional needs and circumstances. With regards to mitigation, GHG emissions in 2050 should be 40% to 70% lower globally than those in 2010 in order to keep temperature change below 2 degree C relative to preindustrial levels. In addition, considering the intersections of mitigation and adaptation with other societal goals, such as pollution control and ecosystem management, can strengthen the basis for undertaking climate actions.

Shuzo Nishioka raised some questions in his framing presentation. One question was about the policy implications of the AR5. In the Report, various impacts and types of impacts by climate change are identified. It is forecast that such impacts might even change the whole climate system. The ultimate solution is zero emissions. Human-generated emissions will accumulate and half of the emissions will remain in the atmosphere. This will result in a rise in temperature. Unless we completely eliminate emissions, temperatures will continue to increase. Various scenarios have been recommended on how much time we have left and how much more we can emit before reaching the 2 degree target. Japan must reduce emissions by 85%. We are now at the turning point for transformation and we need to take the deep carbonisation pathway to achieve this.

Rintaro Tamaki explained that establishing better policies is necessary to achieve a successful transition to a low-carbon economy. He indicated four key policy approaches for low-carbon transition. First, carbon taxes and emission trading systems are the most cost-effective methods to put a price on carbon emissions. Second, many OECD countries support fossil fuels by providing subsidies, but these supporting activities need to be reformed. Third, a green investment policy framework should be developed to promote green business and change consumer behaviour. Finally, OECD countries still tend towards using fossil fuels so they need to align their policies to overcome regulatory and market rigidities, and make the shift to use renewable energy.

Emil Salim mentioned that economic growth with low GHG emissions is possible. For example, both Japan and the Republic of Korea have achieved economic growth with low GHG emissions while China's economy has been growing with high GHG emissions. The key to economic growth with low GHG emissions is labour productivity and a good energy mix. Specifically, the effective use of coal in a climate-friendly manner is a key for the energy mix. A good model for establishing the good energy mix is the "Green Revolution" movement by the International Rice Research Institute (IRRI). The IRRI





model can provide good ideas for developing clean and cheap coal energy for energy security of Asia. Cooperation among Asian countries through technological innovation with human capacity development, and development in carbon capture storage and clean coal development are also important for ensuring the transition to low-carbon societies.

Abdul Hamid Zakri stated that climate change is one of the most critical risks to mankind, considering that climate change and unprecedented natural disasters degrade the quality of our socio-economic life and the environment. Climate change can make impacts on all stakeholders such as industry, government and consumers, and this can intensify conflict among those stakeholders over resources. We have to get the commitment to follow the pathway to deep decarbonisation and political will is a key to promote the pathway. Human activity is the driver both for climate change and loss of biodiversity, and therefore mitigation approaches for both issues have much in common. Significant changes in policies, institutions and practices are necessary, including participatory decision-making and enhancement ownership; increase of transparency that address corruption; integration or coordination among relevant sector policies and institutions; promotion of education and empowerment of women and young people; and revisiting indigenous practices and technology. He also emphasised the need to address social challenges, and pointed out that poverty alleviation in particular should go together with climate mitigation and biodiversity conservation efforts.

Akimasa Sumi stated that it is necessary to obtain support from people to ensure the success of sustainable development. He mentioned that we need to recognise that the natural environment of the Earth is finite, and it is vital to understand the combined natural cycles of energy, water, carbon and so on. For example, the energy cycle cannot be separated from the water cycle. In order to cope with climate change, it is now time to take action; however, detailed actions for addressing climate change are not easily accepted due to various stakeholders, different values and diverse interests among people. It is necessary to show successful concrete examples of overcoming the barriers against addressing climate change and to establish detailed action plans by using various scientific tools.

Ligia Noronha mentioned that Asia is particularly vulnerable in terms of flooding, sea level rises, heat, and the food and agricultural systems that may be affected. The region is both very rich and very poor and this needs to be balanced. She focused on two issues that are of particular concern to UNEP – the Finance Initiative for sustainability, and sustainable consumption and production (SCP). Looking at financing change, a large amount of money is needed for infrastructure, and it is both the private and public sectors that must mobilise this investment. As well as large investments in clean energy, there are



also large investments in the carbon sector, resulting in increased carbon intensity. We need to find ways to revisit the financial system, and also redirect capital to support green economies. A UNEP inquiry on a sustainable financial system can help economies in the long term, and is looking to change the rules of the game for financial policy and focuses on what rules should be changed, as well as why and how rules should be deployed in support of a green economy. SCP is important in the context of building resilient economies. We need to address key issues of energy and resource efficiency, focusing on reduction of food waste, post-harvest food losses, support of sustainable procurement of goods and services, and more education on sustainable development. She concluded by calling for international and regional cooperation to create employment, improve the environment and reduce risks.

6 Summary of Discussion

Asia consists of diverse traditional societies but most of the region has been influenced by western characteristics. There is a need for Asia to blend its own cultural, traditional and historical beliefs and values going forward. Agriculture is a major occupation in Asian countries, and GHG emissions from land-use and agriculture should be addressed, as one of the urgent issues. Countries in the region should collaborate with each other to ensure successful research and development, especially in renewables, so that the region as whole can develop its energy sector under a new vision for economic and sustainable development. The region is prone to disasters and so experiences on adaptation must also be shared to set up systems to cope with these situations. The transportation sector is growing at an alarming rate and Japan can lead the region in moving to public transport. In Asia, a framework is necessary to discuss the objective data on emissions, and share expertise to make estimates of impacts so that action can be taken. Climate policies towards low-carbon society must be designed so as to respond the short term demands for poverty alleviation, jobs and protection of welfare benefits. They can contribute to an economic recovery with a view to securing sustainable development. Basic challenges such as poverty alleviation and food security must be taken into account in a future low-carbon framework. The successful countries in Asia have used the growth of science, technology, engineering and mathematics (STEM) and put emphasis on education and capacity development. A mechanism is required to transfer these practices so that the entire region can achieve low-carbon growth. Japan and the rest of Asia are tightly connected as part of the global supply chain, and further collaboration should be promoted. In Asia, adaptation to climate change has been featuring high on the agenda, however, considering the situation that there will be an increase in future emissions from Asia, mitigation to climate change should be also addressed. Using coal as an energy source with advanced technology can result in low emission power generation, but the cost of renewables is decreasing so there needs to be debate on infrastructure and energy policy. Asian megacities must be resilient and can refer to green cities in Japan.

Plenary Session 2

P-2

PURSuing A SUSTAINABLE SOCIETY: SUSTAINABLE DEVELOPMENT GOALS (SDGs), SUSTAINABLE LIFESTYLES AND WELL-BEING

1 Context/Rationale

The aim of this session was to frame overall discussions on sustainable and inclusive development in the region at ISAP sessions from the view point of sustainable development goals (SDGs) in the context of Asia. Rio+20 in 2012 agreed to develop SDGs. Since then, many stakeholders are involved in the discussion about SDGs towards final agreement in September 2015.

2 Objectives

- Introduction of current international discussion on Sustainable Development Goals (SDGs).
- Discussion on key topics that will lead Asia into sustainable development such as sustainable consumption and production, sustainable lifestyle and well-being.

3 List of Speakers

[Moderator]

Hideyuki Mori President, IGES

[Keynote Speakers]

Shamshad Akhtar Under-Secretary-General of the United Nations and Executive Secretary of the Economic and Social Commission for Asia and the Pacific (UNESCAP)

Kaveh Zahedi Regional Director and Representative,
United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)

Toru Fukushima President, Fukushima / Unite co., Ltd.



4 Key Messages

- **Collaboration between UNESCAP, UNEP and IGES to be very important for pursuing sustainability in this region with ISAP playing a leading role in agenda setting and improved communications on discussions on sustainable development in Asia.**
- **SDGs are a revolutionary process that looks at the integrated development of social, economic, and environmental dimensions.**
- **Meeting the forthcoming SDGs, which form the new roadmap for the future, will require playing by a new set of rules to better involve civil society, the private sector and finance.**
- **Various concepts such as low-carbon, sound material cycle society, or biodiversity are not easily linked to the actual lives of each citizen so there needs to be real communication between consumers and producers.**

5 Summary of Presentation

The session started with a key-note speech by Shamshad Akhtar who considered collaboration between UNESCAP and IGES to be very important for pursuing sustainability in this region. She expressed her expectation for ISAP to play a leading role in agenda setting and improved communications on discussions on sustainable development in Asia. She then introduced recent discussions on SDGs at the global level as well as at Asia-Pacific regional level. She mentioned that this was a critical juncture in the evolution of sustainable development. Firstly, the SDGs process is revolutionary in that it discusses and examines possible forward-looking goals specifically focusing on sustainable development. The process no longer looks at social, economic, and environmental development as separate issues but promotes integrated development of these three dimensions. In July, the Open Working Group (OWG) produced its final report on the SDGs with 17 goals and more than 150 concrete targets. In parallel, there is another UN process taking place with the Intergovernmental Committee of Experts on Sustainable Development Financing due to submit its recommendations. In relation to implementation of the SDGs, five different UN regional commissions will coordinate and prioritise specific agendas for each different region.



In this regard, UNESCAP represents the diverse Asia-Pacific region. In May, the regional forum on Sustainable Development (SD) was held in Thailand and is expected to be held regularly in the future. Looking at the SD agenda first of all, the essential elements are prioritisation of poverty eradication, narrowing inequality, changing unsustainable patterns of growth, protecting the natural resource base, with additional emphasis at the Asia-Pacific regional level to pursuing sustained and inclusive economic growth. Secondly, there needs to be promotion of gender equality and women's empowerment, thirdly, resilience to multiple shocks and disasters, fourthly, a response to population dynamics and urbanisation, fifthly, progress in natural resource management, and finally regional integration. Representatives also discussed about means of implementation for SDGs, focusing on financing for development, science and technology, trade, capacity building partnership, and governance for transformation towards sustainable development. In 2011, UNESCAP and IGES collaborated to reflect the voices of Asia-Pacific region to Rio+20 process by utilising ISAP and the hope is that ISAP will continue to play a similar role in the implementation process of SDGs in the region. Following the Fifth Ministerial Conference on Environment and Development held in 2005, where the major outcome was the emphasis in green growth, UNESCAP is organising another ministerial conference. Among the advanced cases in green growth, China has changed its standards of measurement for economic development. The Republic of Korea has published a low-carbon national strategy. Indonesia is also implementing sector-specific low-carbon roadmaps. Japan can also share many lessons and experiences so the partnership with Japan is very important to UNESCAP. UNESCAP would like to contribute to agenda-setting, implementation, lifestyle and consumption changes along with SDGs in collaboration with research networks of low-carbon development.

Kaveh Zahedi stated that a transformation of our collective understanding of sustainable development has been observed in the recent international discussions related to sustainability. The recently held UN Environmental Assembly (UNEA) emphasised the need to construct a post-2015 agenda in way that truly integrates the environment with social and economic development and the Assembly reaffirmed a new game plan for integrating poverty eradication as well as protecting the environment and promoting inclusive social and economic development in harmony with nature. This can be a revolutionary conceptual change in sustainability. However, the old growth-driven game is still prominent. TEEB business coalition estimated that the top 100 environmental externalities of business are costing the global economy around USD 4.7 trillion each year. Fossil fuel consumption subsidies are still massive,



compared to investments in renewable energy, which all has an adverse effect on the transition to a clean energy future. Unless economic growth is “decoupled” from natural resources consumption, we will soon face serious sustainability challenges. These impacts are particularly prominent in rapidly developing Asia. Countries in the region will only be able to address their development and poverty reduction priorities by reducing pollution, increasing resilience to disasters, promoting cleaner, more efficient energy, better managing forests and natural capital, creating livable cities and increasing food security. That is why there needs to be a new game for Asia-Pacific and sustainability. To address this, countries in Asia have started to move towards a green economy on a scale and at a speed that puts more emphasis on green growth, low-carbon low emissions and resilient development. There is a major unfinished sustainable development agenda in the Asia Pacific and to address the challenges of humankind on a global scale, there is a need to simultaneously achieve growth, inclusiveness, protection and preservation. Sustainable development will not hamper inclusive economic growth, it will be the driver, and give more people in the Asia Pacific the opportunities they deserve. Meeting the forthcoming SDGs, which form the new roadmap for the future, will require playing by a new set of rules to better involve civil society, the private sector and finance. Partnerships between the UN and Japan including IGES will continue to be of great benefit to Asia.

This was followed by Toru Fukushima who stated that his position was to facilitate real communication between consumers and producers. His company put a great deal of effort into improving communications with real producers such as communities of vegetable farmers. Based on his real-life experience, he felt that various concepts such as low-carbon, sound material cycle society, or biodiversity are not easily linked to the actual lives of each citizen. Although Japan is a rich country in terms of economy and environment, he often feels Japanese society has started to lose its balance. Through management of a supermarket company, he put emphasis on collaboration between producers and consumers. This is because recent economic trends tend to divide and promote dis-communication among different players in the supply chain. Dis-communication can cause major stress and loss in a society in many ways. To tackle this challenge of improving communication, he believes the concept of “oishii (delicious)” is important. Developing citizens’ capacity to evaluate and enjoy really “oishii” products would enrich their lifestyles and promote happiness. For the right choice of “oishii” products, knowledge, experience, and skills are needed. The development of the right environment for a family’s food choices is a key issue. Keeping this in mind would eventually result in resource conservation. A changing awareness of the market would result in real changes in consumption and production. Total collaboration from production, sales, to consumption is necessary, with the key to improvement being communication. He stated that he would like to contribute to fill the gap between conceptual discussions and real life.



6 Summary of Discussion

In response to the question on how green growth can be realised in synergies between environment and economy and what are the keys for the Asian economy to become more sustainable, Shamshad Akhtar replied that the world has been focused on growth from one side and has not considered natural and resource basis for growth. Green growth is about changing the game to quality growth, considering environmental and resource basis for the growth. Further, the world has focused too much on short-term objectives. We know that there is a trade-off between short term objectives and long-term objectives of the development. We know that we can secure longer-term sustainable growth by sacrificing some part of short-term rapid economic growth. Thirdly, the traditional economic growth model has been focusing on macro-economic balance and the past trend. What we need from now on is a more dynamic general equilibrium model integrating the different sectors and taking into consideration natural resources. In the long-term, this kind of inclusive model would be able to consider the impact of natural resource depletion as well as the impact from technology innovation. Then Kaveh Zahedi replied about decoupling and emphasised the human element. He said that it is very important to integrate theory and reality, as well as policy and actual fields. He added that global warming is not a problem itself but it impacts human and society matters. Decoupling is about making the existing products with fewer resources and less pollution. He added that human behaviour can change the situation, for example by eating seasonal fruits and vegetables.

In response to the question on the impact of trade liberalisation and globalisation on the food, Toru Fukushima answered that life is based on local life so a local supermarket can change the world through localised shopping by empowering local consumers as well as local producers. To this end, it is essential to organise an environment for local production. One may be able to influence the world by similar approach through internationalised trade. However, local capacities and potentials tend to get overlooked when making changes and providing well-being.

There was then a question on how to maximise the potential of the 3R approach in developing countries and ways for the international community to overcome barriers for international 3R activities, as well as ways to minimise throw-away products such as disposable plastic bags. Toru Fukushima commented on reuse, and explained that there are some successful businesses in Japan. For food-related issues, more consideration must be given to the spirit of MOTTAINAI (no wastefulness). Respecting a product can result in many positive effects. He stated that he tried to stop using plastic bags in his stores but this resulted in a significant drop in sales so the government should play a role to ensure competition is fair through policy intervention. Kaveh Zahedi replied that Japan can share much of its experience in terms of technology as well as behaviour. 3Rs in waste is recognised as an important issue in international discussion. For example, waste issues are linked with climate issue, and there are similar challenges associated with e-waste, so there needs to be an integral way of thinking about sustainability. Discussion must focus on how to construct a circular economy from the view point of greening the whole supply chain. Shamshad Akhtar added that it is important to focus not only on the management of one type of product but to change human behaviour and the role of education is crucial in this regard.

Parallel/ Lunch Sessions

Lunch Session

KEY MESSAGES FROM IGES WHITE PAPER V: HOW REGIONAL INTEGRATION IN ASIA CAN BENEFIT PEOPLE AND THE ENVIRONMENT

L-1

1 Context/Rationale

IGES' forthcoming Fifth White Paper "Greening Integration in Asia: How Regional Integration Can Benefit People and the Environment", discusses how regional integration in Asia and the Pacific could be a driver for sustainable development. The current regional integration processes in the region are focusing on economic integration through trade and investment liberalisation. The White Paper provides input to the discussion on what kind of regional integration amongst Asian nations would be beneficial, not only in the short term and from the narrow viewpoint of national interests, but from a wider sustainability perspective.

2 Objectives

This session aimed to present key messages of the White Paper to a general audience and to receive feedback from the discussant, Ella Antonio of the Earth Council.

3 List of Speakers

[Moderator]

Magnus Bengtsson Principal Policy Researcher, Programme Management Office, IGES

[Speakers]

Satoshi Kojima Principal Policy Researcher, Programme Management Office, IGES

Henry Scheyvens Leader / Principal Policy Researcher, Natural Resources and Ecosystem Services Area, IGES

Abdessalem Rabhi Task Manager / Senior Policy Researcher, Business and the Environment Area, Kansai Research Centre, IGES

Simon Olsen Task Manager / Senior Policy Researcher, Regional Centre, IGES

[Discussant]

Ella Antonio President, Earth Council Asia-Pacific, INC.



4 Key Messages

- **Asia is developing rapidly but unsustainably. Currently, regional cooperation and integration processes contribute only marginally to addressing these undesirable trends.**
- **Joint action at the regional level holds considerable potential to complement and strengthen country level efforts.**
- **Recommendations from the White Paper are under three headings: (i) Make trade and investment work for sustainable development, (ii) Strengthen and refocus regional institutions, and (iii) Build capacity at national and sub-national levels.**

5 Summary of Presentation

The session had four presentations from IGES researchers who are contributing authors of the White Paper.

Satoshi Kojima made the first presentation entitled “Greening Asia’s Integration: An Urgent Challenge”. He introduced the overall idea and structure of the publication. He illustrated some unsustainable regional trends such as rapid increase in material consumption as well as carbon emissions in the region. It was also demonstrated that income inequality has been worsened in many countries despite of rapid economic growth in the region. The presentation emphasised the role of regional policy processes, as an important complement to national and global policy making in order to address these issues.

Henry Scheyvens made the second presentation entitled “Protecting Forest Values as Economic Integration Advances – The Importance of Regional Collaboration”. He highlighted some key challenges related to the forest sector, and also presented some negative environmental impacts, such as deforestation, associated with the ongoing economic integration. Against this background it was argued that the creation of responsible regional markets and production chains was the key to address the problems and that regional collaboration, especially on timber certification, could help improve the situation in this direction.

Abdessalem Rabhi made the third presentation entitled “Low Carbon Technology Transfer in the Context of Asian Regional Integration”. He explained the significance of climate friendly technologies and the need for trans-border technology transfer. He explained the huge mitigation potential through deployment of low carbon technologies, in particular energy saving technologies, in Asia. To materialise such potential, a three-stage model for technology transfer was introduced together with a set of recommendations on how regional integration could help address key obstacles.

Simon Olsen made the fourth presentation entitled “Sustainable Development Goals in the Context of the ASEAN Community 2015”. He highlighted the potential links between Sustainable Development Goals (SDGs) and ASEAN Economic Community process, an ongoing regional integration process in this region. He also explained the structure of ASEAN and how the Millennium Development Goals were dealt with by ASEAN. Based on this analysis, discussions focused on how ASEAN could prioritise SDGs as part of its integration process to facilitate sustainable development in member countries.

6 Summary of Discussion

In the discussion part, the overall ideas and messages of the White Paper were enthusiastically supported by Ella Antonio. However, she pointed out the need for some recommendations to be further elaborated, especially with regards to how they can be put into practice. She also underscored the significant progress made by ASEAN and the need for the White Paper to take notice of these achievements. Finally, she emphasised that the key to reforming Asia’s regional integration is to go through governments in the member countries.

LAUNCH OF THE JAPAN 2050 LOW CARBON NAVIGATOR: NAVIGATING TOWARD LOW CARBON SOCIETIES

PL-1

1 Context/Rationale

IGES and the National Institute for Environmental Studies (NIES) developed the Japan 2050 Low Carbon Navigator (a Japanese version of the UK 2050 Pathways Calculator). This is a low-carbon energy pathways simulation tool that helps policymakers, energy producers and consumers (including the public) to understand the energy and emission-related choices that Japan faces. It allows users to develop their own pathways combinations to achieve emissions reductions and ensure energy security. Against the backdrop of Japan's emissions reduction commitments and post-Fukushima energy security situation, the Low Carbon Navigator is expected to be a useful platform for engaging in dialogues on the challenges and opportunities of the future energy system and the responses to climate change. This session was designed to explain what the Low Carbon Navigator is and how it works. A panel discussion then followed, focusing on its potential use. Hironori Hamanaka moderated the session.

2 Objectives

This is the launch session of the web tool of the Japan 2050 Low Carbon Navigator (a Japanese version of the UK 2050 Pathways Calculator), jointly developed by IGES and the National Institute for Environmental Studies (NIES). The session not only introduced the Japan 2050 Low Carbon Navigator, but also shared lessons learnt from the UK 2050 Pathways Calculator. In the panel discussion, speakers from different areas such as education, non-governmental organisations, business group and research institute discussed ways by which the 2050 Low Carbon Navigator can be used and conveyed their expectations for this tool.



3 List of Speakers

[Opening Remarks]

Nobuhiro Kino Director, Office of International Cooperation, Global Environment Bureau,
Ministry of the Environment, Japan

Richard Oppenheim First Secretary / Head of Climate Change and Energy Section, British Embassy Tokyo

[Moderator]

Hironori Hamanaka Chair of the Board of Directors, IGES

[Speakers]

Shuzo Nishioka Secretary General, International Research Network for Low Carbon Societies (LCS-RNet) and
Low Carbon Asia Research Network (LoCARNet) / Senior Research Advisor, IGES

Xin Zhou Leader / Principal Policy Researcher, Green Economy Area, IGES

Jan Ole Kiso Senior Policy Advisor, 2050 Team, UK Department of Energy and Climate Change

[Discussants]

Kazuo Matsushita Senior Fellow, IGES / Professor Emeritus, Kyoto University

Naoyuki Yamagishi Leader, Climate and Energy Group, Conservation Division, WWF Japan

Miho Nakajima Assistant Manager, Urban Environment Section, Kawasaki Environment Research Institute

Masaharu Yagishita Visiting Professor, Graduate School of Global Environmental Studies, Sophia University

Suichi Ashina Senior Researcher, Center for Social and Environmental Systems Research,
National Institute for Environmental Studies (NIES)

[Closing Remarks]

Tsuyoshi Fujita Director, Center for Social and Environmental Systems Research,
National Institute for Environmental Studies (NIES)

4 Key Messages

- The development of the Japan 2050 Low Carbon Navigator is a timely initiative. It is a handy and transparent tool that can help answer the fundamental questions of how the energy system can evolve over the coming decades and its impact on emissions, energy security, land-use, electricity systems, energy development and related costs. The user-friendly web interface makes it appealing and easy-to-use.
- The Low Carbon Navigator can be potentially used for a variety of purposes. It can provide a useful platform for engaging the policymakers, experts, producers as well as consumers into energy and emission-related debates focusing on Japan's long-term visions. It can also be a functional tool for educational purposes, which will revitalise the students so that they can learn and discuss about the otherwise difficult issue of climate change and the challenges for Japan.
- The underlying assumptions and levels settings under the current version of the Low Carbon Navigator may require further verifications from experts and stakeholders. In particular, the renewable energy potential appears to be relatively conservative and does not really reflect available studies from various sources. It will be a good idea to receive feedback from the audience (especially from experts) and to revise some of the assumptions when required.
- The Low Carbon Navigator will benefit from some supporting documents that users can consult to better understand the background of its development, model structure, as well as the calculation procedures.

5 Summary of Presentation

In his opening remarks, Nobuhiro Kino emphasised the significance of the Low Carbon Navigator in the current context of Japan. He explained that the Japan 2050 Low Carbon Navigator was developed jointly by the Institute for Global Environmental Strategies (IGES) and the National Institute for Environmental Studies (NIES) based on the Pathways Calculator developed by the UK Department for Energy and Climate Change (DECC). The Japan 2050 Low Carbon Navigator can show future forecast scenarios on energy supply and demand, and can predict the effects on GHG emissions, power systems, land use, energy resources development and so on. He expects that further collaboration and information exchange between the UK and Japan on climate change will be enhanced as Prime Minister Abe mentioned in the UK-Japan Joint Statement on Climate Change and Energy Cooperation.

