

ISAP 2013

International Forum for Sustainable Asia and the Pacific: ISAP
23-24 July 2013



**Paving the Way for a Sustainable Asia-Pacific:
Regional Perspectives on Green Economy**



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

ISAP2013

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Regional Perspectives on Green Economy**



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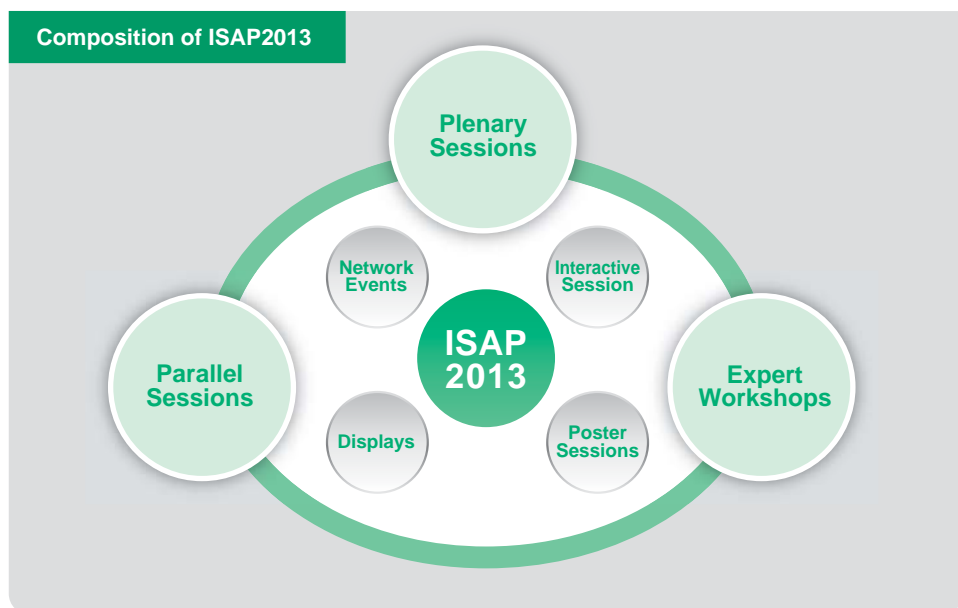
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Professional affiliations and titles are correct at the time of the forum.

What is ISAP?

IGES launched the International Forum for Sustainable Asia and the Pacific (ISAP) in June 2009, to promote discussions on sustainable development in Asia and the Pacific and 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 a major role.

ISAP2013 consisted of the three main components: i) Plenary Sessions, ii) Parallel Sessions, and iii) Expert Workshops. In addition, ISAP2013 had network events, displays for research outputs, poster sessions for university students to show their work, and Interactive Session. All Plenary Sessions were shown live on Ustream and are now available on the IGES YouTube page. This comprehensive structure is designed to allow for opportunities to share information and promote a sustainability agenda in Asia and the Pacific through discussions and networking among participants.



Event Outline

This year marks the 15th year since the establishment of the Institute for Global Environmental Strategies (IGES). The Asia-Pacific region, which is the target for IGES research, has seen some major changes. The region has undergone rapid economic development and is taking the lead in the global economy. One urgent issue is the shift from a conventional growth model to a green economy, as the core to low-carbon development, resource-saving and better well-being.

Under the overall theme of “Paving the Way for a Sustainable Asia-Pacific: Regional Perspectives on Green Economy”, ISAP2013 shared information with various stakeholders on on-going international and regional discussions and actions that promote shifts towards a green economy. Possible pathways that the region could take towards an inclusive green economy were also discussed.

During ISAP2013, the annual meetings of the International Research Network for Low Carbon Societies (LCS-RNet) and Low Carbon Asia Research Network (LoCARNet) were held. These are networks that IGES is deeply involved with and ISAP2013 organised joint sessions with both networks.

ISAP2013 at a glance

Open Sessions

Plenary Sessions

- Green Economy: Perspectives from the Asia-Pacific
- Knowledge Sharing Networks towards Realising Low Carbon Societies
- Pathways towards a Green Economy in the Asia-Pacific