Richard Oppenheim reiterated his support for the Low Carbon Navigator, explaining how his Embassy and UK DECC assisted the Navigator development team from the very onset. Referring to the Japanese Prime Minister's discussions on climate and energy cooperation with his UK counterpart in May 2014, he emphasised that the UK and Japan have been and should continue to work together to ensure a low-carbon future. He expects that the Low Carbon Navigator will be widely used in Japan in the same way it is in the UK.

Shuzo Nishioka addressed the relevance of the 2050 Low Carbon Navigator within the context of the limited time available for stabilising the climate at the national and global levels. Referring to Japan's 80% emission reduction targets, he stressed that Japan needs a drastic transformation to break away from a high-energy and carbon-dependent society. He vividly presented the current energy flows in Japan and explained various measures that Japan has and/or need to undertake to transform into a low-carbon society.

Xin Zhou introduced the Japan 2050 Low Carbon Navigator to the audience. Her presentation started with an overview of the Navigator, its background, the rationale of its development as well as the processes followed during the development, and what type of questions it can address. She demonstrated the web tool of the Low Carbon Navigator, explaining its structure and level settings, and how it works. She also presented several example pathways under different levels settings under various assumptions.

Jan Ole Kiso explained how the 2050 Calculator can work as a platform for energy-literate debate. He observed that in the context of the UK, the open-source, Excel model of the 2050 Calculator engages the experts, whereas the web tool informs the policymakers about likely outcomes under different scenarios. Following that, he addressed one of the core issues of the session: how the 2050 Calculator influenced UK's policy debates and formulation. Jan Ole Kiso summarised that the 2050 Calculator helps the audience to understand what matters in the overall debate concerning the future of the UK's energy and emissions, including the impacts of moving away from nuclear energy, the impacts of choices such as increased use of bioenergy, UK's grid decarbonisation targets, the role of gas, and impacts on energy security.

6 Summary of Discussion

In the panel discussion a group of representatives from academia, NGOs, business groups and local government discussed how they expect the Low Carbon Navigator to be used, and what they expect from this tool. Hironori Hamanaka, who facilitated the panel discussion, asked the discussants to try out the tool by making their own choices and inform the audience about the reason behind their selection. Kazuo Matsushita showed his choices on the demand side of residential, commercial and industrial sectors and stressed his selections reflect the importance of carbon pricing in achieving Japan's 80% reduction targets, while Naoyuki Yamagishi underscored the significance of renewable energy sources in achieving this target. Miho Nakajima focused on the demand side, in particular the transport. Masaharu Yagishita followed Japan's current government's expected plan of keeping the country's nuclear potential, whereas Shuichi Ashina combined all the choices made by the panellists to make one low-carbon pathway and stressed on the society scenarios to keep the balance between supply and demand sides.

The second part of the panel discussion centred on the utilisation of the Low Carbon Navigator. A number of important insights came from the panellists. Kazuo Matsushita said that he believes the Low Carbon Navigator can serve as an educational tool which will revitalise the students in the debates on climate change. Replying to Hironori Hamanaka's question about its use at the local level, Miho Nakajima also echoed Kazuo Matsushita's proposal that it can be very useful for environmental education at the local level. Naoyuki Yamagishi expressed his views from an NGO perspective, where he held that the Low Carbon Navigator will help in discussion and debates particularly about renewable and other energy-related scenarios. However, he also expressed his doubts about the low level of potential for renewables set in the current version of the Navigator. Masaharu Yagishita expressed his belief that it can be a useful tool for promoting participatory approaches in energy-related debates. Shuichi Ashina observed that the next step can be to develop a local level Navigator for Kawasaki City. Hironori Hamanaka thanked the panellists for their interesting and useful ideas about the use and further improvement of the Low Carbon Navigator.

Tsuyoshi Fujita provided the closing remarks of the session. In his remarks, he applauded the Low Carbon Navigator, mentioning that its simple and easy-to-use visual interface will allow for engaging the general public in energy-related discussions, which is very important for Japan's journey toward a low-carbon society by 2050.

BUILDING RESILIENT CITIES IN ASIA: FROM THEORY TO PRACTICE

PL-2

1 Context/Rationale

In response to the recent increase in wind and flood damages caused by climate change and large-scale natural disasters like the Great East Japan Earthquake, cities are aiming to develop resilience to cope with such external risks. Furthermore, to maintain city functions supporting social and economic systems even during a disaster, cities have started focusing not only on disaster risk reduction and mitigation, but also on measures to maintain an energy supply and ways to transition urban structure. IGES is carrying out joint research on these new trends with the Universities of Nagoya, Hosei and Osaka, and this session introduced the activities and plans of selected cities in Japan and overseas. It featured discussions on how efforts could be evaluated, promoted and mainstreamed into city development plans.

2 Objectives

The session explored the current status of resilient cities in Asia through:

- Review the current status and identify the main challenges in the area of urban risk reduction and management.
- Discuss the concept and identify practical measures (based on both Japanese and other Asian Cities) in achieving resilient city.
- Identify gaps as well as actions to accelerate national and local implementation of the resilient policy measures.
- Share expectations and identify some suggestions to promote resilient cities in the global agendas, including UNISDR, ICLEI and APAN.



3 List of Speakers

[Moderators]

Mitsuru Tanaka Professor, Faculty of Social Sciences, Hosei University

Toshizo Maeda Leader / Principal Policy Researcher, Sustainable Cities Area, Kitakyushu Urban Centre, IGES

[Keynote Speaker]

Ryutaro Yatsu Senior Adviser, Ministry of the Environment, Japan

[Speakers]

Kenshi Baba Professor, Hosei University

Noriko Sugiyama Designated Associate Professor,
Graduate School of Environmental Studies, Nagoya University

Akihiro Tokai Professor, Division of Sustainable Energy and Environmental Engineering,
Graduate School of Engineering, Osaka University / Director, On-site Research Center for
Sustainability Design, Graduate School of Engineering, Osaka University

Dickella Gamaralalage Jagath Premakumara

Task Manager / Senior Policy Researcher, Sustainable Cities Area, Kitakyushu Urban Centre, IGES

[Discussants]

Ana Cristina Angulo-Thorlund Knowledge Management Officer, International Recovery Platform,
United Nations Office for Disaster Risk Reduction (UNISDR)

Michie Kishigami Director, ICLEI - Local Governments for Sustainability Japan Office

Puja Sawhney Asia Pacific Adaptation Network (APAN) Coordinator, Regional Centre, IGES

4 Key Messages

- **Various methodologies for resiliency are being developed in a scientific manner however how these methodologies can be effectively shared is still under consideration.**
- **Resiliency work is happening in parallel in cities, city networks, international organisations and academia. It is necessary to further integrate these insights to maximise resources and raise capacity and awareness.**
- **Target setting and post-disaster visions of regions need to be considered to enable communities to fully recover from disaster.**
- **The role of eco-systems in resiliency is only now starting to be more fully considered, and this aspect needs a greater role.**
- **Following the Great East Japan Earthquake, the role of communities and relations was acknowledged within Japan as vital for the recovery of the area, where voluntary action has had a large impact. Community based work is a vital component of resiliency and cannot be ignored.**
- **Resiliency is starting to find its roots in cities, but needs further support and development to flourish.**

5 Summary of Presentation

Ryutaro Yatsu discussed climate change resilience and disaster resilience within Japan and how this experience has been shared abroad. An assessment of the climate change impacts on Japan has revealed these will be mainly felt in food production (rice and fruits); floods; an increase in tropical diseases and heatstroke; and biodiversity. Work is on-going towards a national plan for climate change resilience which will be published in the summer of 2015. In order to facilitate both national and international work in this area, Japan is assisting with the creation of networks involving academia, international organisations, national governments, private sector and other stakeholders with examples of this including research in Indonesia and the Philippines. Many of the lessons of disaster risk reduction are based on the lessons learned following the Hanshin (1995) and Great East Japan (2011) earthquakes. There were six major areas where the government was involved: rapid establishment of final disposal facilities for waste; recycling and reuse; formulation of unified guidelines; asbestos damage; debris washed into the ocean; prevention of the infectious diseases and odours. In addition, the impacts of potential earthquakes in the Nankai Trough and Tokyo areas have been assessed with preparations underway. For effective planning, the creation of networks to share findings is vital, particularly in terms of planning and preparation to prevent public panic post-disaster. Public health is a key point with improvements needed to focus on this. All measures should be taken with other Asian countries to ensure lessons are disseminated.

Kenshi Baba presented on resiliency in the Japanese context and the framework policy model created through the research undertaken by Hosei University. Resiliency in Japan is mainly focused on disaster risk reduction with the roles of environmental policy to build resilience yet to be clarified. To this end, a framework policy model which is a hypothetical flow describing the whole process of policymaking has been created. This model assumes that three components – external force risk, vulnerability and situation to be avoided determine the preparedness and/or implementation status of resilient policies. Three categories of resilient policies are identified with an exposure amount to external force risk and influence to system – a precautionary measure, an adaptive measure and a transformation measure. Then, these components are measured by three indices – an urban index (assessing resilience in terms of infrastructure, economy and environment); an administrative index (assessment in terms of existing policies and preparedness); and a civic index (assessment in terms of social capital and knowledge). Thus far, over 100 indices of local governments have been set-up to create a summary status report. Once created, it is expected to share the current situation of resilience and integrate them into local government planning through some participatory approaches such as scenario workshop.

Noriko Sugiyama presented Nagoya University's research into a policy model for energy resilience. Energy resilience is defined as the ability of the city's energy system to respond to systematic risks caused by natural disaster and climate change and is divided into three categories : prevention (making the network stronger); adaption (early restoration of damaged facilities etc.), and transformation (transformation to a distributed energy system). The policy model has been based on three indicators: resilience value (the cost which could avert damage by resilience measures); CO₂ emissions reduction, and amount of capital investment required. Through this analysis it was discovered that transformation is the most effective measure of the three. Transformation to a distributed energy system such as combined heat and power has been shown to be effective in Berlin, with Germany overall showing greater efficiency than Japan. It is hoped that the results from this research can be used to assist Japan in becoming more energy resilient.

Akihiro Tokai explained that Osaka University has been examining resiliency based on risk assessment. The research employs actual multiple risks in the urban area with a hierarchical approach composed of screening multiple risk and analysing specific response profile. Following an assessment of 21 multiple hazards across the themes of technology, natural phenomena, institutions with a particular focus on

climate change, self-supporting energy, damage to eco-system and natural disasters it was found there was considerable variation between local governments concerning their evaluation and provision of risks. Moreover work was done into actual scenario planning including a simulated outcome of a large earthquake on the water supply system which highlighted gaps in the current approach. Future tasks include sharing the case study and customising the methodology based on data availability.

Dickella Gamaralalage Jagath Premakumara explained IGES's work in reviewing the experience of four Asian Cities (Cebu, Philippines; Nonthaburi, Thailand; Ho Chi Minh, Viet Nam; Shanghai, China) and identifying the progress, challenges and key recommendations in planning and implementation of resilient cities. The cities have a variety of vulnerabilities, ranging from flooding and typhoon risks to food security and landslides. Through a literature review, a resilient city framework was defined whereby resilient cities are created through the combination of governance, hardware (infrastructure and eco-system) and software (social agents). In order to realise resilient cities in Asia there are considerable hurdles. In terms of governance there is a lack of policies, institutional support, capacity and funding. In terms of social agents there is a lack of effective education and training programmes, limited capacity and social safety networks. Regarding infrastructure, there are budget limitations, weak enforcement and a lack of capacity. In contrast, Japanese cities that are located in disaster-prone areas have developed advanced disaster prevention and resilience measures in partnership with private, academia and civil society. These experiences are being gathered by Nagoya, Hosei and Osaka universities which are creating resilience policy models, indicators and risk assessment methods in collaboration with IGES which is then disseminating this knowledge to Asian cities directly and via international platforms with the involvement of UNISDR, ICLEI, APAN and LoCARNet.

Ana Cristina Angulo-Thorlund explained that UNISDR, the office responsible for disaster risk management, has worked with 1,760 cities in 98 countries, covering more than 700 million people with the aim of achieving resilient, sustainable urban communities through actions taken by local governments to reduce disaster risk through knowing more, investing wisely and building more safely. It is the largest global movement of cities, having grown to 1,760 from 250 in 4 years with a presence across the globe. It is founded on the idea of 10 essentials of resiliency – organisation and coordination; budgeting; understanding risk; infrastructure protection that reduces risk; protection of vital health and education facilities; risk compliant regulation and land use planning; training, education and awareness; environmental protection and the eco-system; effective preparedness; recovering and rebuilding communities. What has made the programme work is ensuring that human capital, social capital and structural capital are all combined towards a global movement to ensure maximum effectiveness. To assist the cities, a large number of tools have been created to enable effective self-assessment to discover resiliency gaps, including the use of mapping technologies and mobile apps.

Michie Kishigami commented that ICLEI is an association of local governments that works by connecting leaders, accelerating actions through pilot programmes as well as creating tools and holding workshops to boost capacity. Resilient City is one of ICLEI's eight core areas and aims to give local governments the tools and services, networks and advocacy to ensure that cities have a low risk to natural and man-made disasters and to reduce their vulnerability by building on their capacity to respond to climate change challenges, disasters, and any foreseen events and economic shocks. ICLEI has four major projects in this area: the Commitment of the Mayors; a global forum; a reporting framework, and regional projects in Asia. The Commitment of the Mayors currently has 114 signatories from 27 countries to ensure cities respond to climate change risks. The Global Forum on Urban Resilience and Adaptation is held annually with 500 participants from around 50 countries. The Cities Climate Registry is the world's largest global database of local climate action with 423 reporting cities, 566 commitments, 771 GHG inventories and 4,208 actions listed. ICLEI has also been involved in a variety of regional projects such as US-J Local adaptation exchange (USA, Japan); Community training on climate mitigation & adaptation (Philippines,

Japan); Urban Nexus (Integrated Resource Management in Asian Cities) in six Asian countries; Asian Cities Adapt (India & Philippines, Research institutes); Asian Cities Climate Change Resilience Network (India, Indonesia, Thailand, Vietnam).

Puja Sawhney talked about the purpose of the Asia Pacific Adaptation Network (APAN) which is to mobilise knowledge and building capacities for climate resilience. APAN has built up a network of climate change adaptation practitioners across a wide range of regional stakeholders including development banks, city networks, research institutions, national governments and international organisations. APAN's core activities are knowledge management, knowledge synthesis, Asia-Pacific Climate Change Adaptation Forum, and sub-regional and thematic conferences with targeted training workshops. APAN's web portal boasts a database of extensively curated resources, databases on CCA good practices, projects and technologies. APAN's newsletter has over 5,000 subscribers. APAN has extensive experience on different issues related to disaster risk reduction and climate change adaptation including urban resilience. The key lies in learning and sharing experiences with other organisations projects in the region on the various issues, priorities and topics in the region through knowledge management (uploading relevant information and publications on the APAN website), the APAN Forum, joint research, joint proposal/joint implementation and joint activities including workshops/conferences to disseminate the outputs of work, learn about new and emerging issues and priorities on the topic; identify needs and gaps for further research and capacity building of relevant stakeholders as well as encouraging peer to peer learning.

6 Summary of Discussion

UNISDR asked how the national Philippine legislation concerning resiliency has played out at the local level. In response to this, IGES explained that under the law, Philippine cities must comply with three requirements namely, establishing a resiliency office, using 5% of the local budget for resiliency and preparing a disaster risk reduction plan. All cities have established such offices but are having difficulties in the funding and also often lack the capacity to create a disaster risk reduction plan. ICLEI then asked how local governments respond to the research undertaken and if the department of environment and disaster risk reduction react to resilience in different ways. The response from Hosei University was that the integration of research into policy and also policy integration of diversified departments in policy process are an eternal theme. The result of our questionnaire to municipalities showed that the department of environment, disaster risk reduction and planning have absolutely different responses to external force risk, vulnerability and the situation to be avoided. These statuses will form an integrated report for each municipality and be used as one of the materials for discussion in scenario workshops. Through these trials, it is expected that difficulties of integration will be solved. Nagoya city commented that local governments are the focus of its research, so it is hoping to disseminate its findings through international networks. Research in Osaka concentrated on cities with populations of 300,000 – 400,000 so the scope is narrow. Hosei University has almost two years left on the project so it stated that there is further room to expand the scope of the project. APAN had a question concerning IGES research, and asked if lessons have been shared with the cities and what the commonalities were. IGES replied that the four cities did not all have common points. Ho Chi Minh, Nonthaburi and Cebu were similar due to their flooding issues, an interest in low cost technology and community based work. Shanghai was more advanced and had funds for infrastructure as well as community based projects. Cebu had a good institutional set up, whereas Nonthaburi and Ho Chi Minh are further behind in this aspect.

BRINGING SLCPs AND PM_{2.5} INTO INTEGRATED AIR POLLUTION AND CLIMATE CHANGE STRATEGIES IN ASIA: LINKING SCIENCE, MODELS, AND ACTION

PL-3

1 Context/Rationale

Following a series of high-profile reports from the United Nations Environment Programme (UNEP) in 2011, governments and researchers have paid a growing amount of attention to air pollutant species known as short-lived climate pollutants (SLCPs). SLCPs, such as black carbon, tropospheric ozone and methane, can destabilise climate systems while degrading air quality over relatively short atmospheric lifetimes. In fact, international initiatives such as the Climate and Clean Air Coalition (CCAC) have been formed to help catalyse action on SLCPs. However, realising the benefits from mitigating SLCPs has proven challenging due to the need to strengthen the interface between science, models and actions. This session discussed pragmatic options for strengthening these linkages.

2 Objectives

Strengthening linkages between science, models and actions on SLCPs requires moving through at least three steps. These three steps also comprised the main objectives of this session:

- To familiarise the audience with the varying impacts of SLCPs and other atmospheric pollutants in Asia.
- To demonstrate the costs and benefits of key SLCP control technologies in Asia.
- To provide an overview of how policymaking processes at different levels are aiming to promote those technologies.



3 List of Speakers

[Moderator & Speaker]

Eric Zusman Leader / Principal Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES

[Speakers]

Hajime Akimoto Director General, Asia Center for Air Pollution Research (ACAP)

Toshihiko Masui Head, Center for Social and Environmental Systems Research
(Integrated Assessment Modeling Section), National Institute for Environmental Studies (NIES)

Hiroshi Fujita Deputy Director, Air Environment Division, Ministry of the Environment, Japan

[Discussants]

Katsunori Suzuki Director / Professor, Environment Preservation Center, Kanazawa University

Iyngararasan Mylvakanam Regional Coordinator, United Nations Environment Programme
Regional Office for Asia and the Pacific (UNEP-ROAP)

Kevin Hicks Senior Research Associate, Stockholm Environment Institute (SEI) /
Environment Department, University of York

4 Key Messages

- **The health, agricultural and climate benefits of mitigating SLCPs are several orders of magnitude greater in Asia than other regions. A stronger interface between science, models and policy will help realise these benefits.**
- **In terms of science, there is a need to tailor work on SLCPs to the needs of stakeholders in Asia; this requires working on methane and non-methane precursors of ozone.**
- **In terms of modelling, there is a need to look at the relationship between low-carbon and SLCP reduction strategies.**
- **In terms of policy, new modelling and science can be used to strengthen existing regional cooperation frameworks.**

5 Summary of Presentation

In a framing presentation, Eric Zusman helped familiarise the audience with SLCPs and the sizable public health benefits from SLCP mitigation in Asia. He highlighted that it is critical that line agencies work together to realise these benefits. Silo-style planning can be a significant barrier to coherent action on SLCPs.

Hajime Akimoto then presented on tailoring a co-benefits approach to East Asia. He underlined that immediate reduction of air pollutants, reduction of nitrogen oxides (NO_x) and non-methane volatile organic compound (NMVOC) when coupled with reductions in CO₂ may be a more appropriate pathway to co-benefits for Asia than focusing on methane (CH₄) precursors of ozone. He cautioned against unqualified applications of approaches to co-benefits that are common to Europe.

Toshihiko Masui concentrated on quantifying the costs and benefits of chiefly low-carbon strategies and showed that air quality co-benefits from fuel switching, energy savings and other measures can significantly offset mitigation costs. He then introduced a new research project (S-12) funded by the Ministry of the Environment, Japan (MOEJ) on the promotion of climate policies by assessing impacts of SLCP and Long Lived Greenhouse Gas (LLGHG) emission pathways. More work will be needed to look at the complementarities between low-carbon and SLCP mitigation strategies.

Hiroshi Fujita explained Japan's past efforts to mitigate the impact of ozone and PM from both stationary sources and mobile sources. Japan has implemented legal regulations of ozone precursors and PM from large-scale sources as well as individual vehicles. Furthermore, the MOEJ has contributed to various air pollution research projects and the Tripartite Environmental Ministers Meeting (TEMM) among Japan, Korea, and China. Finally, he introduced future activities to address air pollution issues in Asia by highlighting the importance of a regional cooperative programme with Clean Air Asia and UNEP.

6 Summary of Discussion

Moving on to the panel discussion, Katsunori Suzuki emphasised the importance of science-policy interface and need for an epistemic science community in Asia. He then explained a proposal for an Asia Science Panel for Air Quality (ASPAQ). From UNEP's point of view, Iyngarasamy Mylvakanam commented on how related programmes have evolved over the years and stressed policymakers need to hear one unified voice from scientists. Kevin Hicks followed with views from a broader international perspective. He outlined the activities of CCAC, and the significant steps to international cooperation to reduce SLCPs such as the fact that particles, especially black carbon, are being considered in the revision of the Gothenburg Protocol. Lastly, during open discussion questions were raised about the reliability of health impact estimates. Responses from the panellists focused on the transferability of epidemiological studies to other regions and the need to better disseminate information on SLCPs to the general public.

STAKEHOLDER COMMUNICATION FOR INFORMED DECISIONS: LESSONS FROM AND FOR THE DISPLACED COMMUNITIES OF FUKUSHIMA

PL-4

1 Context/Rationale

According to the United Nations International Strategy for Disaster Reduction's (UNISDR) Hyogo Framework for Action 2005-2015:

“Both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk reduction.”

The immediate aftermath of the Great East Japan Earthquake, which triggered tsunamis that caused massive damages as well as a severe nuclear accident at Fukushima Daiichi Nuclear Power Plant, was characterised by a lack of information – especially for local authorities and residents of the affected communities. Confusion also prevailed at the central government level in Japan as it tried to manage the situation, and within the international community as it watched these events unfold.

Three years on, the recovery still represents a daunting process, especially for the residents and policy-makers of the communities displaced by the nuclear accident. Many of the policies aimed at the rehabilitation of these communities are based on the assumption that evacuees will return once decontamination operations have lowered radiation levels. In practice, the intention to return is fading as the evacuation period becomes increasingly protracted: many evacuees had to start rebuilding their lives elsewhere and have no plans to return, while others find it difficult to decide whether to return or relocate elsewhere. Addressing this situation requires a form of stakeholder communication between policymakers, experts and the affected communities that could empower residents of these communities to make informed decisions about whether to return or relocate, while at the same time supporting informed policymaking that respects people's choices.



Ensuring effective flow of communication – at the level of policymakers, experts, and the general public – is at the core of the Fukushima Global Communication Programme (FGC) and has been central for the Fukushima Action Research on Effective Decontamination Operation (FAIRDO). Both initiatives have focused on contributing to effective and impartial dissemination of information about the situation in Fukushima and for bringing in international expertise to spur the region's recovery.

This session focused on the topic of stakeholder communication to facilitate informed decision-making of the displaced communities and informed policymaking in the process of recovery from complex disasters, to bring in lessons both from Fukushima and relevant international experience that could be relevant for Fukushima.

2 Objectives

The aim of the FGC-FAIRDO joint session was to promote an exchange of views between the two projects and to draw in relevant international expertise on the role of and the challenges pertaining to stakeholder communication in facilitating informed decisions and policy-making. On the one hand, it drew on experiences from Fukushima to highlight the critical junctures where there is room for improving stakeholder communication and information provision. On the other hand, the session drew on international experiences from other disasters to understand how such critical junctures could be addressed effectively in the policymaking process. In this sense, the objective of this session was to draw on both: the lessons from as well as for the displaced communities of Fukushima.