Parallel Sessions

- Green Economy and Economic Integration in the Asia-Pacific Region
- Exploring Reduction in the 3Rs: Improving Resource Efficiency in Asia and the Pacific
- From Experience of Fukushima: To Enhance Local Resilience
 - Disseminating Information on Reconstruction Activities in Fukushima: From the Viewpoint of Local Resilience
 - Preparing against Nuclear Emergencies: Lessons Learnt from Fukushima and Europe
- Structuring a New Climate Regime toward the Two Degree Target
- Low Carbon Policies in Cities and Creation of Business Opportunities
- Potential of City-to-City Cooperation for Low-Carbon Development in Asia: A Case of the Cooperation between Surabaya City and Kitakyushu City
- Green Economy and *Satoyama* Initiative: Building Resilient Societies at Local Level
- Adapting to Climate Change: Experience and Challenges for Asia
- Building a Transformational Post-2015 Development Agenda: Perspectives from Asia
- Creating New Financial Flows: Extensive Diffusion of Renewable Energy through Green Gifts
- Comparison of Reduction Potential in Key Asian Countries for the Two Degree Stabilisation Target

Lunch Sessions

- Mitigating Air Pollution and Climate Change in Asia: Toward an Integrated Approach
- Myanmar Special Session: Challenges and Opportunities for Green Growth

Date	23-24 July 2013 (Tue./Wed.)
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 of Advanced Studies (UNU-IAS)
Collaborators	United Nations Environment Programme (UNEP) United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Asian Development Bank (ADB)
Supporters	Ministry of the Environment, Japan / Kanagawa Prefectural Government / Hyogo Prefectural Government / City of Yokohama / Kawasaki City / City of Kitakyushu / The Energy and Resources Institute (TERI) / National Institute for Environmental Studies (NIES) / 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 Inc. / Nikkei BP Cleantech Institute
Number of Participants	About 900 persons (including related events)

Expert Workshops

- Indicators for Resilience in Socio-ecological Production Landscapes and Seascapes
- Asian Co-benefits Partnership (ACP) 4th Advisory Group Meeting
- Promoting the Application/Transfer of Japanese low Carbon Technologies in Indian SME
- Project on Sustainability Transformation beyond 2015

Interactive Session

Displays for Research Outputs

Student Poster Sessions

Information-Sharing & Discussions

Network Events

- International Research Network for Low Carbon Societies (LCS-RNet) Fifth Annual Meeting
- Low Carbon Asia Research Network (LoCARNet) Second Annual Meeting

Key Messages

Message from the Chair

Chair

Prof. Hironori Hamanaka

Chair of the Board of Directors, IGES

Under the overall theme of “Paving the Way for a Sustainable Asia-Pacific : Regional Perspectives on Green Economy”, the International Forum for Sustainable Asia and the Pacific (ISAP) in 2013 focused on-going international and regional discussions and actions by different stakeholders that promote shifts toward green economy observed in the region. At ISAP2013, there were joint sessions with two networks on low-carbon society development that IGES has been involved with. These are the International Research Network for Low Carbon Societies (LCS-RNet) and the Low Carbon Asia Research Network (LoCARNet). These networks organised their annual meetings at the same timing of ISAP. It was our pleasure to facilitate discussions with experts who joined these networks and strengthen ties with them.

ISAP2013 saw insightful discussions based on practical cases and policy recommendations, which tried to explore challenges for green economy and solutions for the promotion of green economy. Through discussions, we found that long-term and continuous efforts are necessary to promote green economy as well as a low-carbon and resilient society. We also found that concerted efforts of various stakeholders such as governments, research institutes, civil society group and private sectors are needed to address challenges toward green economy. In this regard, we hope to strengthen the function of ISAP as a platform to connect various stakeholders with different backgrounds and facilitate partnerships among them to address sustainable development agenda in the region.

In 2014, IGES plans to publish its 5th White Paper which will address the prospects and challenges of regional integration and will look at the establishment of sustainable society with full consideration of regional development including ASEAN Regional Integration by 2015. Discussion at ISAP2013 will be fully utilised in the production of the White Paper.

I would like to thank our collaborating organisations, the invited speakers and audience members who made ISAP2013 so meaningful. We truly appreciate your kind cooperation and contributions to ISAP.



Opening Remarks

Welcome Remarks

Hironori Hamanaka, Chair of the Board of Directors, IGES

Govindan Parayil, Director, United Nations University Institute of Advanced Studies (UNU-IAS) /
Vice-Rector, United Nations University

Guest Remarks

Ryutaro Yatsu, Vice-Minister, Ministry of the Environment, Japan

Shinji Yoshikawa, Vice Governor, Kanagawa Prefectural Government

Welcome Remarks

Prof. Hironori Hamanaka officially began ISAP2013 with remarks welcoming the invited guests, speakers, panelists and audience members, thanking them for contributing to ISAP. He also expressed his hope that discussions at ISAP2013 would accelerate Asia's transition to a low-carbon, resource efficient and resilient society.