3 List of Speakers

[Moderator]

Kazuhiko Takemoto Director,
United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)

[Opening Remarks]

Kazuhiko Takeuchi Senior Vice-Rector, United Nations University (UNU) / Director and Professor,
Integrated Research System for Sustainability Science (IR3S) The University of Tokyo

[Keynote Speaker]

Rethy Chhem Director, Division of Human Health, International Atomic Energy Agency (IAEA)
(absent due to the unavoidable circumstances)

[Discussants]

Norio Kanno Mayor, Iitate Village, Fukushima Prefecture

Naoya Sekiya Project Associate Professor, Center for Integrated Disaster Information Research,
Interfaculty Initiative in Information Studies, the University of Tokyo

Hiroshi Suzuki Professor Emeritus, Fukushima University /
Chair, Fukushima Prefecture Reconstruction Committee

Atsuro Tsutsumi Research Fellow, United Nations University International Institute for Global Health

4 Key Messages

- **Nuclear disasters carry wide-reaching economic, social and environmental consequences. Such disasters differ from natural disasters due to, among other things, the uncertainty of when evacuees can return home, and how they can resume their livelihoods. Due to such specificities, nuclear disasters tend to deepen the divisions among and within affected families and communities.**
- **Recovering from nuclear disasters require striking a balance between often divergent opinions and perspectives. Creating mechanisms for consensus-building such as local roundtables comprised of a representative group of different stakeholders, involving residents of the affected areas, public authorities and experts, as well as providing platforms for sharing information is important for improving stakeholder communication and promoting informed decision-making.**
- **Learning the lessons from Fukushima and transferring these to next generations is a matter of shared responsibility of all stakeholders involved in the recovery process. Technical investigation of the nuclear accident has been performed, but greater focus needs to be placed on improving nuclear emergency responses and evacuation procedures based on the lessons learned following the accident. At the same time, improving the general public's knowledge about radiation issues should be part of the disaster preparedness strategies. Likewise, good practices and success stories from recovery efforts in Fukushima need to be shared with the public in Japan and the rest of the world.**
- **Experiencing nuclear emergencies and recovering from them also entails mental health challenges. Timely and adequate provision of information is one of the keys for addressing these challenges.**

5 Summary of Presentation

Opening remarks were delivered by Kazuhiko Takeuchi, who noted the session theme and emphasised the need for multi-stakeholder communication to enable informed decision-making. He introduced the current situation for communities in Fukushima more than three years after the compound disaster of 11 March 2011. He drew particular attention to the continuing challenges associated with protracted displacement, loss of livelihoods, and uncertainty about when residents can return to their homes. At the same time, the loss of trust among the local communities towards the authorities and scientific community remain due to confusing information and inadequate communication since the disaster. Considering the UN World Conference on Disaster Risk Reduction to be held in 2015 in Sendai, Japan, he noted that stakeholder communication between local residents, policymakers and experts is becoming an especially topical issue, also with regard to deriving lessons from the post-disaster efforts in Fukushima, and communicating these effectively to the international community.

Next Kazuhiko Takemoto introduced the panelists, who discussed the session theme by drawing on their respective fields of expertises and experiences.

Norio Kanno shared his experience in leading the decision-making process underlying the evacuation of Iitate Village following the nuclear accident. He explained that the village authorities tried to strike a balance between considering the safety of its residents and keeping the community unscattered to maintain control over its future rehabilitation and recovery process, by deciding to evacuate to an area within a one-hour drive from the village. One of the key points he raised was the difference between community response to natural disasters, which often leads to greater cooperation, and the community response to the nuclear disaster, which he has found to be divisive. He noted that multiple divisions occur in the process of recovering from nuclear disasters due to diverging perceptions of radiation risks

within local communities as well as within families: between couples, older and younger generations, parents and children; and due to the difference in compensation levels paid to each household. He also shared his concerns that there is not enough reflection on the current development model promoting mass production and consumption that has caused people to embrace nuclear power to start with. He concluded that Fukushima's experience should serve a purpose in reconsidering what lessons to draw for the future and reflect over what we transfer to the next generations.

The next presentation was delivered by Hiroshi Suzuki, who began by explaining the differences between natural disasters such as earthquake and tsunami and the Fukushima disaster compounded by the nuclear accident. In all cases, immediate evacuation may be needed, but whereas recovery from earthquake or tsunami proceeds from emergency to support for livelihood recovery, rebuilding of towns and villages and to eventual return of communities, the emergency phase tend to last much longer in the case of nuclear disasters. Thus, the support for livelihood recovery has to be done in parallel, and often without clear idea as to when the return may take place. Within this context of uncertainty, he highlighted the dynamic nature of evacuees' return intentions, and noted that reconstruction planning is facing great difficulties in effectively reflecting such intentions. In this relation, he introduced one of the proposals generated by the FAIRDO (Fukushima Action Research on Effective Decontamination Operation) project (2012-2013), namely the creation of roundtable discussions in the areas affected by the nuclear accident that involves local residents, policymakers and experts. As an information-sharing platform, these roundtables can be a mechanism for discussing reconstruction policies and building consensus if composed of a representative group of different stakeholders.

Naoya Sekiya shared findings from his research regarding emergency evacuation processes and highlighted some of the lessons to be drawn from these experiences. He pointed out that following the Fukushima nuclear accident, considerable effort was made by various investigative committees to understand the technical issues related to the disaster, but few had looked at the process of evacuation. With the lack of information following the disaster about radioactive plumes and the best possible evacuation routes, local authorities were left to themselves in issuing and implementing evacuation orders. Nuclear disaster preparedness rests on probability-based safety assessments, thus entailing the possibility that countermeasures planned for estimated risks may be inadequate. Therefore, he emphasised that the primary lesson to be drawn from experiences in Fukushima is to always plan for potential accidents. In addition, noting that only very few people had prior knowledge about the dangers that radiation would have on effectively responding to the emergency situation (such as taking shelter, refraining from being outside and/or evacuating), he stressed the importance of raising public awareness about radiation and its risks. He also pointed out the need to address the disconnects between different administrative levels involved in disaster preparedness and the siloed structure of different government bodies to introduce an effective system for responding to emergencies.

Atsuro Tsutsumi discussed the link between nuclear disasters and mental health issues drawing on existing data. Noting the high incidence of suicides in the Tohoku region since March 2011, he highlighted that while the incidence of suicides in Iwate Prefecture, where the tsunami led to massive damage and loss of life, decreased between 2011 and 2013, the incidence of suicides has increased over the same period in Fukushima Prefecture. Incidence of mental health issues such as post-traumatic stress disorder (PTSD) and depression were also clearly higher among the residents of temporary housing facilities in Fukushima Prefecture than the national average. In the case of Tokaimura Criticality Accident in 1999 there were clear differences in anxiety levels of residents surrounding the accident site (evacuated following the accident) and those of less proximate communities. In fact, residents within the evacuation zone (8 km of the site) suffered from high anxiety levels two weeks after the accident, but their mental health situation has improved after 3 months, whereas this worsened in the communities outside the

evacuation zone during the same period. He explained that impact on mental health may be linked to the amount of information being received by these communities, and whether or not they had access to more accurate information. He noted that it is particularly important to consider mental health aspects in the case of people affected by the nuclear accident in Fukushima, given that they need to have enough information, but also that they should be in a stable mental state in order to make informed decisions on their situations.

6 Summary of Discussion

The session concluded with an active question and answer session moderated by Kazuhiko Takemoto. The first point raised highlighted the importance of strengthening nuclear disaster preparedness and building a social system with the worse case scenarios in mind. In response, Norio Kanno said that he regretted his ignorance about radiation and its risks at the time of 2011 nuclear accident and noted the need to focus on raising public awareness on this matters from now on. Here too, he stressed that is important to keep a balanced perspective to actually provide people with relevant information rather than simply scaring them. Mindful of the variation between experts' views on impacts of radiation, Hiroshi Suzuki stated he has been continuously advising that Fukushima University has a role to play in assisting the general public with interpreting such variations as an institution locally representing the scientific community.

Next question from the audience asked how to approach children affected by the disaster and involve them as stakeholders, while taking into account that children's perspectives may change as they become older. Atsuro Tsutsumi agreed about the importance of involving children, and noted that they are heavily impacted by opinions of their parents. In response to this, the member of the audience asking the question encouraged him to conduct research mindful of parental bias but looking specifically on how to involve children not through their parents but through their own participation. In this respect, Hiroshi Suzuki shared an example of a successful activity in which elementary and junior high school students from Namie town were asked to write an essay about the future of their town. The essays were subsequently published in a booklet that has become a source of encouragement and inspiration for recovery plan.

In response to a question about the role of the academic community in supporting the emergency response and recovery efforts of local authorities, it was pointed out that it has added to the confusion of the communities in the immediate aftermath of the accident that there was so much variation in scientists' opinions about the impact of aerial dose. There is a need for them to come closer to a consensus to avoid such challenges, and that scientists must also conduct studies that are of practical use to communities.

Several panelists agreed with the point raised that there needs to be a focus not only on challenges and negative impacts, but also on collecting and disseminating success stories and positive, forward-looking initiatives carried out in Fukushima.

In a final round of closing remarks, it was reiterated that there is a need for collecting and analysing best practices. The issue of harmful rumours was raised (about Fukushima and its produce) and it was noted that there are evident gaps in knowledge and mindset between Fukushima and the rest of Japan, leading to stark division in attitudes which is an issue in itself. The importance was highlighted of conducting participatory roundtables with local residents not as one-off events but rooting them as continuous practices within the affected communities. Japanese society needs to draw an important lesson from the nuclear accident by reconsidering the current development model prioritising economic growth and aiming to become a "mature society".

The session was concluded and the participants were thanked for the fruitful discussion.

INTERNATIONAL CLIMATE REGIME IN 2020 AND INITIATIVES IN ASIA: MITIGATION ACTIONS AND A MEASURING, REPORTING AND VERIFICATION (MRV) SYSTEM

PL-5

1 Context/Rationale

This session discussed the current status and the future challenges for international climate change and its impacts on developing countries' mitigation policies and actions with special reference to Indonesia. The presentations were made on international climate regime, mitigation actions and environmental challenges of Indonesia at the national as well as local levels, and new research on measuring, reporting and verification (MRV) system in Indonesia.

Following the presentations, panel discussion addressed the three questions, namely, 1) What is the impact of evolving international climate regime on developing countries' mitigation actions at the national and the local levels?; 2) How can national and local environmental initiatives be enhanced through international cooperation? and 3) What are the challenges and the way forward for developing countries to enhance their mitigation action in a measureable, reportable and verifiable manner?

2 Objectives

The objective of this session was to discuss the current status and the future challenges for the collaboration of international climate change and its impacts on developing countries' mitigation policies and actions with special reference to Indonesia.



3 List of Speakers

[Moderator]

Naoya Tsukamoto Principal Researcher / Secretary-General, IGES

[Keynote Speakers & Discussants]

Vinda Damayanti Ansjar Head Division of Environmental Sound Technology, Standardization and Technology, Ministry of Environment, Indonesia

Rizaldi Boer Executive Director, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific, Bogor Agriculture University

Tsuyoshi Fujita Director, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES)

[Speaker & Discussant]

Kentaro Tamura Leader / Principal Policy Researcher, Climate and Energy Area, IGES

[Discussant]

Yasuko Kameyama Head, Center for Social and Environmental Systems Research (Sustainable Social Systems Section), National Institute for Environmental Studies (NIES)

4 Key Messages

- **MRV of mitigation actions will provide an opportunity in terms of multiple benefits such as GHG emissions reductions and sustainable development. Challenges include incentives and costs to promote the advanced technology to the industrial sector, especially Small and Medium Enterprises.**
- **MRV is an important subject because there are several types of NAMAs. In order to develop a new MRV system which can meet international standards, it is important to consider the customisation of its system while taking into consideration the national circumstances in developing countries.**

5 Summary of Presentation

To begin the session, the moderator, Naoya Tsukamoto introduced objectives of this session and raised several points on the MRV and climate policy in Asia. His questions were as follows: 1) Would MRV be burden for developing countries? 2) Would climate change policy and measures be meaningful investment in the context of sustainable development? 3) How could we make an action to implement those policies and measures? and 4) What would be the role of scientific research and what's the role of the MRV system?

Kentaro Tamura firstly explained the current situation of international negotiations under the UNFCCC on NAMAs and MRV. He stressed the dilution of differentiation in terms of mitigation initiatives and also explained why MRV is needed in terms of NAMAs concept that is developed by developing countries. Currently 55 countries submitted NAMAs to the UNFCCC secretariat as of May 2014 and there are a variety of NAMAs. He also stressed the variety of MRV systems depending on the different level, (institution, project-level, policy level and national and sub-national level). He suggested that it is necessary not only to have a linkage with national development plans to ensure NAMAs but also to reflect national priorities, commitment and coordination among line ministries. Finally he pointed out the necessity of concrete MRV systems in line with specific purpose of NAMAs.

Vinda Damayanti Ansjar introduced the background and current status of climate change policy of MRV in the context of environmentally sound technology (EST). She shared three steps (1. triple track strategy,

2. mitigation agenda (GHG and energy intensity) from economic growth and 3. adaptation agenda) for setting the strategy. She stressed that it is important to set up the technology benchmarking for registration and verification of EST. MOEI has started several policies and initiatives. One of the activities in MOEJ is to set up the working group on EST to recommend the suggestion to MOEI. In addition, legislation is prepared for water pollution control, air pollution and hazardous waste management in order to set the criteria for EST. MOEI will launch its Cleaner Production Center at the end of August.

Rizaldi Boer firstly explained the current status of historical emission and BAU projection in Indonesia. Secondly, he also shared the RAN/RAD GRK (climate change action plan in Indonesia) and relevant guidelines and process for future MRV system. According to his presentation, there are several types of mitigation activities in Indonesia which could be classified as Non-NAMA, NAMA and supported NAMA. He concluded by emphasising that there are spectral challenges on MRV issues such as a reliable baseline including Reference emission level, capacity building for inventory, data collection and QA/QC at sectoral and local level, measuring impact of mitigation policies, RS/GIS and information technology and modelling tool.

Tsuyoshi Fujita introduced his research plan and objective which will be in cooperation with MOEJ and IGES. One of the objectives is to disseminate an integrative modelling (AIM model) for low-carbon society in Indonesia. Another objective is to conduct simulation research for designing a model for urban and regional eco-city. His research plan showed that it could contribute to monitoring the gap between the current situation and innovative technology. He said that a monitoring system developed using his research could be part of the infrastructure to support local government in terms of enhancing data reliability. He also emphasised that low-carbon cooperation bilaterally can give more support for Joint Crediting Mechanism in terms of a monitoring and verification system.

Yasuko Kameyama raised several point for facilitating the discussion. Her question was related to the level of future agreement on the UNFCCC negotiation and asked the speakers what kind of elements such as co-benefit and poverty eradication are needed for future agreement.

6 Summary of Discussion

The audience and speakers actively discussed mitigation costs, MRV and environmental sound technology. Kentaro Tamura suggested that an internal coordination should be facilitated among the ministries in the host country so that they could have an improved MRV system. It was also pointed out that it is required to explain the rationale behind the data collection to function successfully in the host country. The audience raised points regarding Japanese environmental technology for export. It was pointed out that Japanese technology is very expensive in comparison to other countries. There are two reasons. The first is that Japanese companies do not take into consideration the specific circumstances of the host country. Another reason is that most Japanese technology is difficult for small and medium enterprises to accept despite the fact that it is very effective and environmental sound in terms of life cycle assessment. The audience further asked speakers how the host country side could improve this situation in the future. For this question, Vinda Damayanti Ansjar from MOEI said that mitigation of CO₂ emission in SMEs is very difficult in terms of cost. It was also pointed out that the cheaper technology is needed because the incentive to introduce EST to reduce CO₂ emissions is quite limited. In addition, the audience pointed out that international standards must be met, such as the level of scrutiny and data collection, whereas MRV level is very different depending on the country. It was emphasised that it is important to consider how an international MRV system could be established. Tsuyoshi Fujita said that his research could be a platform to establish a new MRV system in the future. In this aspect, he stressed that there is a need to promote cooperation among governments, business and academia.

KEY MESSAGES FROM IPCC AR5 AND ITS IMPLICATIONS IN ASIA: FUTURE PERSPECTIVE OF CLIMATE CHANGE POLICIES IN ASIA THROUGH INTEGRATION OF MITIGATION AND ADAPTATION

PL-6

1 Context/Rationale

The Fifth Assessment Report (AR5)—the most comprehensive assessment of scientific knowledge on climate change—is being released by the Intergovernmental Panel on Climate Change (IPCC) in four parts between September 2013 and October 2014. Knowledge and experiences, compiled by the AR5, have powerfully stimulated climate change debate around the world. Moreover, the Report has already been influencing policies and negotiations on climate change at both the international and national levels, including the United Nations Framework Convention on Climate Change (UNFCCC). Against this backdrop, there is a growing need for raising public awareness of the findings from the AR5 and their implications for the national policies by disseminating the latest information and promoting dialogues between the scientific community, policy makers and the general public.

2 Objectives

Based on the approved reports in AR5, especially the reports by Working Groups (WG) 2 and 3 on climate change adaptation and mitigation, this session, consisting of two sections, aimed to raise awareness of the IPCC and its activities among the general public to promote national debate and actions for addressing climate change through providing the latest scientific findings and encouraging dialogue between scientists, practitioners, and the public. The first section provided an overview of IPCC's activities and the key points of AR5 WG2 and 3 reports with a focus on Asia. The second section then discussed the implication of those findings from the reports for current and future national climate policies.



3 List of Speakers

[Opening Remarks]

Akio Takemoto Director, Research and Information Offices, Global Environmental Bureau, Ministry of the Environment, Japan

[Moderator & Speaker]

Taka Hiraishi Counsellor, IGES (Member, IPCC Bureau)

[Speakers & Discussants]

Yasuaki Hijioka Head, Center for Social and Environmental Systems Research (Environmental Urban Systems Section), National Institute for Environmental Studies (NIES)

Kiyoshi Takahashi Senior Researcher, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES)

[Discussants]

Jiang Kejun Director, Energy Research Institute (ERI), China

Isao Endo Task Manager / Senior Policy Researcher, Natural Resources and Ecosystem Services Area, IGES

4 Key Messages

- **IPCC AR5 strengthened the assessment of the long-term warming of the climate system, set out the risks of climate impacts, highlighted the need for adaptation measures, and indicated the options of a future path for mitigation.**
- **Immediate actions are required for controlling temperature rise below 2 degrees C.**
- **Both mitigation and adaptation based on concrete quantitative projections are indispensable. Interlinkage between them exists and actions for their integration should be considered. Improving land-use planning can be one approach for integration.**
- **Long-term and interdisciplinary perspectives are important.**
- **More quantitative research and discussion are needed.**

5 Summary of Presentation

Akio Takemoto mentioned that it is indispensable to address not only already existing impacts of climate change, but also potential impacts that cannot be prevented in the medium and long terms. In addition to the mitigation to reduce greenhouse gas emissions, the Ministry of Environment, Japan (MOEJ) emphasises the importance of climate change adaptation to enhance resilience against the impacts. As part of its efforts, MOEJ will develop a national adaptation plan by summer 2015 in cooperation with relevant government agencies.

Having overviewed the IPCC and its work with a focus on the process and outputs, Taka Hiraishi highlighted the findings of the AR5 WG1 report. He mentioned that it is noteworthy that there is a linear relationship between the cumulative CO₂ emissions and the future temperature increase. The cumulative emissions have to be capped at a level of about 790 billion metric tons of carbon, and emissions of approximately 515 billion metric tons have already been discharged. This implies that immediate actions are needed to control the temperature rise below 2 degrees C relative to the preindustrial levels.

Kiyoshi Takahashi explained the risk of climate impacts resulting from the interaction of climate-related hazards with the vulnerability and exposure of human and natural systems. He introduced major risks that the AR5 reports, including the one that highly affects livelihoods. He also pointed out that these risks were identified based on the following criteria: large magnitude, high probability, or irreversibility of impacts; timing of impacts; persistent vulnerability or exposure contributing to risks; or limited potential to reduce risks through adaptation or mitigation.

Yasuaki Hijioka stated that compared to the previous report, the AR5 widened the area for risk assessment, and evaluations were conducted from the perspectives of risk management. Additionally, the systematic evaluations of adaptation and mitigation measures were implemented. The AR5 summarises ten future risks in Asia, and the major risks and the possibility of reducing those risks were assessed based on expert judgment. Actions are being taken in Asia for adaptation, and the AR5 highlights the measures that are already implemented. He argued that it is necessary to evaluate the climate impact with consideration of future socioeconomic development as well as the effectiveness of adaptation measures. Measures for both mitigation and adaptation as climate actions are indispensable and the long-term and interdisciplinary perspectives are important.

Kejun Jiang overviewed the findings from AR5 WG3 report, focusing on Asia. He stated that it was a challenge to show the future path for mitigation. For example, the report analysed the share of low-carbon energy after 2030 based on the GHG emission scenarios. Evaluation was conducted by sector for the first time with consideration of global energy demand. It is estimated that emissions in 2030 should be the same as those in 2010 in Asia to maintain atmospheric CO₂ concentration at 425-475 ppm.

Isao Endo suggested improving land-use as one approach to integrate mitigation and adaptation measures. He explained about a project conducted by IGES to support local government in developing countries such as the Philippines. The approach that IGES advocates includes various steps such as risk assessment with consideration of climate impacts, the evaluation of development plans, and the creation and implementation of climate actions that consist of adaptation and mitigation measures at the local level. It was stressed that climate-sensitive land-use planning will contribute to making cities in developing countries low-carbon and climate-resilient.

6 Summary of Discussion

A wide range of issues were discussed, and these included the trade-off/co-benefits, cost/finance, and effectiveness of climate mitigation and adaptation as well as their integration. Panelists argued that in addition to climate mitigation costs and climate impacts, it is required to consider co-benefits of the climate actions and their integration with national development planning. Land-use planning can be a key instrument for integration because there are sectors and areas that the planning will greatly affect. The costs of mitigation and adaptation have not been fully comprehended yet but they need to be integrated in development planning. More research, in quantitative terms, needs to be done on these issues.

SETTING THE DIRECTION FOR ADAPTIVE DEVELOPMENT: THE URGENT NEED TO ACHIEVE A SUSTAINABLE ASIA-PACIFIC

PL-7

1 Context/Rationale

Adaptive development (AD) is a newly emerging field that attempts to link the concepts of sustainable development, climate change adaptation and risk governance into one paradigm. It is a field that could be used for achieving a sustainable Asia-Pacific in the context of the emerging needs and challenges in the region. AD is a critical endeavour for the future well-being of people in the region and throughout the world. The presentations at this session discussed the overall theme of AD, its relevance in policy making, as well as field-based approaches to research and learning for AD. Discussion also focused on how the academic community can develop new and progressive research approaches that can contribute to the generation of pragmatic knowledge.

2 Objectives

The aims of the session were to identify further means for mobilising academic and research communities to generate pragmatic knowledge production for addressing the emerging issues linked to AD, and increase the understanding of AD among the general population (participants).