Prof. Govindan Parayil then expressed his gratitude to collaborating and supporting organisations that contributed to making ISAP2013 possible and thanked all participants. He noted that discussions at ISAP2013 would steer the green economy away from the realms of theoretical discussion, and focus on practical aspects of local-level action and implementation.

Guest Remarks

Dr. Ryutaro Yatsu noted leap-frogging for low-carbon society is necessary in Asia and the Pacific, a region which is at the centre of global development. He showed some examples of actions that Japanese government took for low-carbon development domestically and internationally. He expressed his expectation that ISAP2013 would promote discussions on green economy through sharing updated scientific knowledge and exchanges of experiences in different countries.

Mr. Shinji Yoshikawa shared actions taken by Kanagawa Prefecture for environmental protection such as its Local Agenda 21, the first local agenda established by a prefectural government; the Kanagawa Council for Global Environmental Protection that involves local stakeholders in the support for actions of the local agenda; and Kanagawa Smart Energy Plan.



Plenary Sessions

Plenary Session 1

GREEN ECONOMY: PERSPECTIVES FROM THE ASIA-PACIFIC

Objectives

The Asia-Pacific region leads the global economy as a centre of growth, and urgently needs to shift from the traditional twentieth century type of industrial development known as “Brown Economy” to a “Green Economy” underpinned by low-carbon development, improving resource-efficiency and achieving well-being for all including poverty alleviation.

This session provided an overview of ISAP2013 and argued the implications of a green economy for the Asia-Pacific region, in discussion with key note speakers and discussants with diverse backgrounds including international organisations and the private sector. It highlighted the incorporation of sustainability concepts into business practices, local initiatives for smart cities and emerging networks of researchers for low-carbon development.

Economic development has relatively improved people’s daily lives in the Asia-Pacific. However, unsustainable trends continue to be seen in the region, such as significant depletion and degradation of natural resources, increase of greenhouse gas emissions and a large number of people in poverty. Against such unsustainable trends, global and regional discussions and actions have been facilitated, searching for a new paradigm based on human well-being, striking a balance among economic, social and environmental sustainability instead of material affluence, and aiming to pursue growth within planetary boundaries. Through keynote speeches and discussions among eminent speakers with different backgrounds, this plenary session explored the implications of a green economy for sustainable development in the region.



List of Speakers

[Moderator]

Charmine Koda, Journalist

[Key Speakers]

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

Masamitsu Sakurai, Executive Advisor, Ricoh Company, Ltd.

[Discussants]

Rae Kwon Chung, Director, Environment and Development Division, United Nations Economic and
Social Commission for Asia and the Pacific (UNESCAP)

Tomoko Nishimoto, Director, Division of Regional Cooperation (DRC),
United Nations Environment Programme (UNEP)

Key Messages

- Climate change is relevant to green economy, and both mitigation and adaptation issues should be addressed toward green economy.

- Sustainable development, efficient utilisation of resources and protection of the ecosystem, environment and natural resources are key factors toward green economy.

- To promote green economy, the private sector is proactively expected to present models on how to achieve GHG emissions reduction, advance environmentally-sound management and coordinate profits by enhancing enterprise partnership. Clear policy in the direction of green economy by government and a sound understanding from the general public on it are keys to promoting the private sector to work towards achieving green economy.

- It is crucial to invest human and natural capitals (by recognising social and ecological value) and achieve inclusive growth and ecological growth toward sustainable development. Green economy needs fundamental economy system change to swift to energy and resource efficient pattern of growth.

- Further challenges toward green economy are conceptual clarity of green economy, further analysis of macroeconomic link of environmental measures (related to green economy) and a transformational change for green economy with broad partnerships.

Summary of the Session

Rajendra K. Pachauri argued the relevance of climate change to green economy and mentioned that there is an interplay among sustainable development, efficient use of resources and protection of ecosystem, environment and natural resources within the whole issue of green economy. He mentioned that patterns of economic growth should be sustainable and resources would be used at the optimal level if we call for economy green. He said that climate change is unequivocal and the increase of temperature since mid-20th century is most likely to be caused by human activities. He underscored that the impact of climate change is intensified by urbanisation stresses. He mentioned that to address vulnerability to climate change is a key challenge in view of increasing risks of shortage of fresh water and frequent occurrences of floods. He stressed regions in the weakest economic position are often the most vulnerable to climate change and frequently the most susceptible to climate-related damages. He mentioned we should address both mitigation and adaptation issues toward green economy. He highlighted that renewable energy is viable in various settings considering the co-benefits of local pollution control, rural electrification/energy security and rural development.