3 List of Speakers

[Moderator]

Toshiyuki Iwado Principal Fellow, IGES

[Opening Remarks]

Jiro Kokuryo Vice-President / Professor of Faculty of Policy Management, Keio University

[Keynote Speaker & Discussant]

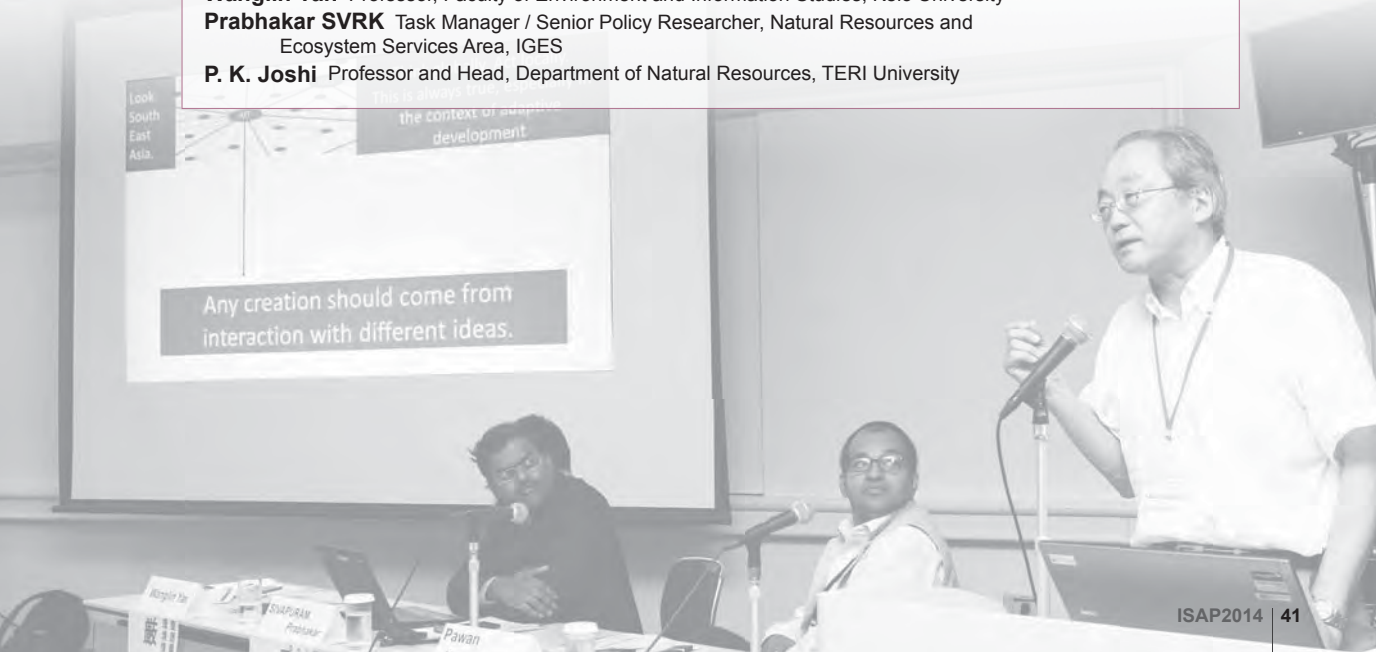
Kazuo Yamamoto Vice President for Resource Development at the Asian Institute of Technology (AIT) / Professor, Environmental Science Center, University of Tokyo

[Speakers & Discussants]

Wanglin Yan Professor, Faculty of Environment and Information Studies, Keio University

Prabhakar SVRK Task Manager / Senior Policy Researcher, Natural Resources and Ecosystem Services Area, IGES

P. K. Joshi Professor and Head, Department of Natural Resources, TERI University



4 Key Messages

- **Currently there is little understanding of AD. Ways to further understand AD include encouraging interaction between science and policy, and the use of “nodal” networking between academic and research institutions to deepen knowledge.**
- **There is currently a wide gap between research and practice regarding AD and the use of Project Based Learning (PBL) will help bridge scientific knowledge and actual practice on the ground.**
- **Adaptive policies (related to Natural Resource Management and Disaster Risk Management) do not necessarily mean effective policies. Policy effectiveness is dependent on several factors.**
- **Use of a pragmatic approach to achieving a knowledge revolution – a fundamental change in adding value by creating, assessing and using knowledge – would require process, source, technology and innovation.**

5 Summary of Presentation

Kazuo Yamamoto gave a keynote speech underscoring the importance of networking, adding that this can take time. He praised IGES' networking ability and provided examples of its regional partner groups such as APAN (Asia Pacific Adaptation Network). IGES is also currently networking with prominent institutions like TERI, AIT and Keio University. Networking alone is not enough, however, it is also vital to deepen knowledge accompanied by a breakthrough in technology at each networking node. Collaboration in knowledge generation for AD should be underpinned by the slogan “Think globally, Act locally” and the inclusion of universities in practicing this mantra is essential. Furthermore, any knowledge creation should emanate from the interaction of different ideas. He made reference to AIT (and also TERI) as an academic institution that is committed to creating transformative knowledge through its vision and mission statement. He remarked further that AIT is attempting to actualise that through knowledge creation for sustainable development, and is using present and past students whose home countries span the globe. In conclusion, he gave an explanation of the Alliance of Global Sustainability (with specific reference to Asian Circles (AGS-Asia)), comprised of ongoing university collaborations that aim to create relevant regional and global knowledge.

Wanglin Yang presented a case study of how transdisciplinarity in the context of several examples of students' work on Project Based Learning (PBL) from different disciplines can be connected and incorporated into the university curriculum. He first explained mitigation, adaptation and user demand from the point of view climate change. He then gave a short introduction of AD, defining the term as development that must be adaptive to the environment. AD should also adjust the way of development to global change (mitigation) and local conditions (adaptation), and it should also support ongoing improvement through user-driven design and modification in the target environment for local use (demand driven). Additionally, AD provides a pathway to the realisation of the goals of the 'Future Earth' Initiative. He mentioned that capacity building (CB) is an important aspect of AD and explained that CB work at Keio University is built on PBL. The programme uses several disciplines and their interconnections based on an adopted concept that is aimed at “fostering global entrepreneurs and innovators with the capacities of: 1) creativity with design thinking; 2) leadership of project practice, and 3) networking capability”. Furthermore, it connects the different research projects in the university with a view toward incorporating them into the university curriculum. Students engage in their own projects that lead them to internship/

field work; through experience their perspective on learning and its contribution to society is altered. This was illustrated by several different types of student projects from different countries across Asia. Finally, he stated that a wide gap currently exists between AD research and practice, and stated that PBL could be one approach to bridging scientific knowledge and practice.

Prabakhar SVRK initially gave a brief overview of climate change adaptation (CCA) with regard to the three conundrums of CCA, and went on to explain Japan's contribution to adaptation technology, policies and institutions. Focusing on whether adaptive policies are necessarily effective policies in the Japanese context, he tried to differentiate between policy dynamics and adaptive policies and gave reasons for emphasising adaptive policies in his presentation. He showed the steps taken to identify adaptive policies and their responses through research. These are identification of issues which have a long history and have evolved over time, listing policies introduced to address these issues over the years, and finally, identifying how these policies changed over time in response to the changing stimuli. Therefore, a policy that has undergone modifications with changing stimuli can be considered adaptive. He used two Japanese examples - one showing a policy relating to disaster risk reduction (DRR) where things happen on a shorter scale basing it on the issue of responses to typhoons, and another showing a policy on natural resource management (NRM) where things happen on a longer scale basing it on declining numbers of farmers and agricultural land to address the questions of: a) how soon policies were introduced; b) how frequently the policy had undergone change, and c) how effective the policy was in achieving the policy objective. Although the number of amendments to DRR policies was similar to the NRM policies, differences in DRM and NRM experiences were observed. These included clarity about the stimuli to which the agent responds and also how clearly the institutional roles are defined, as well as differences in time scales for issues to become clearer for agent response, and the complexity in converting responses to outcomes. The study did not find all adaptive policies to be effective policies. Effective policies were largely seen to be dependent on several factors such as understanding of causality of factors, consensus among stakeholders, and actual driving forces behind the formulation of the policy. Additionally, there is often a lack of consensus within government and institutions responsible for the policy formulation and implementation, and also there is little understanding of the complex feedback connections between policies. Lastly, a move from reactive governance towards predictive governance was proposed.

P.K. Joshi began by posing the question of whether knowledge is composed of a correct representation of what works in practice. He provided four different ways in which knowledge is generated: in the classroom during interaction; in the laboratories; in the field, and in the practical/real world. He stressed that proper generation of knowledge should reflect all four aspects. An important component for knowledge generation is capacity building in the form of thinking skills, consisting of enquiry information processing, reasoning, evaluation and creativity. Another important factor is keen observation using the acronym VISUAL referring to vision, imagination, simplicity, understanding, association and learning. Self-traits or habits comprising proactivity, goal setting, personal management, win-win thinking, clear communication, synergy and self-renewal are also important. Also playing a significant role in knowledge generation is the process of making decisions based on thinking through steps beginning from developing of a conceptual background, data collection and observation to taking action on the set goals drawn from the conclusions. What is seen as even more important is pragmatism which both recognises knowledge as a social and discursive activity, while orientating research towards the generation of useful knowledge. He then stressed the need for a knowledge revolution – a fundamental change from adding value by producing things to adding value by creating, accessing and using knowledge. Elements to take into consideration regarding a knowledge revolution include: increased qualification of knowledge and development of new

technologies; closer links with science-base; increased rate of innovation and shorter product life cycles; increased investments and emphasis on intangibles such as education and R&D; greater value additions in branding, marketing, distribution, as well as information management. He added that 1) non-linear, case-specific process, 2) underlining the key role of the client's need and supplier's idea, 3) improved technology and its proper use, particularly enhancing technical culture through exchange of information/data sets, and 4) nurturing of innovation and networking are important requisites for the knowledge revolution. He stated further that it is vital to develop pragmatic innovation agenda from good programmes to coherent innovation and enterprise upgrading systems through networking, and mentioned other essentials for the knowledge revolution such as instituting new industrial policy as a process of discovery and a shared vision as innovation-based economy. The roles of government, research and academic institutions cannot be overemphasised.

6 Summary of Discussion

Responding to a question on why competition was labelled as a weed in the presentation, the presenter referred to unhealthy competition that pulls down prior development instead of building on it.

On whether the presenter (and his institution TERI) was making use of such concepts as levels from concrete to abstract and whether he could elaborate on how the education process works on the letter of abstraction at TERI, the presenter explained that TERI uses environmental studies as its preferred course name to reflect its interdisciplinary and transdisciplinary nature rather than environmental science. Details were also given on the content and process of teaching/learning.

Responding to the question on how the effectiveness of the PBL of students is evaluated, the presenter answered that although currently there is no standard for evaluation, the conventional assessment used by researchers is summative based on paper writing, presentation and later publication. However, an alternative and a more pragmatic and 'effective' approach based on formative assessment of the student's continual activity/project on social issues in the community is currently being used.

In response to a questions on what the purpose and implication is of the AD session as regards voices in the Asia Pacific context and also with respect to North–South tense dialogues that occurred in the Rio plus 20 Conference and secondly who are the stakeholders, the presenter answered that solutions to AD problems should be collaborative across scales, and despite the 'regionalisation' of the problems, localisation of the issues and their solutions at the individual level is also important.

Responding to the question about how efficient an adaptive policy can be since it changes with time and location, the presenter answered that the definition of efficiency is dependent on a number of factors. His central argument was sometimes pursuing "adaptiveness" for the sake of developing an adaptive policy can lead to addressing the symptom rather than the cause of a problem. It is thus critical to understand and address the cause of a problem when developing an adaptive policy.

The Chair closed the session stating that it had been fruitful and informative, and had deepened the understanding of the participants. The Chair concluded that AD will involve several sectors, institutions, experts and ideas and will need networking and use of interdisciplinary and trans-disciplinary approaches to solve practical problems. He also stated that there should be more interaction between science and policy due to the presence of uncertainty and that there still remains a great deal more to explore in AD. He encouraged the presenters to continue to work hard to bring more understanding to the issue.

FINANCING LOW CARBON TECHNOLOGY TRANSFER FOR SMALL-MEDIUM-ENTERPRISES (SMEs): A MATCH-MAKING STRATEGY

PL-8

1 Context/Rationale

SMEs are active in business development, producing creative ideas, and possessing large potential for introducing low-carbon technologies. However, they have not received enough attention in climate discussions. The lack of match-making strategy among stakeholders forms a major barrier in enhancement of financing technology transfer to them. The session addressed the question on barriers and success factors for low-carbon technology transfer (LCTT) to small and medium enterprises (SMEs) in developing countries.

2 Objectives

The ultimate objective of the session was to bring private sector, government and experts together to identify an effective match-making platform to enable the conditions for financing technology transfer for SMEs in developing countries.

3 List of Speakers

[Moderator]

Kazuhisa Koakutsu Leader / Principal Policy Researcher, Climate and Energy Area, IGES

[Speakers]

Yuqing Yu Task Manager / Senior Policy Researcher, Climate and Energy Area, IGES

Hidehiro Kitayama Leader, Heat Pump Sales Section of unimo Products Department, Higashi Hiroshima Plant, MAYEKAWA MFG. CO., LTD.

Girish Sethi Director, Industrial Energy Efficiency Division, The Energy and Resources Institute (TERI)

Osamu Kawanishi Senior Policy Analyst, Environment Directorate, The Organisation for Economic Co-operation and Development (OECD)

Shobhakar Dhakal Associate Professor, Asian Institute of Technology (AIT)

Le Ngoc Tuan Director, Science, Technology and International Cooperation Division, Department of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment, Viet Nam

A.M. Monsurul Alam Joint Secretary and Director, Department of Environment, Government of Bangladesh

[Discussants]

Takahiro Ueno Visiting Researcher, Graduate School of Public Policy, The University of Tokyo / Researcher, Socio-economic Research Center, Central Research Institute of Electric Power Industry

Naoki Mori Head, Climate Change Office / Group Leader, Environmental Management, Global Environment Department, Japan International Cooperation Agency (JICA)

Tatsuya Hanaoka Senior Researcher, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES)



4 Key Messages

- **SMEs should be given more attention in LCTT, given their significant potential to reduce GHG emissions.**
- **Mobilise domestic financial resource, since SMEs cannot access overseas finance. The equity markets in developing countries appear to be readily available at a reasonable cost so this could be used as an important tool to finance LCTT to SMEs. Bond market and securitisation could be also considered in this regard.**
- **LCTT process has different stages, and policy interventions vary accordingly. Promoting research development and demonstration (RDD) is not sufficient to promote LCTT. Follow-up activities to promote deployment is also crucial, so the process of “RDD&D” should be considered rather than “RDD”.**
- **The demonstration stage is extremely important, and a significant portion of the financial resource available should be devoted to it. The Joint Crediting Mechanism (JCM) and the clean development mechanism (CDM) could be considered at this stage.**
- **Focus should be on green infrastructure, where institution investors play a crucial role. Securitisation could be alternative capital market for long-term financing for those institution investors.**
- **The Climate Technology Centre Network (CTCN) is an important tool for developed countries to understand the need of developing countries.**
- **Although the JCM could present an important tool to promote LCTT, the concept and operation of this mechanism is still not clear for large number of companies in Japan as well as overseas. Therefore, more awareness creation in this regard is needed.**
- **JICA-SIDBI two-step loan initiative is a successful case to finance LCTT to SMEs, which could be extended in India as well as replicated in other countries.**
- **Matchmaking among stakeholders is extremely important. Intermediaries, such as research institutes, NGOs/NPOs, should take leading role in the match-making process between Business to Government (B₂G), Business to Businesses (B₂B), and Business to Funding institution (B₂F).**

5 Summary of Presentation

In her framing presentation, Yuqing Ariel Yu identified wind turbines, solar PV, heating, hydro and biomass, as priority technologies, and India and other developing countries in Asia as priority regions, which should be given priority in LCTT. She emphasised that mobilising private sector engagement is crucial to finance LCTT, and identified the equity markets as an important option.

Hidehiro Kitayama introduced lessons learnt from on the ground projects, based on implementing pilot projects regarding heat pump technology in India. He emphasised that onsite training and direct communication with SMEs, through cluster workshops, are crucial to raise awareness of SMEs about the offered technology. He highlighted that sources to finance LCTT to SMEs could vary according to the stage of technology transfer process. He mentioned that the JCM and the CDM schemes could be needed more at the demonstration and deployment stages, but private financial intervention could be needed more at the diffusion stage. Girish Sethi highlighted that SMEs should be given more attention in LCTT, given their significant potential to reduce GHG emissions. He agreed with Hidehiro Kitayama

that LCTT process has different stages and policy intervention vary accordingly. In this regards, he emphasised that promoting research development and demonstration (RDD) is not sufficient to promote LCTT, but follow up activities to promote the “deployment” is also crucial, hence the focus should be on “RDD&D” rather than only on “RDD”.

Osamu Kawanishi outlined how to mobilise private investment for green infrastructure. He noted that the focus should be more on green infrastructure, where institution investors play crucial role. In this regard, he emphasised that securitisation could be an alternative capital market for long-term financing for those institution investors.

The last three presentations focused on the issue of international and bilateral mechanisms to promote LCTT. In this regard, Shobhakar Dhakal introduced the Climate Technology Centre Network (CTCN) and its importance in assisting developing countries. He highlighted that CTCN is an important tool for developed countries to understand the need of developing countries. Le Ngoc Tuan and A.M. Monsurul Alam introduced the progress and achievement of the JCM signed mutually between Japan and their respective countries. They both agree that although the JCM could present an important tool to promote finances of LCTT to SMEs, the concept and operation of this mechanism is still not clear for a large number of companies in Japan as well as in their own countries; further awareness creation activities are needed in this regards.

6 Summary of Discussion

The panel discussion focused on two topics: 1) Finance and technology transfer and 2) Matchmaking strategy. Naoki Mori introduced the JICA-SIDBI two steps loan initiative in India as a successful case to finance LCTT to SMEs. He also emphasised that mobilising domestic financial resources is extremely important, since SMEs cannot access overseas finance. Tatsuya Hanaoka stressed again on the importance of targeting SMEs in LCTT process, and highlighted that modes of technology transfer are diverse, hence it is necessary to address them differently. For instance, he suggested that projects should be supported financially according to their internal rate of return (IRR). In this regard, Osamu Kawanishi suggested that the bond market and securitisation could be considered as alternative capital markets for long-term financing of LCTT. Shobhakar Dhakal introduced the pyramid of CTCN services to explain that CTCN is a country-driven process, a bottom-up approach, that provides various services in various domains, and it is for a developing country to submit a request for assistance and the CTCN will provide it.

The discussion on the second topic involved the following members: Takahiro Ueno, Hidehiro Kitayama, A.M. Monsurul Alam, and Girish Sethi. All discussants emphasised that technology transfer is a complex process that has various steps and involves various stakeholders. The matchmaking process to promote LCTT to SMEs should include matching technologies to local conditions as well as matching related stakeholders to each other. In this regard, they called for technology customisation and especially follow-up activities to projects which have been demonstrated, as measures to match technology to local conditions. They also called for intermediaries, such as research institutes, NGOs/NPOs, to take leading roles in the matchmaking process among related stakeholders.

BENEFITS AND CHALLENGES OF COMMUNITY ENGAGEMENT FOR THE SUSTAINABLE USE OF BIODIVERSITY: LESSONS FROM PARTICIPATORY LANDSCAPE MANAGEMENT UNDER THE SATOYAMA INITIATIVE

PL-9

1 Context/Rationale

The exclusion of ecosystem-dependent communities from the management and use of local resources has been one of the drivers of ecosystem degradation around the world, causing illegal logging, poaching, overgrazing, overfishing, etc. In this context, the International Partnership for the Satoyama Initiative (IPSI) seeks to overcome the loss of biodiversity in production landscapes and seascapes by promoting good practices for participatory planning and management. Many cases of community engagement have been identified among the IPSI member organisations, aiming to improve governance, to secure alternative livelihoods, and to ensure environmentally sustainable ways of production at the local level. This Session aimed to showcase some of the opportunities and challenges of participatory ecosystem use, based on the experiences accumulated under the Satoyama Initiative. The Session introduced an example of an innovative, locally-rooted form of marketing, which can act as a bridge between sustainable production and consumption. This was followed by presentations of studies by IPSI partners, as well as a panel discussion on the possibilities and challenges of community engagement for the sustainable use of biodiversity.

2 Objectives

The organisation of this parallel session aimed to achieve the following objectives:

1. Presenting key challenges in the use of production landscapes and seascapes arising from conflicting interests of diverse stakeholders.
2. Presenting solutions to the key challenges identified in 2-1.
3. Discussing the roles and possibilities of local community and stakeholder participation towards the realisation of sustainable production and consumption.



3 List of Speakers

[Opening Remarks]

Wataru Suzuki Senior Coordinator, International Satoyama Initiative (ISI) Programme,
United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)

[Keynote Speakers]

Kazuhiko Takeuchi Senior Vice-Rector, United Nations University (UNU) / Director and Professor,
Integrated Research System for Sustainability Science (IR3S) The University of Tokyo

Toru Fukushima President, Fukushimaya / Unite co., Ltd.

[Moderator]

Alfred Oteng-Yeboah National Chairman, Ghana National Biodiversity Committee

[Speakers]

Kuang-Chung Lee Associate Professor, National Dong-Hwa University

Kaoru Ichikawa Research Fellow, United Nations University Institute for
the Advanced Study of Sustainability (UNU-IAS)

Hijaba Ykhanbai Director of Environment and Development Association “JASIL”

4 Key Messages

- **Various approaches to engage local communities in the sustainable use of SEPLS and biodiversity developed and adopted within the International Partnership for the Satoyama Initiative provide a number of valuable lessons.**
- **Communication is particularly important between different stakeholders (e.g. between producers and consumers), and consensus building processes, both within the local communities (e.g. through regularly held community forums) and between the local and scientific community to be able to speak with one voice.**
- **It is also vital to ensure human well-being beyond the generation of material wealth. An effective community engagement contributes to strengthen both the resilience of ecosystems and the “resilience of the human spirit.”**

5 Summary of Presentation

Kazuhiko Takeuchi pointed out that the Satoyama Initiative (IPSI) was launched at CBD COP10, which adopted the Aichi Targets, and that it also shares the Aichi Targets’ vision of “Living in Harmony with Nature.” The Satoyama Initiative has also taken action toward achieving the second objective of the CBD, which is the “Sustainable use of biodiversity.” He emphasised that the creation of new values should be pursued using local natural capital and be based on the approaches for natural resource management developed by local communities.

He also explained the key features and current challenges of the traditional home garden systems in rural areas of Asia (Viet Nam, Indonesia, Sri Lanka), and their potential to enhance resilience. He emphasised that societies are willing to pay a price for preserving the traditional system. He then explained recent initiatives for integrating Traditional and Modern Bio-production Systems and mentioned crop planting to address salination of the Red River near Hanoi as one example for enhancing ecological resilience. He also presented a series of initiatives for reconstruction of disaster-affected areas in Japan that will contribute to building a sustainable society. Examples included “*Fuyumizutambo*,” a farming method to fill rice paddies with water in winter, the selling of “*Fukko-ma*” which supports restoration activities to start “*Fuyumizutambo*” in other disaster-affected paddies and the restoration of oyster farming industry. He pointed out that the Louis Vuitton Company has provided financial assistance for these projects. He

stressed the need for effective approaches through participation of various stakeholders and for locals and academia to have one voice to communicate scientific knowledge. Finally he advocated linking local and global efforts toward sustainable societies noting that while the role of local societies is to develop actual models and accumulate experiences, sharing of experiences with global communities is also important. To promote local initiatives it is important to enhance collaboration between local and global commons, and to link local activities with global frameworks, e.g. by labelling through designation or certification.

Toru Fukushima made the guest presentation on “Local community-based supermarket business”. There should be a place to enable ideas, and a supermarket can be that place. Fukushimaya is anchoring the production environment around the local supermarket through mutually agreed farming methods and merchandising. These measures can contribute to reducing many unnecessary losses. Fukushimaya agrees with many ideas suggested by producers and customers but there tends to be disagreement on specifics. He provided the example of strawberries from Ibaraki Prefecture. They are freshly picked in the morning and arrive at the supermarket by around 10 or 11 am. Some are a bit damaged but they will be turned into jam or dried, so there is no loss. According to legal regulations in Japan there are different categories that need to be followed strictly. Supermarket staff hold Product Review Meetings, at which they receive information from producers and farmers, to understand their situation better. He also illustrated other products directly obtained from local producers, such as sea bream, Sasashigure rice and “farm-fresh” rice. He explained that farming styles in Japan are on a very small scale, and that despite discussions to enlarge the scale of farming under the TPP agreement, farmers prefer to remain small scale. He stated that consumers should understand what the farmers are doing and why. In the traditional supermarkets engaging consumers in such a way has never been done earlier. Farmers contracted by Fukushimaya do not use fertiliser, and levels of nitrate are measured regularly. It was explained that organic products only account for less than 1%, but that some restaurants advertise they use organic products. He concluded that it is vital to have the right place for communication and that is the supermarket.

Kuang-Chung Lee presented Tailoring Satoyama initiative concepts to national and local context: A Case Study of a Rice Paddy Cultural Landscape conservation in an Indigenous Community of Taiwan. He first presented the challenges of community engagement for sustainable use of biodiversity. These include how to tailor the Satoyama concepts to fit within the national planning system and how to put them into practice. He then presented how these challenges have been largely addressed by a series of measures. Institutional arrangements and resources allocation are important jobs for the government to promote Satoyama Initiative. The establishment of a multi-stakeholder platform at local level is important to promote community empowerment and develop a good practice. It is very important to enhance dialogue between the government and the community in a participatory process. In many cases, a facilitator is helpful to enhance the dialogue. The research aims to explore opportunities and constraints of the government-facilitator-community interaction. Focusing on the case study, he introduced the study area, a socio-ecological production landscape which is a combination of mosaics composed of nature forests, secondary forest, rice paddies, village, pond, orchards, nature stream, and irrigation ditches. In Taiwan, the amendment of the Cultural Heritage Preservation Law in 2005 assigned a new item cultural landscape. It provides a new institutional opportunity for a landscape approach which values the interaction between local people and the land.

In the case study area, in 2011 local people established a local management board for the cultural landscape with the involvement of a range of other major stakeholders. In March 2012, Chihalaay was the cultural landscape designation plan proposed by local management board was officially approved by the Authority in a review meeting. With the designation of Cihalaay as a cultural landscape a new type of protected area under the Satoyama Initiative was born in Taiwan. Since then, new tasks needed

to be discussed in the following three forums, including: transferring local Codes of Conduct onto the official Cultural Landscape Management Principles, deciding the core areas of the cultural landscape, and drafting together a 5-year mid-term Cihalaay Cultural Landscape Management Plan. The mid-term cultural landscape management plan was worked out in light of the three-fold approach of Satoyama Initiative. He concluded that the cultural landscape has entered into its implementation and monitoring stage. It is very important to continue the regular stakeholder forums, in this case twice a year, to review the progress.

Kaoru Ichikawa presented on “Promoting Engagement of Local Communities: Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes (SEPLS)”. She defined SEPLS as dynamic mosaics of habitats and land uses, that allow for a harmonious interaction between people and nature. They support biodiversity while providing humans with the goods and services needed for their well-being and are deeply linked to local culture and knowledge. She also elaborated on the resilience of SEPLS, explaining that SEPLS are subject to various changes and shocks, and that livelihoods of local communities are affected by such changes, but that SEPLS may recover from such impacts without catastrophic damage. Well-managed SEPLS have persisted for a long time but now are facing various challenges and it was argued that strengthening the resilience of SEPLS will contribute to the well-being of local communities. A joint project has been carried out as a Collaborative Activity under IPSI, developing a set of 20 indicators to measure resilience of SEPLS at the local level. The indicators measure different aspects entailed by and essential for sustaining resilient landscapes and provide a framework to discuss both current conditions and potential areas for improvement. Using the indicators enables local communities and other users to understand resilience of the SEPLS, support development and implementation of resilience-strengthening strategies, as well as enhance communication among stakeholders. Moreover, it can empower communities in decision-making processes and adaptive management. The indicators have been applied/tested by Bioversity International and UNDP (COMDEKS) in a range of countries globally. The indicators are undergoing a revision based on these experiences, and a tool kit has been developed for practical application of the indicators and to promote the widespread use of the indicators.

Ykhanbai Hijaba presented the use of “Indicators of Socio-ecological Production Landscapes in pastoral ecosystems of Mongolia,” and explained that pastoral landscapes provide livelihoods for 175,000 herder families. However, he pointed out that increasing challenges for a sustainable use of pastoral landscapes include policy and legal issues (lack of tenure rights), commercial pressures (e.g. mining) and climate change. He then presented the preliminary results of the use of the IPSI Indicators of Resilience in Mongolia. One of the main objectives of the study has been to field test the improved set of indicators for resilience of SEPL in pastoral agricultural systems in selected sites and communities. The methodology has included literature review, participatory field testing (considering gender balance), questionnaire surveys, scoring, consensus building and statistical analysis. The concept of SEPL in pastoral agriculture is dynamic, and changing over time, due to climate variations and human made pressures. The main finding is that the draft framework of resilience indicators is a useful instrument, both for diagnostic purposes and monitoring/evaluation purposes, but that it may need some specificity on a number of indicators (and related questions) to deal adequately with the Mongolian socio-ecological conditions, such as seasonal difference of landscape. Other outcomes include that women and men herders have quite different views on the scoring under each indicator, and that more attention needs to be paid to the policy and legal environment of the managed landscape.

6 Summary of Discussion

In the discussion, the Chair raised a series of questions, which had been collected from the audience through a questionnaire. First, the Chair acknowledged that the presentations highlighted a range of efforts made to reach sustainable management of socio-ecological production landscapes, but he asked the panelists to explain if there have been any pressures, and how did they have deal with these.

Kuang-Chung Lee explained that Taiwan shares similar problems as Japan and other Asian countries. Rural areas face ageing population and declining production. Communities want to change the situation but they do not have the time and resources. A facilitator between the farmers and the government would be necessary, to mobilise the resources from the government and also to have the public to support the community. He explained that half of the production in the surveyed landscape is from conventional farming, as income from organic farming is not enough. The challenge therefore is how to make more farmers produce organic products.

Ykhanbai Hijaba stressed that the main challenge in the Mongolian pastoral landscapes is how to allocate the grasslands to herders, as it is currently owned and managed by the government. Secondly, mining activities create increasing pressures. His project currently is facilitating the development of a partnership with local communities. Government land use planning processes need to consider if mining creates negative impacts on communities.

Kaoru Ichikawa said that there are many pressures in the various SEPLS, and they are shared in many areas. These include increasing challenges from globalisation, such as dependence on products that have been produced in other places. She highlighted the importance of the concept of living in harmony with nature and seeking local solutions through international partnership.

Toru Fukushima said that communication can address obstacles and be enhanced through interaction and financial resources. Producers and consumers can be united by common awareness. One major event is not enough, rather, it is important to maintain communication on a daily basis. He agreed that a continuous consultation process is very important.

The specific question the Chair transmitted from the audience to Kuang-Chung Lee was on the impact to be expected from the Satoyama approach in Taiwan. The response was that it is necessary to achieve a balance between economic development and nature conservation. People are struggling with this, as is the government. In the past, some favoured conservation, others looked to development. In this situation, the rural areas were abandoned and ignored by the public and NGOs. At COP10 he learned about the Satoyama Initiative and considered it a good framework to be introduced in Taiwan. Local communities and the public like the concept of Satoyama and it is important to demonstrate that the Satoyama approach works. Taiwan has an opportunity from the new legal category of "cultural landscape". The future of the Satoyama approach in Taiwan is good, but it is important to build a national network for the Satoyama Initiative to share knowledge and learn from each other.

The Chair mentioned that there appears to be a huge gap between local and global commons, and asked if the initiatives under his case study can contribute to closing this gap. Ykhanbai Hijaba recognised that there is a gap in Mongolia, but that local and international initiatives can close the gap. It is important to consider how to develop a plan and implement it. Traditional, modern knowledge need to be considered in a post 2015 agenda. Another response stressed the need to accumulate good practices and experiences from the local level. If there are many examples, this can be powerful to change the policy at higher levels and bridge the gap between local and global levels.

There was a question from a customer of Fukushima Supermarket who was in the audience related to the fact that Mr. Fukushima is a business man and is concerned with profit. The customer agreed that wealth and happiness should come together. However, there are challenges, such as small supermarkets being replaced by large ones and the issue of subsidies. The Chair asked if there was an opportunity to leverage the products with subsidies and the connection with the Satoyama concept. Mr. Fukushima responded that he sees the Satoyama concept positively. For the last 50 or 100 years, most focus has been on economic growth, but this is now being reviewed. Profits are a precondition of business. Money is good but this is something that should come after the communication and activities to promote sustainability. There is a need to see how to implement projects in certain locations and families and individuals need to be considered. In some towns, supermarkets and other enterprises are having difficulties if they are built on the same paradigm, regardless of their size. It seems that the paradigm is changing, now the focus is less on material wealth. Lifestyles and values are also changing. As business people it is important to make profit but there is a great deal of pressure to fulfill their task, so basically communication is the key. Businessmen do not have much knowledge on how to promote sustainability and there are not many opportunities to present and discuss their initiatives, so participation in an event such as this Parallel Session is an important opportunity.

The Chair provided the wrap up of the Session. He took up earlier remarks that more than generating material wealth, there is a need to ensure human well-being. An effective community engagement contributes to strengthen both the resilience of ecosystems and the “resilience of the human spirit.”

IMPLEMENTING THE SUSTAINABLE DEVELOPMENT GOALS (SDGs) IN ASIA: TOWARD A COMMON LANGUAGE FOR GOVERNANCE

PL-10

1 Context/Rationale

In the wake of the 2012 Rio+20 conference, governments will soon begin to negotiate the post-2015 development agenda. The outcomes of those negotiations will likely yield a set transformational sustainable development goals (SDGs). The SDGs will help raise the profile of several new policies priorities, but the degree to which they improve the health of people and the planet will depend upon an often overlooked factor: governance. Many organisations underline that “good governance” will be essential to achieving the SDGs; however, operationalising the term remains difficult. Some organisations stress broad principles (such as rule of law or control of corruption) while others highlight narrow practices (such as engaging stakeholders or monitoring progress). This session brought together policy-makers, experts and practitioners from Asia to outline these differences and work towards a common language for governance of the SDGs.

2 Objectives

This session aimed at bringing together policy-makers, experts and practitioners from Asia to outline different views on governance and work towards a common language for governance of the SDGs. An initial framing presentation attempted to familiarise the audience with possible SDGs, outline relevant discussions around good governance and its influence on implementation. The second session introduced various speakers' views on how differing views on governance should be synthesised to allow for representation of both high-level principles and more operational elements of 'good governance' in the future development agenda. A third panel session focused on how Asia's experiences with 'good governance' and with the implementation of sustainability policies can meaningfully contribute to the future SDGs. It also aimed at discussing how negotiations over 'good governance' for the SDGs relate to the general public, as well as looking at the role of the general public in supporting the implementation of future development goals.



3 List of Speakers

[Moderator]

Surendra Shrestha Director, United Nations Environment Programme's International Environmental Technology Centre (UNEP-IETC)

[Speakers]

Simon Olsen Task Manager / Senior Policy Researcher, Regional Centre, IGES

Shiv Someshwar Earth Institute, Columbia University

Norichika Kanie Associate Professor, Department of Value and Decision Science, Graduate School of Decision Science and Technology, Tokyo Institute of Technology

Tim Cadman Research Fellow, Institute for Ethics, Governance and Law, Griffith University

Ella Antonio President, Earth Council Asia-Pacific, INC.

4 Key Messages

- **Lessons learned from the MDGs such as a lack of ownership, an overly top-down approach, and a narrow focus on quantitative targets should inform the design and implementation of the SDGs.**
- **The interpretation of governance and means of implementation (MOI) vary greatly across different stakeholders. There is a need to clarify these differing perspectives as well as the interrelationships between different MOI for a transformational, aspirational and integrated post-2015 development agenda.**
- **A multi-layered approach (global, regional, national and local) and stakeholder engagement at each level is crucial for not only designing and implementing SDGs, but also for promoting a common understanding of governance and MOI.**
- **In Asia, identifying the capacity-building needs of various stakeholders and actively engaging them in the planning stages of national targets and indicators could enhance implementation of the SDGs at the national and local levels.**

5 Summary of Presentation

Beginning the session, Surendra Shrestha underlined some of the key lessons learned from MDGs such as a lack of ownership, an overly narrow focus on quantitative targets and a top-down approach. This was followed by a presentation from Simon Olsen that drew on a discussion paper on good governance and three categories of means of implementation (MOI) (finance, technology and institutions). He contended that focusing on three baskets of MOI can help negotiations find a way forward for a transformational post-2015 development agenda.

Speaking from a global perspective, Shiv Someshwar pointed out that persistent poverty, worsening inequalities, global resource imbalances are unfortunate phenomena. He then stressed that governance - defined as the exercise of power - should be structured so as to be responsive to diverse spatial and temporal dimensions in an increasingly globalised economy. Norichika Kanie emphasised the importance of a multi-layered approach and three aspects of governance: good, effective, and equitable governance. He then noted that a stand-alone goal on governance should include all three of these aspects.

From the national/local perspective, Tim Cadman recommended that SDGs require a governance framework applicable at multiple levels and that MOI needed to be embedded in each SDG. He further stressed that SDGs themselves require a "governance goal" to ensure consistency of implementation and to improve quality, effectiveness and legitimacy. Ella Antonio then identified capacity development

needs for implementing SDGs, and maintained that Asia needs more vertical/horizontal coordination and communication between multiple levels, stakeholder participation and regard for subsidiarity with emphasis on planning and operationalising priority capacity building requirements in Asia.

6 Summary of Discussion

Many questions were raised from the floor regarding how to actually implement SDGs and the role of each stakeholder, such as policy-makers, the private sector and NGOs. Simon Olsen explained that the current outcome document of SDGs Open Working Group has a goal 17 on MOI, which is still generic and there is sufficient scope for engaging different stakeholders to discuss stakeholder roles for SDG implementation. Shiv Someshwar emphasised that we need to help identify potentially vocal stakeholders and help them articulate their views. Tim Cadman called on all stakeholders to take action recognising that realising many of the SDGs requires collective action.

There were questions on local-to-global versus global-to-local planning; and consolidation of many plans as opposed to building capacity in planning. Ella Antonio agreed that planning should be bottom-up but guidance on global aspirations must come from the top. Thus, the general framework for SDGs is being set at the global level to guide local SDG formulation and implementation. She said that the proliferation of plans in developing countries is not quite the issue as these are oftentimes necessary. The issue is the lack of harmony and consistency among these plans thus capacity building in this area is needed. On the question about three aspects of governance, Norichika Kanie clarified that “effective governance” and “equitable governance” are mutually exclusive, but inter-connected, so that the question is which aspect to focus in a particular target area.

Finally, Surendra Shrestha concluded the session by underlining that the year of 2015 provides a unique opportunity as different regimes that are coming to the end. As geopolitical dynamics have been changing, stakeholder engagement and active participation is expected from a growing number of quarters.

Lunch Session

PROMOTING AN INTEGRATED KNOWLEDGE-BASE SYSTEM FOR SCIENTIFIC LOW CARBON DEVELOPMENT POLICYMAKING IN ASIA

L-2

1 Context/Rationale

The UN Framework Convention on Climate Change (UNFCCC) will adopt a universal climate agreement for all nations to reduce GHG emissions, which will come into effect from 2020. Countries in Asia hold the key to climate stabilisation in terms of whether they can introduce science-based low-carbon policies into their development policies, as it is predicted that, in a BAU scenario, GHG emissions from Asia will account for 50% of the global total. Recently, we have seen a positive change in Asia – research communities in Asia are being strengthened, and linkage between research and policies is being promoted in a more effective manner, ensuring full ownership. Thus, in this session, different progresses of low-carbon policy in Asian countries and the role of researchers in policymaking process were announced as case studies.

2 Objectives

This session aimed to show the audience and the world that countries and organisations in Asia have cooperated to form an effective sequential system of knowledge creation, education and capacity development, knowledge-sharing, and dissemination for science-based low-carbon development policymaking, and based on this, they will send out various messages in the run up to COP21. Knowledge-sharing is one of the key components to stimulate the development of low-carbon policies in different countries and share the challenging issues to achieve low-carbon development. As such, this session introduced contributions made by research communities in Asia, ahead of Workstream 2 for COP21, which aims to increase ambitions to cut GHG emissions.



3 List of Speakers

[Moderator & Keynote Speaker]

Mikiko Kainuma Senior Research Advisor, IGES / Fellow, National Institute for Environmental Studies (NIES)

[Speakers]

Jiang Kejun Director, Energy Research Institute (ERI), China

Ho Chin Siong Professor, Universiti Teknologi Malaysia

Rizaldi Boer Executive Director, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific, Bogor Agriculture University

Bundit Limmeechokchai Co-coordinator, Sustainable Energy & Low Carbon Research Unit (SELC), Sirindhorn International Institute of Technology (SIIT), Thammasat University

Jakkanit Kananurak Director, Capacity Building and Outreach Office, Thailand Greenhouse Gas Management Organization (TGO)

Ryu Fukui Advisor, Regional and Sustainable Development Department / Head, Knowledge Sharing and Services Center, Asian Development Bank (ADB)

Junichi Fujino Senior Researcher, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES)

Nguyen Dinh Tuan Professor of Environmental Faculty, Ho Chi Minh City University of Natural Resources and Environment

Priyadarshi Shukla Professor, Public System Group, Indian Institute of Management, Ahmedabad, India

4 Key Messages

- **Low-carbon development is a challenging issue in Asian countries since it requires consideration on various problems while pursuing development path.**
- **For climate stabilisation, it will be necessary to continue to share wisdom and knowledge.**
- **Various activities are being carried out at the country and city level through this network. Sharing of knowledge has also become necessary for South-South Cooperation.**

5 Summary of Presentation

Jiang Kejun emphasised that for policy decisions, modelling and quantitative analysis is needed to identify the benefits and disadvantages of policy options. Researchers also identify what kind of incentives or triggers are needed for low-carbon development. The concept of low-carbon economics and green economics can be combined. In China, research related to low-carbon has been done for more than 10 years. In order to set up and examine the feasibility of officially committed targets to reduce CO₂ emissions, various modelling groups need to work together to examine different policy options such as carbon tax. As for energy demand, such questions as why a certain level of reduction should be achieved have been discussed amongst researchers and policymakers over the last three years. However, there still need to be more detailed answers to the questions asked by policymakers. The required research areas to contribute to policymaking process are not only to convince policymakers, but also to enhance transparency of the data and models.

Ho Chin Siong mentioned that knowledge-based policymaking is closely related with universities and research institutions. Not only national social and economic planning, but also national low-carbon planning requires inputs from scientific research. Low-carbon setting should also include more resilience to natural disasters. In Malaysia, the government decided on a 40% reduction and is planning low-carbon development. Since emission factors are high in Malaysia, there need to be many policies at the national level. Climate change issues include various challenges such as renewable energy, conserving forest energy and air quality. How to transform cities in Malaysia to low-carbon ones is other way to promote low-carbon development in Malaysia. Researchers have built up a low-carbon path and blueprint in the Iskandar region. A low-carbon project in Iskandar is currently trying to apply a low-carbon approach in cooperation with existing policy planning.

Rizaldi Boer stated that Indonesia needs progress and strategies to achieve a target set by the government. There are different components needed to consider the energy balance such as coal, gas, renewable and CCS, as well as economic and industrial balance including share of GDP and industrial structure change. The domestic use of biofuel and geothermal has high potential. The contribution of renewables has risen as the need for biomass energy has increased, including high-potential hydropower. Forest and peat land also have potential for carbon sequestration. Even though there are various potentials to reduce CO₂, how to realise these is a challenge. There are various components to be taken into account, such as how to design a low-carbon pathway and work together with local stakeholders, how to promote engagement of local stakeholders and how to obtain support from local government. As a part of the process, Indonesia has initiated IPCC Indonesia, a national research network to provide policymakers with knowledge and information.

Bundit Limmeechokchai introduced a low-carbon model and roadmap in Thailand which has been conducted since 2010, as well as a NAMA study in the run up to 2020 which Thailand researchers are now developing. Since 2012, Thailand has started to consider building up NAMAs, and at the same time, NAMA research was initiated by working with TGO. This includes many measures such as energy efficiency and mitigations to achieve reductions by 2020. CO₂ reduction measures include biomass and building. Currently, research on low-carbon development is being conducted with support from NIES. The results of this research and other useful information have been delivered to policymakers such as the Ministry of Energy. As actions, policy options such as FIT have been introduced and the effectiveness of new policy measures have been estimated by researchers. So far, low-carbon research for a Thailand roadmap was published in which three scenarios towards 2050 were set up including a peak scenario (2040 peak). For a modelling study, there needs to be scenario-making and a selection of realistic policies, reliable data sources and integrated modelling.

Jakkannit Kananurak focused on capacity development in Asian countries. TGO under Ministry of Natural Resources and Environment, Thailand initiated CITC with support from JICA. In the Phase 1, it emphasised capacity building of TGO for mitigation sectors. In Phase 2, knowledge-sharing and training on mitigation and adaptation issues were carried out through workshops. CITC aims to provide a platform for knowledge-sharing and transition of mitigation and adaptation issues in Asia. The target sectors are policymakers, researchers and the private sector. As a networking platform, CITC can work together in the future with other networks like LoCARNet. CITC emphasises training, and training of trainers. Representatives of training are trained to be trainers in the center. CITC has three training lines: 1) human resources capacity building; 2) networking with Japan and ASEAN countries and others; 3) knowledge-sharing with stakeholders including government, general publics, academia, the private sector and communities.

Ryu Fukui introduced the recently established ADB leadership program. ADB provides sovereign loans to developing countries so they can develop infrastructure investment. For the investment to increase sustainability, Ministers and officers in finance who decide resource allocation in a country should know how they can take actions and formulate policy while addressing environmental issues and sustainable development. Others who need to know about these issues include different levels of officials who tackle the challenges, those who inform senior level officials or those who are in positions such as director. Requirements for low-carbon development should be set within the context of each country. The programme started 18 months ago, and progress has been made, for example, with trainings targeted at various stakeholders being conducted in India in collaboration with TERI, and also in Korea with the Global Green Growth Institute (GGGI). The ADB leadership program can work as a continuous platform and effectively create a platform targeted at policymakers.

Junichi Fujino introduced the activities of a low-carbon society model development initiated since 1990 at NIES. Since 1994, activities have been expanded to international collaboration research. Recently, Johor Bahru city held a low-carbon conference and discussed how lessons from Japanese cities can be transmitted to Malaysia. As Japanese low-carbon study, Japan conducted a simulation to reduce targeted emissions ahead of the COP meeting in Copenhagen, and is currently conducting further studies towards COP21. In Malaysia, after low-carbon modelling studies, the project has moved to the implementation stage. After researchers identified activities to reduce CO₂ emissions, Iskandar Regional Development Authority (IRDA) selected 10 projects and implemented the projects with a focus on education. IRDA studied Japanese cases and tried to apply them to their own environmental education system. For instance, Tama city obtained the UN Decade of Education for Sustainable Development. Iskandar learned from the success of Tama in setting up a framework and applied it to Iskandar.

Nguyen Dinh Tuan introduced the low-carbon city of Ho Chi Minh. Ho Chi Minh is the biggest city in Viet Nam, with heavy air pollution and increased GHG emissions due to industry and transport. There are 40 industries and 100 factories such as methane, chemical, food processing etc. and about 7 million motorcycles. Currently the city is trying to set up GHG emissions inventory. The objectives of new research proposal in collaborating with NIES are to assess GHG emissions sources and mitigation measures and policy, and to find solutions for the city. As a tentative activity, research identifies GHG emissions in rural development, agriculture, waste sector and energy transmission. There has been assessment of current emission sources from the activities of five main sectors and it is hoped that a solution will be found to reduce emissions so that Ho Chi Minh can make the transition to a low-carbon city.

Priyadarshi Shukla focused on the importance of linking scientific models with policymaking. When IPCC was initiated in 1988, policymakers needed policy-related scientific research and information. LoCARNet works closely with policymakers. Low-carbon studies have been developed by examining how much emissions have increased over more than 20 years. Looking at this path, Asia has been growing while increasing the use of fossil fuels. Policymakers are faced with global problems and actions at the global and local level are needed, so local policymakers are becoming interested in reducing CO₂ emissions and committing to the 2 degree target. Scientific groups and information-sharing networks are important in terms of sharing global problems and good practices. Methodologies to announce problems and look at how to conduct actions can be achieved by using models to assess the policies. Comparative studies should be carried out because the same answer or result does not always emerge, so researchers should discuss the issues by comparing the results. Policymakers should also support low-carbon research.

Roundtable

HARNESSING SYNERGIES BETWEEN ADAPTATION AND DISASTER RISK REDUCTION: PERTINENT ISSUES, SUCCESS CASES AND THE WAY FORWARD

1 Context

There has been a growing consensus among scholars and practitioners on the synergies between disaster risk reduction (DRR) and climate change adaptation (CCA). IGES has begun scoping research on how best to operationalise this synergy in actual practices on the ground. To feed into the IGES research, the participants discussed the current conceptual understanding on synergies and the differences between CCA and DRR and evaluated the current experiences of operationalising these synergies between DRR and CCA in actual implementation. They also discussed existing bottlenecks and the way forward for harnessing these synergies, and identified crucial policy relevant research questions to be addressed in this field. The session followed a round table open discussion format.

In the context of climate change, disaster risk reduction (DRR) has been considered as a climate change adaptation (CCA) option by few scholars. In other contexts, DRR has also been seen as a way to sustainable development. There is ample evidence that the linkage between climate change and disaster risk reduction (DRR) has been the subject of intensive formal and informal debates at the World Conference on Disaster Reduction (WCDR) as well as the adaptation implications of extreme events at the United Nations Framework Convention on Climate Change (UNFCCC). The 'Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters' identified climate change as one of the threats to the world's future and identified DRR planning as one of the key points of entry to tackle such climate change threats (United Nations International Strategy for Disaster Reduction, 2005). In the words of the Hyogo Framework of Action: "Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change, which would include the clear identification of climate related disaster risks, the design of specific risk reduction measures and an improved and routine use of climate risk information by planners, engineers and other decision-makers." Climate change necessitates taking another look at the existing disaster risk reduction approaches due to the new risks brought by climate change and due to the problems in the existing risk reduction approaches, including changes in the hazard profile and its interaction with the dynamic vulnerability and risk profiles of countries. There has also been an increase in disasters undermining the disaster management capacities of countries especially in managing extreme events (e.g. Bangkok floods, Typhoons Bopha and Haiyan that hit the Philippines, and Bangladesh floods).