Masamitsu Sakurai stressed that green economy is an economy which adds values to GHG emissions reduction, and to make the transition to green economy, we need to shift to a low-carbon economy first and then promote investment in potential low-carbon relevant growth areas/activities (green growth). He mentioned that essential elements toward establishing a low-carbon society are sound understanding of and support for low-carbon economy by the general public, while providing policy direction toward green growth and an enabling environment with political leadership, as well as recognition of responsibility of and proactive actions by industries and private companies. He said that companies are in global competition in environmental business and some of them have promoted environmental management. However, business sectors are still conservative due to the fear of losing competitiveness in their business by introduction of policies which increase costs (of production). He mentioned that since 1996 Ricoh has advanced its environmental policies and measures including non-regret policy on climate change and environmental management which achieves both GHG emissions reduction and corporate profits at the same time. He stressed that to promote green economy, the private sector is proactively expected to present models on how to achieve both GHG emission reduction and advance environmentally-sound management and corporate profits by enhancing enterprise partnership. He mentioned that the private





sector must participate in information exchange, technology and system development, and is expected to present proposals and provide support to promote green economy in Asia and the Pacific. He added that enhancing enterprise partnerships is one important direction and the Japan Climate Leaders' Partnership (Japan-CLP) is one of the potential initiatives for this venture.

Rae Kwon Chung shared UNESCAP's view on green economy and sustainable development and mentioned that the definition of green economy is economy to invest natural capital and produce profits. He explained that current economy activities are in a vicious cycle, which exploit natural and human capitals and it is crucial to invest the capitals (by recognising social and ecological value) for sustainable development through inclusive growth and ecological growth. He added that green economy requires a fundamental change in the economy system to switch to an energy and resource-efficient pattern of growth. He mentioned that in order to judge value of green growth, we need to switch from short-term economic cost benefit analysis to more of a long-term perspective.

Tomoko Nishimoto stated that a green economy is one that results in increased human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. She added that a green economy is the economic vehicle for sustainable development and has strategies to end the persistence of poverty. She highlighted the components of green economy approach for Asia are to be done by system innovation approaches which includes four components: changes to consumption and lifestyle habits, urban form, transportation modes, energy production and economic structure; technological improvements; massive green investments; and strengthening existing fiscal and financial instruments. She stressed that further challenges are conceptual clarity of green economy, further analysis of macroeconomic link of environmental measures and a transformational change for green economy with broad partnerships.

In the discussion that followed, Dr. Pachauri stated that to promote carbon offset mechanisms or emission trading systems such as CDM and JI, it is necessary to have further commitments from countries in Kyoto protocol second commitment period and we expect to have a new agreement by 2015. He added that there are policy measures including fuel tax to make renewable energy competitive. Mr. Sakurai then commented on initiatives of the industry sectors toward green economy and stated that although some companies are not positive, most companies could conduct appropriate environmental management, especially after transition to green economy.

P-2: 低炭素社会構築に向けて 「知恵の結集」を世界でどう進めるか

P-2: Knowledge Sharing Networks
towards Realising Low Carbon Societies

Plenary Session 2

KNOWLEDGE SHARING NETWORKS TOWARDS REALISING LOW CARBON SOCIETIES

Objectives

Development of cooperation towards low-carbon growth in East Asia is beneficial both to the region and to the world. Low-carbon societies can be achieved with such cooperation. For the enhancement of the cooperation, the knowledge sharing and capacity development can be a key element for sustainable development and green economy. Therefore, this session focused on the activities and needs for knowledge sharing networks.

Through scientific discussions, global warming has now moved into the implementation stage for mitigation, where emphasis is put on concrete measures and actions on how to reduce GHG emissions. In this regard, it has become popular for both developed and developing countries to come together in “knowledge sharing” and to engage in mutual learning activities, and, in fact, several initiatives of knowledge-sharing networks have emerged in the field of climate change. This session also endeavoured to facilitate discussion on how to consolidate and organise knowledge, and further collaborate with regional knowledge-sharing networks and those concerned towards realising low-carbon societies

List of Speakers

[Moderator & Keynote Speaker]

Bindu N. Lohani, Vice-President, Knowledge Management and Sustainable Development,
Asian Development Bank (ADB)

[Speakers]

Ron Benioff, Director, LEADS Global Partnership / Green Growth Best Practices Initiatives

John Bruce Wells, Head of Secretariat, Asia LEADS Partnership /
Chief of Party, Low Emissions Asian Development (LEAD) program

David Warrilow, Head of Science in the UK's Department of Energy and Climate Change (DECC)