The present day disaster risk reduction planning largely aims at reducing the current disaster risks, i.e. those risks emanating out of current hazards and vulnerabilities. Often, these risk assessments heavily rely on the historical data of hazards at a given location. However, the future is not always a repetition of the past. Moreover, assessments from historical data often fail to look into future vulnerabilities and risks, and hence cannot incorporate them in terms of added strength in the plan. In addition, the current static disaster risk management plans may fail to take into consideration the ever-changing hazard and vulnerability profiles of countries and regions.

Expected outcomes

1. Current conceptual understanding behind CCA-DRR linkages are shared
2. Current experiences in operationalising the synergies between DRR and CCA are discussed
3. Bottlenecks and way forward for harnessing the synergies between CCA and DRR are identified

2 Structure

The session followed a roundtable discussion format inviting relevant participants from the pool of ISAP participants. The session had a moderator who is well versed with the subjects of climate change adaptation and disaster risk reduction. Following the opening remarks, the facilitated group discussion followed. The facilitator posed a series of questions for a round of 10-15 min discussion. The following questions were discussed in rounds.

3 Schedule

Duration	Question
10 min	Opening and introduction to the session: The facilitator provided the context and objectives of the session, and showed the list of questions to be discussed.
10 min	What are the synergies between climate change adaptation and disaster risk reduction?
10 min	What these synergies mean for DRR and CCA planning and processes and what indicators will help capture these synergies? [Each participant may want to provide an example project and list some indicators that helps in attributing the project effectiveness in terms of CC and DRR]
10 min	To what extent these synergies are being captured in the ongoing interventions in CCA and DRR?
10 min	What bottlenecks are limiting the full realisation of these synergies and how they can be overcome?
10 min	What are the important policy research questions to be addressed in this area and what methodological approaches could be utilised for this purpose?
15 min	Q&A if any and wrap up

4 Summary

Overview Presentation

Prabhakar SVRK, IGES made an overview presentation on the synergies between climate change adaptation (CCA) and disaster risk reduction (DRR). He emphasised that both the CCA and DRR communities have the same aim of reducing vulnerabilities and risks and increasing resilience but they achieve these objectives through different interventions and by keeping different time scales in view. To



this extent, the text of the Hyogo Framework of Action and several other negotiation texts under UNFCCC differ in the way they recognise and interpret disaster risks emanating from climate variability and change. He indicated that most CCA projects consider traditional DRR measures as CCA interventions, while mainstreaming CCA into DRR entails that the future risks and vulnerabilities are taken into consideration while designing the current DRR interventions. The current project-level experiences suggest that the DRR elements are often comprised of infrastructure interventions and related to vulnerability assessments and disaster management plans. Climate change adaptation interventions are often related to livelihoods and strengthening related social and economic elements. Concepts such as redundancy or precautionary actions may need to be viewed with more caution since they entail higher costs that may not appeal to most policymakers. Often, there is limited interaction between CCA and DRR communities leading to a lack of mutual understanding on the issues concerned.

Roundtable Discussion

The roundtable discussion focused on the following four important questions: a) what are the synergies between climate change adaptation and disaster risk reduction, b) to what extent these synergies are being captured in the ongoing interventions in CCA and DRR, c) what these synergies mean for DRR and CCA planning and processes and what indicators will help capture these synergies; and d) what bottlenecks are limiting the full realisation of these synergies and how they can be overcome.

During the discussion on the questions, Taka Hiraishi, IGES noted that the reason why the term 'disaster' was omitted in COP texts under the UNFCCC was because its focus was on anthropogenic climate change. He added that the term 'redundancy' was also negative sounding and a different word should be used to describe precautionary actions in climate change adaptation planning.

Soojeong Myeong, KEI noted several commonalities between DRR and CCA and stressed that synergies of both approaches would reduce overlaps and result in cost-saving. For example, risk and vulnerability assessments applied for CCA could also be applied to DRR. She emphasised the need to raise awareness among stakeholders.



Paul Ofei-Manu, IGES mentioned that an interagency coordinating body at the national level would help bring DRR and CCA communities together. Education is also important.

Taka Hiraishi from IGES reiterated the point on cost-saving, adding that donors would likely only have one pool of money for DRR and CCA. The two should not be viewed as separate. He emphasised that there is only one climate, one set of damages, and one set of victims. He also noted the need for practitioners to consider dynamic changes and actions in response to climate change.

Taisuke Watanabe, JICA encouraged participants to think about the various points where DRR and CCA can create synergies. For example, at the project level, in flood control design for DRR, climate change would need to be considered. He added that at this point the interaction between DRR and CCA is limited. He also noted that one of the main criteria for project funding selection for JICA is cost rather than determining whether a project is DRR or CCA.

Premakumara Jagath Dickella Gamaralalage, IGES shared his city level experience working in Cebu, the Philippines. He noted that DRR drew more interest and familiarity from city officials because it was more immediate, while CCA was more difficult to understand due to its complexity and longer time frame. City officials are not only looking at CCA and DRR issues, but also at other vulnerabilities like poverty, he added. For the case of Cebu, he noted that DRR plans are in place because of floods and typhoons without strong consideration for CCA.

Participants noted that under the UNFCCC's NAP process, particularly the NAP Global Support Programme, officials from LDCs involved in DRR and CCA are currently being brought together and trained to develop their countries' NAPs.

Puja Sawhney, IGES noted that Pacific Island countries have been developing Joint National Action Plans on Disaster Risk Management and Climate Change (JNAPs) which consider both CCA and DRR. The Pacific experience would be a valuable example.

5 Key Messages

- **The roundtable discussion clearly indicated that there are several synergies between climate change adaptation and disaster risk reduction and that the recognition of these synergies requires that both communities come together and work closely. Several interventions such as early warning, weather and climate forecasts, risk and vulnerability assessments, financing, institutional coordination and education can lead to both climate change adaptation and disaster risk reduction synergies.**
- **There is a need to recognise that there is one climate, one set of damages and one set of victims and any hair-splitting in terms of near-term changes and long-term changes would also lead to division of stakeholders on these lines, leading to undue competition and thinning of resources that could have been invested in actions that will have climate change adaptation and disaster risk reduction synergies.**
- **Emerging lessons indicate that local governments often do not understand climate change adaptation, even if they have perfected the art of disaster risk reduction in most parts of Asia. Hence, translating CCA language in a way that is understandable to DRR community could lead to holistic risk reduction strategies.**

MAKING CITIES MORE SUSTAINABLE IN ASIA: BRIDGING THEORY AND PRACTICE

PL-11

1 Context/Rationale

Asian cities are rapidly urbanising and play an increasingly prominent role as engines for national economic growth. Presently, this growth is coupled with high rates of energy and resource consumption, which in turn exacerbates pressures on the management of solid waste, wastewater, air pollution and greenhouse gas emissions. With reference to relevant theory and case-studies, this session highlighted city government strategies to address these challenges, bringing together representatives from the OECD and Wuppertal Institute as well as panelists from overseas and from Japanese local government. In addition to sharing insights on how to design and implement local sustainable development strategies, participants also discussed how Japan's Joint Crediting Mechanism (JCM) can help balance economic and environmental priorities.

2 Objectives

- To present and jointly reflect upon how strategies for sustainable development are planned and implemented.
- To stimulate discussions on how theory or good-practice approaches could be designed to accommodate diversity.
- To showcase approaches to transferring low-carbon expertise and technology, in the context of North-South city-to-city partnerships with private sector support.



3 List of Speakers

[Moderators]

Hiroyuki Kage Executive Director, Vice-President, Kyushu Institute of Technology /
Director, Kitakyushu Urban Centre, IGES

Eric Zusman Leader / Principal Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES

[Speakers]

Ryoko Nakano Deputy Area Leader /

Senior Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES

Johannes Venjakob Project Co-ordinator, Future Energy and Mobility Structures,
Wuppertal Institute for Climate, Environment and Energy

Tadashi Matsumoto Senior Policy Analyst, Regional Development Policy Division,
The Organisation for Economic Co-operation and Development (OECD)

Nobuhiro Kino Director, Office of International Cooperation, Global Environment Bureau,
Ministry of the Environment, Japan

So Platong Acting Governor of Siem Reap Municipality, Siem Reap Province, Ministry of Interior, Cambodia

Amir Rusli Senior Researcher, WtE Project Coordinator, Sanitation and Landscape Division, Batam City, Indonesia

Ir. Ayu Sukenjah Head of Division for Environmental Rehabilitation, Environmental Management Agency,
Bandung City, Indonesia

Nuanphan Phawawes Sanitation Technical Officer, Professional Level Vehicle Emission Control Sub-Division,
Air Quality and Noise Management Division, Department of Environment,
Bangkok Metropolitan Administration (BMA)

Norihiko Nomura Executive Director, Climate Change Policy Headquarters, City of Yokohama

Satoru Yokota Executive Director, Kawasaki Environment Research Institute

Reiji Hitsumoto Executive Director, Office for International Environmental Strategies, City of Kitakyushu

4 Key Messages

- **Although the backing for ambitious city-level environmental policies by senior figures such as Mayors is vital, actions cannot be sustained without the backing of the citizenry.**
- **For green growth and environmental policies to be effective, a long-term vision must be shared by all stakeholders.**
- **Cities must look to examples from research as well as national and international city networks in order to ensure that plans consider and incorporate the good practices.**

5 Summary of Presentation

IGES

Launching the parallel session, Ryoko Nakano gave a short framing presentation to outline concepts underpinning the urban sustainable development discourse in Asia. After pointing to the importance of integrating social, environmental and economic considerations, she introduced the audience to the concept of sustainability transitions. Whilst the concept has been used for quite some time, it was noted that over the past decade Dutch scholars have reinvigorated discussions, emphasising features such as niche development as well as regime and landscape change. The speakers were then invited to introduce city efforts seeking to bridge across from theory to practice.

Wuppertal Institute for Climate, Environment and Energy

Johannes Venjakob introduced the research approach of the institute, used to guide projects on transitions research. The framework entails defining targets and understanding socio-technical systems in their natural environment, defining socio-ecological targets as well as identifying trade-offs and synergies. On the basis of these preparatory activities, multi-level experiments on sustainability transitions are planned and carried out.

The case of the city of Bottrop, a former coal-mining town that experienced considerable structural change due to industrial decline, illustrates this approach. Wuppertal Institute was asked to support the development of a proposal for a model city competition held by a business association. The proposal, focusing on a pilot region encompassing 70,000 inhabitants and 14,500 buildings, was selected as the winner of the competition and Bottrop was awarded the title of InnovationCity Bottrop. The master plan for the project was developed by a private firm and can be categorised into four broad categories, namely (1) Elaboration Phase; (2) Design Phase; (3) Innovation Phase; (4) Innovation Compendium. Recently, a blueprint for urban retrofitting has been developed based on InnovationCity Bottrop and there are plans to translate this publication into English in the near future. A key feature of the innovative project design is the project management structure, involving a broad range of stakeholders such as citizens, politicians, craftsmen and industry / commerce. The project is supported by a private sector board of 62 companies. Furthermore, the project features a scientific board (26 institutions) as well as an inter-ministerial working group. Since its launch, the InnovationCity Management GmbH has facilitated approximately 200 projects, retrofitting residential areas and commercial spaces as well as by launching renewable energy, electric mobility and broader urban development schemes.

OECD

Tadashi Matsumoto focused his presentation on three main points: (1) the organisation's approach to urban green growth; (2) key issues for Asian cities; (3) an overview of urban green growth dynamics in Asia. He emphasised the OECD position that green and growth can go hand-in-hand, seeing no conflict between pursuing economic growth and doing so in a green manner. Moreover, cities are important in the debate on green growth, being both a part of the problem as well as the solution. This is particularly important in Asia, which is vulnerable to climate change and natural disaster, whilst also facing on-going problems such as air pollution. The OECD, therefore, advocates an approach to urban sustainable development that builds upon policy complementarities to achieve sustained growth, social cohesion and environmental sustainability. An integrated policy framework should address and link sectors such as energy, land use/transport, buildings, water, solid waste green goods and services. At the same time, desired outcomes of green jobs and innovation, inclusiveness, climate change adaptation and mitigation, healthier local environment/urban attractiveness must be considered.

An initial study carried out by OECD involved four cities, including Stockholm, Paris, Chicago and Kitakyushu. The OECD is now turning its attention to Asia with the release of a concept paper in June 2014 and city case studies to be completed during 2014-15 covering Bangkok, Hai Phong and Johor Bahru. Knowledge sharing workshops will take place this year in Bangkok (6-7 August) and Tokyo (14-16 October).

Ministry of the Environment, Japan

Japan is supporting leapfrog development, a concept which focuses on the simultaneous achievement of a low-carbon, resource recycling and naturally symbiotic society with economic growth, avoiding the high energy dependency and polluting path previously taken by now-developed countries. Japan is supporting this through the Joint-Crediting Mechanism (JCM) whereby there is an effort to transfer leading low-carbon technologies and experience with mitigation actions. These actions are carried out in cooperation with developing countries and resulting reductions in greenhouses gases GHGs (in the form of credits) are to be used to offset Japan's domestic emissions. Thus far Japan has signed bilateral agreements with 11 countries and funds are being made available to support project conception, development and implementation. Further, 15 feasibility studies have been supported across the Asian region thus far. To pave the way for the project development stage, additional funds have been sourced from JICA and the ADB. Development towards low-carbon cities in Asia is being supported through the development of three platforms – a local government platform, a business platform and a research platform – to ensure a comprehensive approach. The local government platform is particularly crucial as it is the previous

achievements of cities that have made JCM possible. Without continued local government efforts the JCM project could not succeed.

City of Siem Reap, Cambodia

Siem Reap is urbanising swiftly as a result of population and tourism growth. Against this backdrop, local government officials face increasing pressure to develop transport infrastructure (sidewalks, parking lots, signposts, etc.), expand wastewater systems (sewerage and drainage facilities), improve solid waste management (lack of sanitary landfill, public awareness) and address other livelihood issues such as squatting. Cambodia has recently created a Clean City programme to assess the environmental performance of cities. The assessment is informed by data on seven basic indicators, which are further sub-divided for a more detailed assessment (environmental arrangement and management; cleanness; waste management; awareness raising; green areas; health safety, security and urban arrangement; tourism infrastructure and facilities). In order to improve the city's performance on these indicators, Siem Reap has undertaken a variety of solid waste, wastewater, road network, tourism and public service projects. One of the main projects is the EcoMobility project, which aims to alleviate transportation problems by means of park and ride schemes and improved auto-rickshaws licensing and regulation procedures. It is envisaged that the intervention will lead to increased incomes for the drivers, a more reliable service and lower levels of pollution.

City of Batam, Indonesia

Batam is a free trade zone and free port located on an island 20km south of Singapore with an economy focused predominantly on transshipment, trading and services. Batam boasts a great deal of modern infrastructure with nine cargo and sea ports, an international airport as well as comprehensive electricity, road, telecommunications, water and gas networks. Nevertheless, due to dramatic increases in population, Batam is starting to suffer from environmental problems. Moreover, with its limited space, Batam is seeking high technology solutions and, as the population grows from 1.2m to 3m, it aims to develop three new cities for an additional one million inhabitants. A focus on green growth will therefore be vital for the zone's future.

Batam has received a great deal of domestic and foreign investment with a total of USD15.7bn received up to December 2012. Batam has formed a JCM-supported partnership with Yokohama to help strengthen local government capacity. Investment is actively sought and, to encourage further inflows, an integrated investment service unit has been established, providing under-one-roof support for investment licenses and permits. The government of Batam is confident of its attractive investment climate, citing preferential taxation policies, a strategic location, modern infrastructure and a healthy environment as key strengths.

City of Bandung, Indonesia

The representatives of Bandung provided an overview of the city's on-going low carbon city development work. Bandung is the capital of West Java Province and the third largest city in Indonesia. A central tenet of Bandung's low-carbon strategy is the concept of leapfrog development, by which Indonesia aims to develop without the environmental degradation experienced by developed countries in the past. Bandung is very interested in green technology and there are six components to Bandung City's plan – urban green / open space; public street lighting; sustainable solid waste management; wastewater treatment; clean water supply and sustainable transportation. With international support, it is anticipated that urban green open space will increase from 12% (2013) to 23% (2018) and public lighting will be improved from 27,091 (2013) to 36,000 spots (2018). The waste diversion rate to landfill is expected to fall from 69% (2013) to 25% and waste sent to waste-to-energy plants is estimated to reach 35% by 2018. Furthermore, efforts will be made to increase wastewater treatment coverage from 64% (2013) to 74% (2018) by constructing communal septic tanks as well as a sewerage conveyor pipe to connect riverside properties to the city's domestic wastewater plant. Lastly, improvements to the transportation system are being planned to reduce emissions. Projects under consideration include a Mass Rapid Transportation (MRT) system as well as further bike-sharing and pedestrian schemes.

City of Bangkok, Thailand

Bangkok is currently facing a variety of environmental problems which are being addressed in the 12 year Bangkok Development Plan (2009-2020). The plan covers waste reduction and recycling; water quality management; flood control and drainage; global warming mitigation and energy conservation; forest conservation; expansion of green areas; efficient air and noise pollution control. In parallel, there are further plans related to transportation (multimodal transport); better air quality (actions integrated across government and public stakeholders); solid waste management (aiming for 27% final disposal rate by 2026). Bangkok also has drawn up plans to combat global warming through improved traffic management; the promotion of renewable energy; improved building energy consumption / efficiency; improved solid waste and wastewater management; expanded park areas. The city is implementing these plans with a mix of domestic and international support. Other on-going work includes the OECD Green Growth programme in which Bangkok is being assessed over a period of 12 months, with a report being produced giving targeted advice on green growth strategy-making. Bangkok has also recently signed an MOU with Yokohama City on promoting sustainable urban development, to include assistance from both government and private sector stakeholders.

City of Yokohama, Japan

Yokohama presented its past and future city development activities. Yokohama, the largest designated city in Japan, is an international port city near Tokyo. Experiencing rapid growth during the post-war years, Yokohama successfully overcame its environmental problems by adopting six strategic projects in 1965 based on public-private partnerships. The projects initially faced considerable public opposition, but by holding large meetings with up to 6,000 citizens, the Mayor managed to address many concerns and broad approval was eventually secured. Whilst not on the same scale, public meetings are still being held with over 100 citizens attending today. In recent years, work has focused on four projects: the Yokohama Green-Up Plan; Yokohama Smart City Project; Yokohama Partnership of Resources and Technologies (Y-PORT); FutureCity Yokohama. The Yokohama Green-Up Plan aims to improve urban greenery through forest and farmland conservation as well as greenery promotion, paid for through the Yokohama Green Tax. Yokohama has improved the quality of water and coverage of the sewerage system. Yokohama Smart City aims to make Yokohama the world's leading smart city through a Central Energy Management System (CEMS) involving numerous private companies. Y-PORT is an international technical cooperation project based on public-private partnership and drawing on the resources and technology of Yokohama. The FutureCity project aims to create a city beneficial for all its inhabitants through the environment (low-carbon and energy saving technologies), economy and society (with an emphasis on the ageing society problem).

City of Kawasaki, Japan

Satoru Yokota outlined Kawasaki City's recent and historical environmental achievements. Kawasaki City is a medium-sized city located close to Tokyo with a prominent manufacturing sector. Much of the industrial sector is based in coastal areas on reclaimed land. Kawasaki City has created a strong foundation for its current work based on past achievements in improving air and water quality, with sulphur oxide and dioxide levels decreasing substantially, river water quality massively improving and full sewerage coverage being developed. Green plans have been introduced ahead of other cities in Japan, with companies being mandated to provide green spaces in their work areas. Kawasaki City has also created effective policies and plans to address both the environment in general and global warming in particular, which has led to a reduction in greenhouse gas emissions of 18.3% against a 1990 baseline. In recent years Kawasaki City has established Eco-Town, Smart City and Smart Community projects. The Eco-Town was established in 1997 with the purpose of facilitating companies in developing resource recycling production and constructing the Kawasaki Zero Emissions Industrial Park, which is oriented towards waste reuse and recycling. The Smart City strategy aims to create energy efficiency through the use of ICT to assess the city energy, traffic and city planning. The Smart Community project is a pilot

project to help realise this, concentrating on building efficiency through HEMS (Home Energy Monitoring System) and BEMS (Building Energy Monitoring System).

City of Kitakyushu, Japan

Kitakyushu City presented on its environmental achievements and how these have been disseminated across Asia. Kitakyushu City, located in Western Japan, is an industrial city with a population of around 1 million. During a period of rapid post-war industrial development, it became a symbol of pollution but has since successfully reinvented itself as a model green city through partnerships with citizenry, government, academia and the private sector. Kitakyushu's Green Frontier Plan aims to reduce CO₂ emissions by 40% by 2050 along with assisting the Asian Region to reduce emissions by the equivalent of 150% of Kitakyushu's. As of March 2013, Kitakyushu City collaboration with JICA and the Kitakyushu International Techno-cooperative Association (KITA) has involved 7,059 people in 146 countries. Other successful assistance projects include the Dalian (China) Environmental Demonstration Zone leading to a UNEP award, solid waste cooperation with Surabaya, Indonesia, leading to 30% reduction in waste sent to landfill and water supply improvement in Phnom Penh, Cambodia, leading to a reliable supply of potable water and a non-revenue water ratio similar to Japan. Kitakyushu has also been internationally recognised for its achievements through, amongst others, its participation in the OECD Green Cities Programme alongside renowned international cities of Paris, Chicago and Stockholm.

6 Summary of Discussion

In response to a question on how to scale up a project like InnovationCity Bottrop, Johannes Venjakob stated that a framework to transfer the initiative to other cities in Germany is currently under development. He conceded, however, that transferring the project internationally would be very difficult, as socio-economic and political landscapes are so different.

The OECD recognised the vastly different conditions between Asian cities in emerging and developed countries. Nevertheless, there are still ample opportunities for mutual learning in the form of policy development. The city of Stockholm, which is widely known for its innovative approach to green growth, can serve as a good example in this regard. Whilst the city itself is very active in the field, there is very little cooperation with neighbouring cities. Similarly, there is a lack of cooperation between cities and neighbouring provinces in developing countries, such as in the case of Jakarta.

On the role of joint-crediting mechanism (JCM) in facilitating approaches via city-to-city collaboration, it was stressed that seemingly single sectoral problems are often interlinked. City collaboration under JCM therefore can have a much broader scope, with Japanese stakeholders from the private sector and local government practitioners not only supporting partner cities through technology transfer, but also by sharing experience in areas such as environmental management, policy making and education / capacity building.

In response to a representative from Bandung's question regarding how success in Japanese cities could be sustained, a representative from Yokohama answered that accountability and transparency are critical. Illustrating as much, following the initial work in the 1960s by Mayor Asukata, environmental policies became a central issue in elections. For example, citizens actively voiced demands for a sewer system and this could not be ignored by candidates, regardless of their political affiliation. Kitakyushu's elected leadership agreed and underlined that the impetus for the construction of the system came directly from the citizenry.

A representative from Batam asked a question on funding sources for projects and how cities dealt with funding gaps. Yokohama answered that 50 years ago, funding was scarce and the city had to address the issue in a variety of ways, for example, making land available for certain projects at low cost as well as seeking funds from the national government and international sources. Kitakyushu stated that the city has received funding from local taxation, national government and the private sector. Due to the strong support of the citizens the city was able to share the funding burden amongst all stakeholders.

EMPOWERING STAKEHOLDERS AND SPEARHEADING INNOVATION FOR SUSTAINABLE DEVELOPMENT: LESSONS FROM THE FIELD AND FUTURE PERSPECTIVES

PL-12

1 Context/Rationale

The active and meaningful participation of stakeholders is a critical feature of effective governance for sustainable development. The Asia-Pacific Forum for Environment and Development (APFED) Showcase Programme demonstrates the prototype of a regional platform for forging social capacity for achieving sustainable development. Since 2005, the 58 field projects supported under the programme, have provided useful results and valuable lessons achieved with the support of prominent experts and leading research institutes in the region.

This parallel session was intended to promote discussions about ways to empower stakeholders, strengthen the nexus of policy, science and field actions and underscore the need for a regional platform that will enable the stakeholders in Asia and the Pacific to achieve sustainable development in the realms of the post-2015 Development Agenda. The session was co-organised by IGES and the United Nations Environment Programme through its Regional Office for Asia and the Pacific.

2 Objectives

At the parallel session, experts and representatives of the project implementation organisations and research institutes presented their observations on APFED and project achievements, as well as on the need for a regional collaborative platform. The discussions were conducted with the following objectives:

- To highlight the key achievements of the Programme and its projects.
- To propose ways to feed good practices and lessons learned under APFED into the post-2015 development agenda setting and implementation process.
- To articulate possible actions to capitalise upon the achievements to make useful contributions to the process of the Sustainable Development Goals.
- To explore an enhanced regional platform for multi-stakeholder collaboration on sustainable development.
- To exchange views on the modalities to mobilise support and partnership to buttress such a regional platform.



3 List of Speakers

[Welcome Remarks]

Hideyuki Mori President, IGES

[Opening Remarks]

Eisaku Toda Director, International Strategy Division, Global Environment Bureau,
Ministry of the Environment, Japan

[Video Presentation]

APFED Voices from the Ground

[Panel Discussion]

Facilitator:

Masanori Kobayashi Fellow, Graduate School of Environment and Information Sciences,
Yokohama National University

Panelists:

Emil Salim Chairman / Council's Member on Economics and Environmental Affairs at the Advisory Council to
The President, The Republic of Indonesia

Akio Morishima President and Director General, Japan Environment Association /
Special Research Advisor, IGES

Parvez Hassan Senior Advocate, Supreme Court of Pakistan / Senior Partner of Hassan & Hassan (Advocates)

Kaveh Zahedi Regional Director and Representative,
United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)

Intervention by APFED Collaborators (* through video link)

- Agus Syarip Hidayat, Indonesia Institute of Science, Indonesia*
- Chino Gaston, Journalist for GMA 7, Philippines*
- Mahmood A. Khwaja, Sustainable Development Policy Institute (SDPI), Pakistan*
- Manesh Lacoul, APFED Showcase Facility, UNEP*
- Maria Rosario Piquero Ballescas, Toyo University, Japan
- Oleg Shipin, Asian Institute of Technology, Thailand*
- Smriti Felicitas Mallapaty, Freelance Journalist, Nepal
- Suneel Pandey, The Energy and Resources Institute, India*
- Yogesh Gokhale, The Energy and Resources Institute, India*

[Closing Remarks]

Kaveh Zahedi

4 Key Messages

- **Stakeholder empowerment is effective and indispensable to achieve sustainable development. Catalytic support is required in order to instigate stakeholder actions and institutionalise stakeholder groups.**
- **Multi-stakeholder collaboration is effective in resolving the problems of environmental degradation, eradicating poverty, developing sustainable livelihood and upscaling successful undertakings.**
- **Policy development must be facilitated in parallel with the pilot projects that demonstrate the actions effective in achieving sustainable development.**
- **Achievements, lessons learned and recommendations must be demonstrated to support the ongoing process on Sustainable Development Goals and post-2015 development agenda.**
- **Asia and the Pacific must strengthen a regional platform for multi-stakeholder collaboration, and mobilise support from multiple partners including governments, the private sector and NGOs. A "SDG Showcase" Programme could be a way to follow the APFED Showcase Programme and strengthen linkages with ongoing relevant international processes.**

5 Summary of Presentation

Hideyuki Mori underlined the key feature of APFED to promote sustainability policies and actions through the multi-stakeholder and multifaceted approaches. He stated that APFED was launched as a Japanese government initiative in 2001 under the strong leadership of the late Ryutaro Hashimoto, former Prime Minister of Japan. The prominent experts had developed policy recommendations and pursued their implementation through policy dialogues and pilot projects. He expressed his gratitude over the achievements and continuous progress that emanates from APFED activities.

Eisaku Toda emphasised the leading role played by the Ministry of the Environment, Japan (MOEJ) in supporting APFED activities. The MOEJ supported APFED as a follow up to the 2000 Ministerial Conference on Environment and Development in Asia and the Pacific held in Kitakyushu. Over the past decade, APFED has been propagating policy recommendations for achieving sustainable development and supported policy dialogues and field projects in Asia and the Pacific. He expressed his hope that APFED achievements can be capitalised upon in the ongoing processes aimed at sustainable development.

A short video clip was shown which demonstrated the achievements and future challenges of five out of the 58 projects supported since 2005. The APFED Showcase Programme was intended to promote innovation in policy development, technology application, social mobilisation, market development and partnership building. The representatives who have implemented the APFED Showcase projects presented the project achievements and future challenges. The presented projects were (i) a microhydro project in Indonesia, (ii) a household water filtering project (Nadi filter) in Pakistan, (iii) green colleges in India, (iv) environmental right advocacy in China, and (v) wildlife conservation in Pakistan.

Masanori Kobayashi recapitulated the feature of the APFED Showcase Programme in supporting innovative actions at the field level, involving prominent experts and leading research institutes in the region. Questions were posed to the panellists about the lessons learned and ways forward to build upon the Programme achievements.

Emil Salim commended the leadership demonstrated by the Japanese Government. He stated that APFED was instrumental in undertaking assessment and policy recommendations for achieving sustainable development and supported policy dialogues, capacity development and stakeholder empowerment for advancing policy development and field actions in Asia and the Pacific. APFED addressed a wide range of sustainability policy issues ranging from climate change, ecosystem and biodiversity conservation to 3Rs or resource management. He stated that Asia and the Pacific still has unfinished tasks in promoting sustainable development.

Akio Morishima underpinned that the APFED programmes brought together knowledge and ingenuity to forge actions in the region toward achieving sustainable development. He emphasised that the APFED Showcase Programme allowed stakeholders in the region to experiment innovative actions and the leading research institutes to play an advisory role and monitor and evaluate the project. In addition, field actions were useful in catalysing policy and institutional transformation at the national level and creating conditions conducive to achieving sustainable development.

Pavez Hassan stressed the need to facilitate the development of regional and national policy and institutional frameworks on public access to environmental information, participation in decision-making and judicial proceedings. He underlined that there is an impediment in the region to the public access to environmental information, participation in decision-making and judicial proceedings over environmental matters. He advocated the idea of developing an Asia-Pacific regional convention on these access issues.

Kaveh Zahedi, UNEP Regional Director and Representative for Asia and the Pacific highlighted that the APFED Showcase projects demonstrated concrete attempts to resolve environmental degradation,

eradicate poverty and develop alternative sustainable livelihood in Asia and the Pacific. He stated that it is vital to disseminate information on good practices demonstrated under the Programme and to facilitate replication and upscaling of such practices taking into account varying local conditions. It was also suggested that the approach taken by the Showcase Programme was useful in supporting the post-2015 development agenda implementation and one way forward could be a “SDG Showcase” to serve as a follow-up to the APFED Showcase Programme.

Maria Rosario Piquero Ballescas presented a project for promoting environmental education and sustainable livelihood in the protected forest areas in Cebu, Philippines and stated the advantage of field activities in mobilising communities and providing visible benefits. She highlighted that various income generating activities have helped informal settlers in the protected forest areas in complying with the rule of tree protection, halting illegal logging and promoting sustainable livelihood relying on the use of non-timber forest resources. She hoped that some of the good practices demonstrated by other APFED Showcase projects could be replicated in their project site such as the domestic water filtering project in Pakistan.

Smriti Felicitas Mallapaty expressed the usefulness of packaging good practices at the community level for protecting the environment and improving the people's livelihood. She explained that she had visited one of the APFED Showcase projects in Nepal that uses the solar power for drying silk worms. The project demonstrated the renewable energy application in the village that is linked with local productive activities. She suggested that it would be beneficial to combine some other good practices of the Showcase projects in order to facilitate livelihood changes toward sustainability.

Six other speakers participated through the multi-media broadcasting system. Suneel Pandey emphasised that TERI's involvement in project monitoring helped reinforcing its research work. TERI has monitored projects not just in India, but also in neighbouring countries such as Nepal and Sri Lanka. Oleg Shipin underlined that the projects served as useful case studies for research and education and suggested that it would be useful to continue similar undertakings. Manesh Lacoul stated that the APFED Showcase Programme received over 1,000 applications from 51 countries and this was a reflection of the positive response from stakeholders in the region. He accentuated a need for promoting information dissemination and stakeholder involvement in promoting replication of good practice arising from the APFED Showcase projects.

Questions and comments were posed from the audience. Panellists responded by stating that the region still lacks the mechanisms for supporting innovative policy development and field actions in the context of achieving sustainable development. Multi-stakeholders engagement and partnership were also said to be a critical factor for the success of sustainability activities. Universities are important partners in developing human resources and supporting innovating activities toward achieving sustainable development. Future Earth, an international research programme on sustainability provides a useful platform to link field actions with global sustainability. Energy and a question of nuclear power generation require further research and policy dialogues with a view to building a common ground for establishing a sustainable society. Regional endeavours and collaboration require support from the government, but it would be important to mobilise support from the private sector and other non-governmental organisations and partners. It was announced that the revised casebook of the APFED Showcase Programme will be released later this year to support information dissemination and good practice replication.

Masanori Kobayashi, expressed his hope that the multi-stakeholder partnership and movement for promoting sustainability field actions would continue with renewed support by partner organisations. Kaveh Zahedi concluded the discussions by underlining the importance of reinforcing actions in Asia and the Pacific for achieving sustainable development and reassured the readiness and willingness of UNEP/ROAP in supporting endeavours in the region in the pursuit of sustainable development.

ADVANCING EDUCATION AS A GOAL FOR SUSTAINABLE DEVELOPMENT: ON THE ROAD TO NAGOYA - MOVING TOWARDS TRANSFORMATIVE LEARNING FOR SUSTAINABLE LIFESTYLES

PL-13

1 Context/Rationale

On the road to Nagoya and the UNESCO World Conference on Education for Sustainable Development (ESD) in November 2014, IGES and UNE-IAS organised a session aimed at providing a road map for advancing education as a key mechanism in achieving sustainable development. The Nagoya conference will mark the conclusion of the UN Decade of Education for Sustainable Development (DESD, 2005-2014), but it also heralds the launch of two new international programmes. The Global Action Plan (GAP) on ESD will be formalised and launched during this conference as the successor of DESD. Additionally, the Sustainable Lifestyles and Education (SLE) Programme – part of the 10 Year Framework of Programmes on Sustainable Consumption and Production – is intended for launch in Nagoya. With meaningful framing, approaches and strategies, these two programmes could substantially contribute to post-2015 development agenda and the Sustainable Development Goals (SDGs).

2 Objectives

Bringing together ESD experts, the session addressed how transformative learning, social change and transitions to sustainability could be supported through improved educational approaches and the creation of enabling environments for sustainable lifestyles. Additionally, questions on how to best integrate aspects of quality education, ESD learning performance, and global citizenship and peace education into the framing of the GAP on ESD were explored by session discussants and presenters. The panel discussion addressed how these two programmes can meaningfully contribute to the sustainable development agenda. In so doing, the objective of this session was to develop important findings and recommendations that might support the progressive framing of the GAP on ESD and the SLE Programme for realising transformative processes towards sustainable lifestyles.



3 List of Speakers

[Moderator]

Masahisa Sato Tokyo City University

[Opening Remarks]

Asako Toyozumi United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)

[Keynote Speaker]

Danilo Padilla Education for Sustainable Development (ESD) Programme Coordinator /
Liaison Officer, United Nations Educational, Scientific and Cultural Organization (UNESCO) Bangkok

[Speakers]

Paul Ofei-Manu Policy Researcher, Education and Learning for Sustainability,
Integrated Policies for Sustainable Societies Area / Programme Officer, Capacity Development,
Programme Management Office, IGES

Abel Barasa Atiti Research Fellow, United Nations University Institute for
the Advanced Study of Sustainability (UNU-IAS)

Yoshiyuki Nagata Professor, Department of Education, University of the Sacred Heart /
Expert, Monitoring and Evaluation Expert Group on ESD, UNESCO Headquarters

Shepherd Urenje Senior Programme Specialist in Education for Sustainable Development,
Swedish International Centre of Education for Sustainable Development (SWEDESD) at
Uppsala University

[Discussant]

Robert J. Didham Senior Coordinator, Capacity Development and Knowledge Management /
Principal Policy Researcher, Programme Management Office, IGES

4 Key Messages

- The ISAP education session speakers, including UNESCO Bangkok, UNU-IAS, Swedish International Centre of ESD (SWEDESD) and IGES will further collaborate on the implementation of GAP on ESD in order to contribute to the SDGs and the post-2015 Agenda.
- IGES holds firm to the belief that quality education is critical for sustainable development. In pursuing quality education, the focus is on strengthening ESD-based learning performance framed around a holistic and transformative understanding of ESD and empowering learners with the capacities to address the challenges of a sustainable future for all.
- Regional Centres of Expertise (RCEs) on ESD are committed to scaling up action on multi-stakeholder engagement processes within the ESD agenda and accelerating the search for sustainable solutions at the local level to address sustainable development challenges.
- Transformative learning for sustainable lifestyles is crucial for a sustainable future. Youth will be particularly important agents of change through ESD. The holistic approach in Post-DESD needs to focus more on youth groups and the kind of transformative learning that helps strengthens the links between individuals and society.
- SWEDESD has worked toward reorienting and strengthening education and learning, including communities of practice in Africa and Asia. The GAP aims to implement whole-institution approaches, increasing the capacity of facilitators and encouraging local communities to develop community-based ESD programmes.

5 Summary of Presentation

The keynote speaker, Danilo Padilla, introduced his office's ESD related activities. During the last four decades, UNESCO has proposed a series of educational initiatives that touch upon the notion of sustainable development. Based on the results and experience of the DESD implementation in different countries, he emphasised the importance of ESD as an advanced educational concept which improves the quality of education, promotes regional education reform and innovation, enriches the teaching contents of all types of education at all levels as well as effectively promotes the innovation of learning styles. ESD enables people to pay close attention to the actual problems of SD and encourages youths and adults to practice sustainable lifestyles. He expects the World Conference on ESD 2014 in November will summarise the experiences and lessons learnt from DESD implementation and will be an important milestone in the history of ESD which perpetuate the educational reform and innovation globally. He suggested further collaboration regarding the implementation of GAP on ESD so that we contribute to the SDGs and the post-2015 ESD agenda.

The first presenter, Paul Ofei-Manu, elaborated upon how to enhance aspects of quality education. He stressed that strengthening quality education is central to sustainable human development and an important contributor to sustainable development. Achieving enhanced quality education requires a holistic understanding of ESD. He insisted that the focus should be on strengthening ESD-based learning performance framework (LPF). The LPF can be used to assess existing and future ESD cases and offer a concrete guide for implementing sustainability-related projects. He further argued that quality education should be a cornerstone of the GAP on ESD, an SDG education goal, and the post-2015 agenda. Quality education for sustainable development could be significantly enhanced through applying the LPF as a roadmap that illustrates how stronger ESD can promote greater educational quality overall and empower learners to pursue a sustainable future for all.

The second presenter, Abel Atiti, highlighted the roles being played by 129 UNU Regional Centres of Expertise (RCEs) on ESD. The RCEs on ESD supports projects and activities that promote relationships, collaborative learning, networking, systems thinking, and the roles of diversity and flexibility in fostering sustainable communities. The RCEs have reoriented curriculum processes in schools, applied innovative pedagogies, improved learners skills and employability, integrated sustainability into higher education, transformed livelihoods through community engagement and collaboration, and created sustainable neighborhoods. He underlined that the RCEs were committed to the post-2014 ESD Agenda as way to help scale up action through multi-stakeholder engagement processes that equips local communities with the power and responsibility to effect positive change and improve livelihoods.

The third presenter, Yoshiyuki Nagata, spoke about the importance of transformative learning for sustainable lifestyles with an emphasis on youth as change agents. He introduced the notion of HOPE – holistic, ownership-based, participatory and empowering – evaluation framework developed by the Asia-Pacific Cultural Centre for UNESCO. He then remarked on the implementation of this evaluation approach with youth groups after the Great East Japan earthquake and tsunami. He found that youth acknowledged their role as agents of change through ESD. Based upon his other related experiences, he suggested that holistic approaches in post-DESD need to focus more on youths and transformative learning between individual and society.

The featured speaker, Shepherd Urenje shared SWEDESD's challenges and successes in implementing transformative learning for sustainable lifestyles. SWEDESD has worked on reorienting and strengthening education and learning, using innovative methods such as communities of practice in Africa and Asia. He concluded that transformative learning is a crucial tool to guide future action. For the GAP on ESD, SWEDESD aims to implement whole-institution approaches, increase the capacity of facilitators, and encourage local communities to develop community-based ESD programmes.

6 Summary of Discussion

The discussion section, moderated by Robert Didham, investigated each speaker's recommendations for framing the GAP on ESD and the SLE Programme. Danilo Padilla suggested 'good practices' related to quality education, transformative learning and global citizenship can help upscale the GAP on ESD frameworks. Further, the GAP will support SDGs by encouraging full participation across stakeholders and including UNESCO's crucial partnership. Paul Ofei-Manu considered 'quality education' as the most important factor influencing the achievement of various development goals—including but not limited to the current education goal. He also underlined that quality education with an ESD perspective is a strategic investment and will play an important role in achieving the overall sustainable development agenda. In response to the question of how the RCEs – one of the unique models for ESD cooperation and learning – are able to address sustainability issues at both local and global levels, Abel Atiti answered RCEs are the platform where local issues are shared and linked globally. He believes that many of these issues are interconnected – i.e. signs of global citizenship have already begun to appear with RCEs in local areas. On the question of what emerging issues could be considered for achieving quality education for sustainable development framed into the upcoming GAP on ESD, Yoshiyuki Nagata recommended that the HOPE framework can deliver tangible outcomes. Finally, Shepherd Urenje answered a question about the key factors enabling the learning process by pointing to a transition from an approach based on individual learning to one that is based on cooperative group learning for sustainability. Based on his work experience on transformative learning for sustainable lifestyles, interface between theory and practice is crucial – i.e. awareness-raising and multi-stakeholder dialogue are all necessary to move from ideas to implementation. Individual and social learning or self and society are thus strongly interconnected.

Expert Workshops Network Meetings

At ISAP2014, both expert workshops and network meetings were held related to the organisers' research activities.

22 July

9:00-16:30 (7/22-7/23)

The International Partnership for the Satoyama Initiative (IPSI) Case Study Experts Workshop

[Organisers] UNU-IAS/IGES

The Secretariat of the International Partnership for the Satoyama Initiative (IPSI) cooperated with IGES in 2014 to initiate a review of all case studies (CS) under the Partnership to understand the current status of information and accumulated knowledge within IPSI. The review includes an assessment of the existing CS to develop and propose a new framework for the collection and identification of good CS from IPSI members, and to suggest mechanisms for sharing knowledge among and beyond IPSI on the sustainable use of socio-ecological production landscapes and seascapes (SEPLS). To obtain input from experts for the improvement of knowledge-sharing on CS, the IPSI Secretariat organised a Case Study Experts Workshop prior to ISAP.

10:00-17:00

JCM Workshop for Local Governments

[Organiser] Ministry of the Environment, Japan

This workshop aimed to enhance understanding of the Joint Crediting Mechanism (JCM) and exchange information on the roles of JCM and city-to-city cooperation for realising low-carbon and sustainable city development.

24 July

11:00-12:45

LoCARNet Network Meeting "What Does Asia Expect from the Research Community?"

[Organiser] IGES

Low Carbon Asia Research Network (LoCARNet) is an open network of researchers, research organisations and like-minded relevant stakeholders that facilitates the formulation and implementation of science-based policies for low-carbon development in the Asian region. On the occasion of ISAP2014, we organised an informal meeting inviting several global intellectuals and LoCARNet researchers, for a frank exchange on a wide range of issues including how we can generate impacts and deliver our messages to the world in a more effective manner.

13:00-16:00

5th Asian Co-benefits Partnership Advisory Group Meeting

[Organisers] IGES/Ministry of the Environment, Japan

A meeting was held by the Advisory Group to the 5th Asian Co-benefits Partnership to discuss the Work Plan 2014-2015, 2nd ACP White Paper, as well as to focus on extended contribution and collaboration.

14:00-15:00 / 15:30-16:30

Preparatory Meeting for the Discussion on IGES's JCM Capacity Building Activity

[Organiser] IGES

The purpose of this preparatory meeting was to discuss IGES Joint Crediting Mechanism (JCM) capacity building programme.

15:35-17:00

Closed Study Meeting with OECD on Climate Finance

[Organiser] IGES

The purpose of this meeting was for IGES and OECD to share their current research updates on climate finance and future perspectives, aiming to brainstorm on possible joint research and actions, as well as to strengthen institutional cooperation.

25 July

10:00-14:00

The First Working Group of the Integrated Programme on Better Air Quality (IBAQ)

[Organisers] IGES/Ministry of the Environment, Japan

The 1st Working Group of the Integrated Programme on Better Air Quality met to report the latest status of activities on improving air quality that are being taken by each organisation and also discussed milestone setting for this issue.

13:00-16:00

Asia and Pacific Clean Air Partnership (APCAP): The First MOEJ-UNEP Consultation/Project Review Meeting

[Organisers] IGES/Ministry of the Environment, Japan

This meeting was held to report the latest status of APCAP and discuss its project work plan with regards to air pollution reduction in the various partner countries in the Asia Pacific region.

13:30-17:00

Support for Developing Country through Climate Technology Center and Network (CTCN) in Asia

[Organisers] IGES/Ministry of the Environment, Japan

This Expert workshop aimed to introduce a project by IGES, funded by Ministry of the Environment of Japan, to strengthen the role of CTCN in Asia. Views and information were shared on how CTCN hosts operate as a part of the global consortium, and participants identified actions needed to strengthen CTCN's role in Asia.

Closing Discussion

List of Speakers

[Speakers]

Byung-wook Lee President, Korea Environment Institute (KEI)

Kaveh Zahedi Regional Director and Representative,
United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)

Ella Antonio President, Earth Council Asia-Pacific, INC.

Kentaro Tamura Leader / Principal Policy Researcher, Climate and Energy Area, IGES

Eric Zusman Leader / Principal Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES

[Moderator]

Hideyuki Mori President, IGES

At the request of the session moderator, three distinguished panelists – Byung-wook Lee, Kaveh Zahedi, and Ella Antonio – provided their observations and shared points for improvement for ISAP 2014. Following their comments, two senior IGES researchers – Eric Zusman and Kentaro Tamura – introduced two IGES flagship initiatives for the current year as part of the ISAP 2014 Closing Session.



Byung-wook Lee congratulated IGES for organising a successful forum that featured future-oriented discussions, particularly on sustainable development issues. He added that Korea is embracing the conflict between sustainability and development and moving towards a green and creative economy.

Kaveh Zahedi remarked that the forum covered both high-level issues like the SDGs and more practical ones at the community level. He pointed out that ISAP is an important testing ground for ideas and added that IGES has a role to take the post-2015 global development agenda and make it practical.

Ella Antonio noted that ISAP could serve as a platform for indigenous people to contribute to the SDG discourse. She also pointed out that the forum could address technical 'language' barriers among NGOs, academics and development partners.

Eric Zusman highlighted one of IGES's flagship initiatives looking at means of implementation in relation to the SDGs and how the goals can be translated to practical action. Kentaro Tamura highlighted IGES's other flagship initiative on climate change that seeks to provide practical policy recommendations for a post-2020 climate agreement.

Key Messages

- **There is a conflict between sustainability and development and this can be addressed by promoting green growth with innovation across various sectors.**
- **ISAP is an important testing ground for ideas and IGES has a role in taking the post-2015 global development agenda and making it practical.**
- **ISAP could serve as a platform for indigenous people to contribute to the SDG discourse and find a common understanding and language of different development terms and ideas.**
- **IGES launched two flagship initiatives aiming to contribute to sustainable development in Asia and the Pacific. One focuses on the means of implementation on SDGs and the other explores practical policy recommendations for the post-2020 climate regime.**

Special Events

● Exhibition on Research

ISAP2014 held an exhibition and poster display on the main floor with outputs of the latest research activities at IGES and UNU-IAS as well as attractive displays from sponsors and related organisations below.

Exhibiting Organisations

- Ministry of the Environment, Japan
- Kanagawa Prefectural Government
- City of Yokohama
- Kawasaki City
- City of Kitakyushu
- Global Cooperation Institute for Sustainable Cities, Yokohama City University
- Keio University International Program for Environmental Innovators
- Overseas Environmental Cooperation Center, Japan



● Poster Session on IGES's Major Achievements "Vote for the Top Three"

IGES held a poster session highlighting some of IGES's recent major achievements. As a result of voting by ISAP speakers and participants, the following posters were selected as the Top Three.

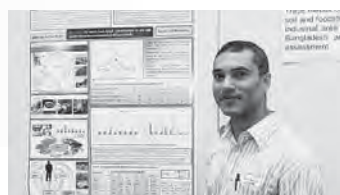
- "Indian Small and Medium Enterprises (SMEs) Apply Japanese Low-carbon Technologies: IGES and Partners Support through Matchmaking and Piloting"
- "Community Based Forest Biomass Monitoring: Training of Trainers Manual"
- "Kitakyushu Urban Centre Low Carbon Activities in Asian Cities"

● Poster Session for Young Researchers

On the occasion of ISAP2014, IGES hosted a poster session to give young researchers and students a chance to participate and exchange views on their research ideas. This year's posters were provided by students from three universities, namely, Yokohama National University, Keio University Shonan Fujisawa Campus and United Nations University, as well as young IGES researchers. Eight posters were submitted and all ISAP audience and speakers were requested to vote for the highest evaluated poster. The awards went to Mr. Md Saiful Islam and Mr. Mohammad Raknuzzaman, Yokohama National University.

Awarded Posters:

- “Trace Metals Contamination in Soil and Foodstuffs around the Industrial Area of Dhaka City, Bangladesh and Health Risk Assessment”
(Md Saiful Islam, Yokohama National University)
- “Concentration of Heavy Metals in Water, Sediment and Some Commercial Fish Species in the Coastal Area, Bangladesh and Health Risk Assessment”
(Mohammad Raknuzzaman, Yokohama National University)



Programme

Parallel sessions and lunch sessions were under three themes below, over two days.

A Low-carbon **B** Resilience **C** Inclusiveness

Wednesday, 23 July 2014

9:30	Opening Session [OP]	
	<ul style="list-style-type: none"> ● Opening Room 503 	
	<ul style="list-style-type: none"> ● Welcome Remarks Hironori Hamanaka Chair of the Board of Directors, IGES Kazuhiko Takeuchi Senior Vice-Rector, United Nations University (UNU) / Director and Professor, Integrated Research System for Sustainability Science (IR3S) The University of Tokyo ● Guest Remarks Soichiro Seki Vice Minister for Global Environment, Ministry of the Environment, Japan Yuji Kuroiwa Governor, Kanagawa Prefectural Government 	
9:50	<ul style="list-style-type: none"> ● Special Message from Jeffrey D. Sachs Room 503 	
	<p>[Speaker via Live Video Link] Jeffrey D. Sachs Director, Sustainable Development Solutions Network (SDSN) / Director, The Earth Institute, Columbia University</p>	
10:00	Plenary Session 1 [P-1]	
	<ul style="list-style-type: none"> ● Accelerating Low Carbon, Resilient and Inclusive Development in the Region: Implications of the IPCC Fifth Assessment Report for Asia Room 503 	
	<p>[Moderator] Hironori Hamanaka Chair of the Board of Directors, IGES</p> <p>[Keynote Speaker & Discussant] Rajendra K. Pachauri Director-General, The Energy and Resources Institute (TERI) / Chair, The Intergovernmental Panel on Climate Change (IPCC)</p> <p>[Speaker] Shuzo Nishioka Secretary General, International Research Network for Low Carbon Societies (LCS-RNet) and Low Carbon Asia Research Network (LoCARNet) / Senior Research Advisor, IGES</p> <p>[Speakers & Discussants] Rintaro Tamaki Deputy Secretary-General and Acting Chief Economist, The Organisation for Economic Co-operation and Development (OECD) Emil Salim Chairman / Council's Member on Economics and Environmental Affairs at the Advisory Council to The President, The Republic of Indonesia Abdul Hamid Zakri Science Adviser to the Prime Minister of Malaysia / Chair, Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) Akimasa Sumi President, National Institute for Environmental Studies (NIES) Ligia Noronha Director, United Nations Environment Programme's Division of Technology, Industry and Economics (UNEP-DTIE)</p>	
12:20	Break	
12:35	Lunch Session 1 [L-1]	
	<ul style="list-style-type: none"> ● Key Messages from IGES White Paper V: How Regional Integration in Asia Can Benefit People and the Environment Room 502 	
	<p>[Moderator] Magnus Bengtsson IGES</p> <p>[Speakers] Satoshi Kojima IGES Henry Scheyvens IGES Abdessalem Rabhi IGES Simon Olsen IGES</p> <p>[Discussant] Ella Antonio Earth Council Asia-Pacific, INC.</p>	
13:45	Break	

14:00		Parallel Session		14:00			
14:00	<p>● Launch of the Japan 2050 Low Carbon Navigator: Navigating toward Low Carbon Societies Room 503 A [PL-1]</p> <p>[Opening Remarks] Nobuhiro Kino Ministry of the Environment, Japan</p> <p>Richard Oppenheim British Embassy Tokyo</p> <p>[Moderator] Hironori Hamanaka IGES</p> <p>[Speakers] Shuzo Nishioka LCS-RNet and LoCARNet / IGES</p> <p>Xin Zhou IGES</p> <p>Jan Ole Kiso UK Department of Energy and Climate Change</p> <p>[Discussants] Kazuo Matsushita IGES / Kyoto University</p> <p>Naoyuki Yamagishi WWF Japan</p> <p>Miho Nakajima Kawasaki Environment Research Institute</p> <p>Masaharu Yagishita Sophia University</p> <p>Shuichi Ashina National Institute for Environmental Studies (NIES)</p> <p>[Closing Remarks] Tsuyoshi Fujita National Institute for Environmental Studies (NIES)</p>	14:00	<p>● Building Resilient Cities in Asia: From Theory to Practice Room 502 B [PL-2]</p> <p>[Moderators] Mitsuru Tanaka Hosei University</p> <p>Toshizo Maeda IGES</p> <p>[Keynote Speaker] Ryutaro Yatsu Ministry of the Environment, Japan</p> <p>[Speakers] Kenshi Baba Hosei University</p> <p>Noriko Sugiyama Nagoya University</p> <p>Akihiro Tokai Osaka University</p> <p>Dickella Gamaralalage Jagath Premakumara IGES</p> <p>[Discussants] Ana Cristina Angulo-Thorlund United Nations Office for Disaster Risk Reduction (UNISDR)</p> <p>Michie Kishigami ICLEI – Local Governments for Sustainability Japan Office</p> <p>Puja Sawhney IGES</p>	14:00	<p>● Bringing SLCPs and PM2.5 into Integrated Air Pollution and Climate Change Strategies in Asia: Linking Science, Models, and Action Room 511+512 A [PL-3]</p> <p>[Moderator & Speaker] Eric Zusman IGES</p> <p>[Speakers] Hajime Akimoto Asia Center for Air Pollution Research (ACAP)</p> <p>Toshihiko Masui National Institute for Environmental Studies (NIES)</p> <p>Hiroshi Fujita Ministry of the Environment, Japan</p> <p>[Discussants] Katsunori Suzuki Kanazawa University</p> <p>Iyngararasan Mylvakanam United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)</p> <p>Kevin Hicks Stockholm Environment Institute (SEI) / University of York</p>	14:00	<p>● Stakeholder Communication for Informed Decisions: Lessons from and for the Displaced Communities of Fukushima Room 413 B [PL-4] [IGES/UNU-IAS Collaborative Session]</p> <p>[Moderator] Kazuhiko Takemoto United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> <p>[Opening Remarks] Kazuhiko Takeuchi United Nations University (UNU) / Integrated Research System for Sustainability Science (IR3S) The University of Tokyo</p> <p>[Discussants] Norio Kanno Iitate Village, Fukushima Prefecture</p> <p>Naoya Sekiya The University of Tokyo</p> <p>Hiroshi Suzuki Fukushima University / Fukushima Prefecture Reconstruction Committee</p> <p>Atsuro Tsutsumi Research Fellow, United Nations University International Institute for Global Health</p>
15:30	15:30	Break		15:30	15:30		
15:45	<p>● International Climate Regime in 2020 and Initiatives in Asia: Mitigation Actions and a Measuring, Reporting and Verification (MRV) System Room 503 A [PL-5] [IGES/NIES Collaborative Session]</p> <p>[Moderator] Naoya Tsukamoto IGES</p>	15:45	<p>● Key Messages from IPCC AR5 and Its Implications in Asia: Future Perspective of Climate Change Policies in Asia through Integration of Mitigation and Adaptation Room 502 B [PL-6]</p> <p>[Opening Remarks] Akio Takemoto Ministry of the Environment, Japan</p>	16:00	<p>● Setting the Direction for Adaptive Development: The Urgent Need to Achieve a Sustainable Asia-Pacific Room 511+512 C [PL-7] [IGES/Keio Univ./TERI Univ. Collaborative Session]</p> <p>[Moderator] Toshiyuki Iwado IGES</p>		

17:15	<p>[Keynote Speakers & Discussants] Vinda Damayanti Ansjar Ministry of Environment, Indonesia</p> <p>Rizaldi Boer Bogor Agriculture University</p> <p>Tsuyoshi Fujita National Institute for Environmental Studies (NIES)</p> <p>[Speaker & Discussant] Kentaro Tamura IGES</p> <p>[Discussant] Yasuko Kameyama National Institute for Environmental Studies (NIES)</p>	<p>[Moderator & Speaker] Taka Hiraishi IGES (Member, IPCC Bureau)</p> <p>[Speakers & Discussants] Yasuaki Hijioka National Institute for Environmental Studies (NIES)</p> <p>Kiyoshi Takahashi National Institute for Environmental Studies (NIES)</p> <p>[Discussants] Jiang Kejun Energy Research Institute (ERI)</p> <p>Isao Endo IGES</p>	<p>[Opening Remarks] Jiro Kokuryo Keio University</p> <p>[Keynote Speaker & Discussant] Kazuo Yamamoto Asian Institute of Technology (AIT) / The University of Tokyo</p> <p>[Speakers & Discussants] Wanglin Yan Keio University</p> <p>Prabhakar SVRK IGES</p> <p>P. K. Joshi TERI University</p>		
-------	--	--	---	--	--

Thursday, 24 July 2014

9:30	Plenary Session 2 [P-2]		
	● Pursuing a Sustainable Society: Sustainable Development Goals (SDGs), Sustainable Lifestyles and Well-being		Room 503
	<p>[Moderator] Hideyuki Mori President, IGES</p> <p>[Keynote Speakers] Shamshad Akhtar Under-Secretary-General of the United Nations and Executive Secretary of the Economic and Social Commission for Asia and the Pacific (UNESCAP)</p> <p>Kaveh Zahedi Regional Director and Representative, United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)</p> <p>Toru Fukushima President, Fukushima / Unite co., Ltd.</p>		
10:30	Break		
10:45	Parallel Session		
	● Financing Low Carbon Technology Transfer for Small-Medium-Enterprises (SMEs): A Match-making Strategy Room 503 A [PL-8]	● Benefits and Challenges of Community Engagement for the Sustainable Use of Biodiversity: Lessons from Participatory Landscape Management under the Satoyama Initiative Room 511+512 C [PL-9]	● Implementing the Sustainable Development Goals (SDGs) in Asia: Toward a Common Language for Governance Room 502 C [PL-10]
	<p>[Moderator] Kazuhisa Koakutsu IGES</p> <p>[Speakers] Yuqing Yu IGES</p> <p>Hidehiro Kitayama MAYEKAWA MFG. CO., LTD.</p> <p>Girish Sethi The Energy and Resources Institute (TERI)</p> <p>Osamu Kawanishi The Organisation for Economic Co-operation and Development (OECD)</p> <p>Shobhakar Dhakal Asian Institute of Technology (AIT)</p> <p>Le Ngoc Tuan Ministry of Natural Resources and Environment, Viet Nam</p>	<p>[Opening Remarks] Wataru Suzuki United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> <p>[Keynote Speakers] Kazuhiko Takeuchi United Nations University (UNU) / Integrated Research System for Sustainability Science (IR3S) The University of Tokyo</p> <p>Toru Fukushima Fukushimaya / Unite co., Ltd.</p> <p>[Moderator] Alfred Oteng-Yeboah Ghana National Biodiversity Committee</p>	<p>[Moderator] Surendra Shrestha United Nations Environment Programme's International Environmental Technology Centre (UNEP-IETC)</p> <p>[Speakers] Simon Olsen IGES</p> <p>Shiv Someshwar Earth Institute, Columbia University</p> <p>Norichika Kanie Tokyo Institute of Technology</p> <p>Tim Cadman Griffith University</p> <p>Ella Antonio Earth Council Asia-Pacific, INC.</p>

12:45	<p>A.M. Monsurul Alam Department of Environment, Government of Bangladesh</p> <p>[Discussants] Takahiro Ueno The University of Tokyo / Central Research Institute of Electric Power Industry</p> <p>Naoki Mori Japan International Cooperation Agency (JICA)</p> <p>Tatsuya Hanaoka National Institute for Environmental Studies (NIES)</p>	<p>[Speakers] Kuang-Chung Lee National Dong-Hwa University</p> <p>Kaoru Ichikawa United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> <p>Hijaba Ykhanbai Environment and Development Association "JASIL"</p>				
12:45	Break					
13:00	<p>Lunch Session 2 [L-2]</p> <p>● Promoting an Integrated Knowledge-Base System for Scientific Low Carbon Development Policymaking in Asia Room 502 A</p> <p>[Moderator & Keynote Speaker] Mikiko Kainuma IGES / National Institute for Environmental Studies (NIES)</p> <p>[Speakers] Jiang Kejun Energy Research Institute (ERI) Ho Chin Siong Universiti Teknologi Malaysia Rizaldi Boer Bogor Agriculture University Bundit Limmeechokchai Thammasat University Jakkanit Kananurak Thailand Greenhouse Gas Management Organization (TGO) Ryu Fukui Asian Development Bank (ADB) Junichi Fujino National Institute for Environmental Studies (NIES) Nguyen Dinh Tuan Ho Chi Minh City University of Natural Resources and Environment Priyadarshi Shukla Indian Institute of Management, Ahmedabad, India</p>		13:00	<p>Roundtable</p> <p>● Harnessing Synergies between Adaptation and Disaster Risk Reduction: Pertinent Issues, Success Cases and the Way Forward Room 413 B</p>		
14:20	Break					
14:35	<p style="text-align: center;">Parallel Session</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="227 1122 563 1818" style="width: 33%;"> <p>● Making Cities More Sustainable in Asia: Bridging Theory and Practice Room 503 A [PL-11]</p> <p>[Moderators] Hiroyuki Kage Kyushu Institute of Technology / IGES</p> <p>Eric Zusman IGES</p> <p>[Speakers] Ryoko Nakano IGES</p> <p>Johannes Venjakob Wuppertal Institute for Climate, Environment and Energy</p> <p>Tadashi Matsumoto The Organisation for Economic Co-operation and Development (OECD)</p> <p>Nobuhiro Kino Ministry of the Environment, Japan</p> <p>So Platong Siem Reap Province, Ministry of Interior, Cambodia</p> <p>Amir Rusli Batam City, Indonesia</p> </td> <td data-bbox="569 1122 911 1818" style="width: 33%;"> <p>● Empowering Stakeholders and Spearheading Innovation for Sustainable Development: Lessons from the Field and Future Perspectives Room 502 C [PL-12]</p> <p>[IGES/UNEP-ROAP Collaborative Session]</p> <p>[Welcome Remarks] Hideyuki Mori IGES</p> <p>[Opening Remarks] Eisaku Toda Ministry of the Environment, Japan</p> <p>[Moderator] Masanori Kobayashi Yokohama National University / Ocean Policy Research Foundation</p> <p>[Discussants] Emil Salim Chairman / Council's Member on Economics and Environmental Affairs at the Advisory Council to The President of Indonesia</p> <p>Akio Morishima Japan Environment Association / IGES</p> </td> <td data-bbox="916 1122 1256 1818" style="width: 33%;"> <p>● Advancing Education as a Goal for Sustainable Development: On the Road to Nagoya – Moving towards Transformative Learning for Sustainable Lifestyles Room 511+512 C [PL-13]</p> <p>[IGES/UNU-IAS Collaborative Session]</p> <p>[Moderator] Masahisa Sato Tokyo City University</p> <p>[Opening Remarks] Asako Toyozumi United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> <p>[Keynote Speaker] Danilo Padilla United Nations Educational, Scientific and Cultural Organization (UNESCO) Bangkok</p> <p>[Speakers] Paul Ofei-Manu IGES</p> <p>Abel Barasa Atiti United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> </td> </tr> </table>			<p>● Making Cities More Sustainable in Asia: Bridging Theory and Practice Room 503 A [PL-11]</p> <p>[Moderators] Hiroyuki Kage Kyushu Institute of Technology / IGES</p> <p>Eric Zusman IGES</p> <p>[Speakers] Ryoko Nakano IGES</p> <p>Johannes Venjakob Wuppertal Institute for Climate, Environment and Energy</p> <p>Tadashi Matsumoto The Organisation for Economic Co-operation and Development (OECD)</p> <p>Nobuhiro Kino Ministry of the Environment, Japan</p> <p>So Platong Siem Reap Province, Ministry of Interior, Cambodia</p> <p>Amir Rusli Batam City, Indonesia</p>	<p>● Empowering Stakeholders and Spearheading Innovation for Sustainable Development: Lessons from the Field and Future Perspectives Room 502 C [PL-12]</p> <p>[IGES/UNEP-ROAP Collaborative Session]</p> <p>[Welcome Remarks] Hideyuki Mori IGES</p> <p>[Opening Remarks] Eisaku Toda Ministry of the Environment, Japan</p> <p>[Moderator] Masanori Kobayashi Yokohama National University / Ocean Policy Research Foundation</p> <p>[Discussants] Emil Salim Chairman / Council's Member on Economics and Environmental Affairs at the Advisory Council to The President of Indonesia</p> <p>Akio Morishima Japan Environment Association / IGES</p>	<p>● Advancing Education as a Goal for Sustainable Development: On the Road to Nagoya – Moving towards Transformative Learning for Sustainable Lifestyles Room 511+512 C [PL-13]</p> <p>[IGES/UNU-IAS Collaborative Session]</p> <p>[Moderator] Masahisa Sato Tokyo City University</p> <p>[Opening Remarks] Asako Toyozumi United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> <p>[Keynote Speaker] Danilo Padilla United Nations Educational, Scientific and Cultural Organization (UNESCO) Bangkok</p> <p>[Speakers] Paul Ofei-Manu IGES</p> <p>Abel Barasa Atiti United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p>
<p>● Making Cities More Sustainable in Asia: Bridging Theory and Practice Room 503 A [PL-11]</p> <p>[Moderators] Hiroyuki Kage Kyushu Institute of Technology / IGES</p> <p>Eric Zusman IGES</p> <p>[Speakers] Ryoko Nakano IGES</p> <p>Johannes Venjakob Wuppertal Institute for Climate, Environment and Energy</p> <p>Tadashi Matsumoto The Organisation for Economic Co-operation and Development (OECD)</p> <p>Nobuhiro Kino Ministry of the Environment, Japan</p> <p>So Platong Siem Reap Province, Ministry of Interior, Cambodia</p> <p>Amir Rusli Batam City, Indonesia</p>	<p>● Empowering Stakeholders and Spearheading Innovation for Sustainable Development: Lessons from the Field and Future Perspectives Room 502 C [PL-12]</p> <p>[IGES/UNEP-ROAP Collaborative Session]</p> <p>[Welcome Remarks] Hideyuki Mori IGES</p> <p>[Opening Remarks] Eisaku Toda Ministry of the Environment, Japan</p> <p>[Moderator] Masanori Kobayashi Yokohama National University / Ocean Policy Research Foundation</p> <p>[Discussants] Emil Salim Chairman / Council's Member on Economics and Environmental Affairs at the Advisory Council to The President of Indonesia</p> <p>Akio Morishima Japan Environment Association / IGES</p>	<p>● Advancing Education as a Goal for Sustainable Development: On the Road to Nagoya – Moving towards Transformative Learning for Sustainable Lifestyles Room 511+512 C [PL-13]</p> <p>[IGES/UNU-IAS Collaborative Session]</p> <p>[Moderator] Masahisa Sato Tokyo City University</p> <p>[Opening Remarks] Asako Toyozumi United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p> <p>[Keynote Speaker] Danilo Padilla United Nations Educational, Scientific and Cultural Organization (UNESCO) Bangkok</p> <p>[Speakers] Paul Ofei-Manu IGES</p> <p>Abel Barasa Atiti United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)</p>				

16:35	<p>Ir. Ayu Sukenjah Bandung City, Indonesia</p> <p>Nuanphan Phawawes Bangkok Metropolitan Administration (BMA)</p> <p>Norihiko Nomura City of Yokohama</p> <p>Satoru Yokota Kawasaki Environment Research Institute</p> <p>Reiji Hitsumoto City of Kitakyushu</p>	<p>Parvez Hassan Senior Advocate, Supreme Court of Pakistan / Senior Partner of Hassan & Hassan</p> <p>[Discussant & Closing Remarks] Kaveh Zahedi United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)</p>	<p>Yoshiyuki Nagata University of the Sacred Heart / Monitoring and Evaluation Expert Group on ESD, UNESCO Headquarters</p> <p>Shepherd Urenje Swedish International Centre of Education for Sustainable Development at Uppsala University</p> <p>[Discussant] Robert J. Didham IGES</p>
16:35	Break		
16:45	<p>Closing [CL]</p> <p>● Closing Room 503</p> <hr/> <p>● Closing Discussion</p> <p>[Speakers]</p> <p>Byung-wook Lee President, Korea Environment Institute (KEI)</p> <p>Kaveh Zahedi Regional Director and Representative, United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP)</p> <p>Ella Antonio President, Earth Council Asia-Pacific, INC.</p> <p>Kentaro Tamura Leader / Principal Policy Researcher, Climate and Energy Area, IGES</p> <p>Eric Zusman Leader / Principal Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES</p> <p>[Moderator]</p> <p>Hideyuki Mori President, IGES</p> <p>● Awards Ceremony of Poster Session</p> <p>● Closing Remarks</p> <p>Hironori Hamanaka Chair of the Board of Directors, IGES</p>		
17:45			

7/23 12:35-13:45
7/24 13:00-14:20
at Room 511+512

**“Fieldwork Presentations from the Asia Pacific Initiative (API)
for Sustainable Development”**

- Kimio Uno Senior Researcher, SFC Research Institute, Keio University
- Aoi Sugimoto Senior Researcher, SFC Research Institute, Keio University

Institute for Global Environmental Strategies

2108-11 Kamiyamaguchi, Hayama, Kanagawa, 240-0115 Japan
Tel: +81-46-855-3700 Fax: +81-46-855-3709
E-mail: iges@iges.or.jp

>> For further details on ISAP2014, please visit:
<http://www.iges.or.jp/isap/2014/en/>

■ Tokyo Office

Nippon Press Center Bldg. 6F,
2-2-1 Uchisaiwai-cho, Chiyoda-ku, Tokyo, 100-0011 Japan
TEL: +81-3-3595-1081 FAX: +81-3-3595-1084

■ Kansai Research Centre

East Building 5F, Disaster Reduction and Human Renovation Institution,
1-5-2 Kaigan-dori, Waki-no-hama, Chuo-ku, Kobe, Hyogo, 651-0073 Japan
TEL: +81-78-262-6634 FAX: +81-78-262-6635

■ Kitakyushu Urban Centre

International Village Center 3F, 1-1-1 Hirano,
Yahatahigashi-ku, Kitakyushu, Fukuoka, 805-0062 Japan
TEL: +81-93-681-1563 FAX: +81-93-681-1564

■ Beijing Office

[IGES Sino-Japan Cooperation Project Office]
Sino-Japan Friendship Center for Environmental Protection, Room #508,
No.1 Yuhuananlu, Chao Yang District, Beijing, 100029 China
E-mail: beijing-office@iges.or.jp

■ Regional Centre

604 SG Tower, 6th Floor, 161/1 Soi Mahadlek Luang 3, Rajdamri Road,
Patumwan, Bangkok, 10330 Thailand
E-mail: regionalcentre@iges.or.jp

■ APN Center

East Building 4F, Disaster Reduction and Human Renovation Institution,
1-5-2 Kaigan-dori, Waki-no-hama, Chuo-ku, Kobe, Hyogo, 651-0073 Japan
TEL: +81-78-230-8017 FAX: +81-78-230-8018

■ Japanese Center for International Studies in Ecology [JISE]

Shinyokohama Daiichi Building 3rd Floor,
2-14-27, Shinyokohama, Kohoku-ku, Yokohama, Kanagawa, 222-0033 Japan
Tel: +81-45-548-6270 FAX: +81-45-472-8810