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

Masami Tamura, Director, Climate Change Division, International Cooperation Bureau, Ministry of Foreign Affairs /

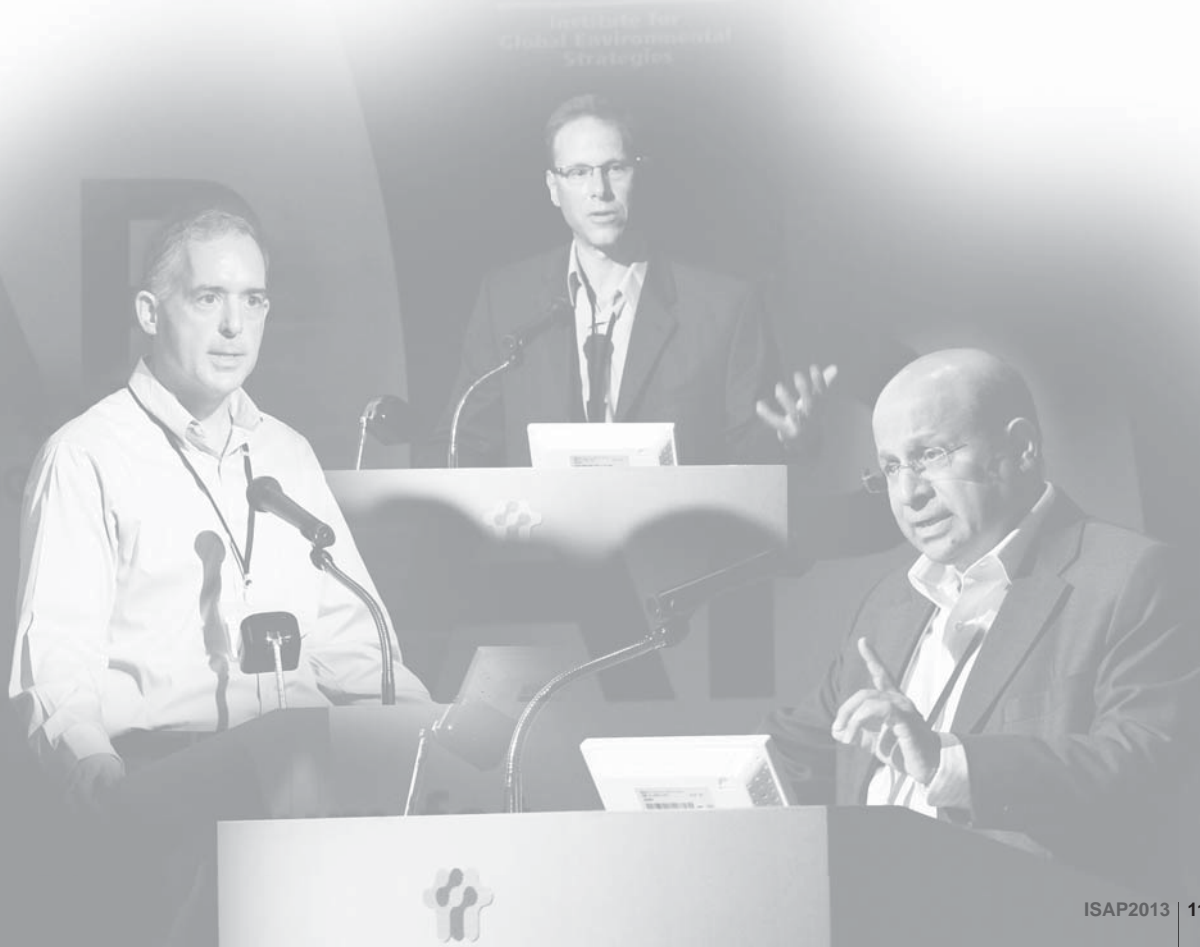
Motoko Nakayama, Deputy Director, Climate Change Division,
International Cooperation Bureau, Ministry of Foreign Affairs

Key Messages

- While knowledge sharing has focused up to now on the distribution of information, the need for information should be identified by asking questions such as what kind of knowledge people are looking for.
- There were many knowledge-sharing networks in the past, but such networks currently are required to share best practice and scale up the successful projects, not only to share knowledge/information.
- In order to scale up climate resilient low-emission development around the world through mobilising and leveraging collective activities, there is a need to harness the collective knowledge and resources of governments, practitioner, researchers, donors and international organisations.

Summary of the Session

Bindu N. Lohani from ADB spoke about the need for knowledge-sharing and innovativeness for structuring and sourcing finance and technology. Knowledge-sharing can support redesigning policies and creating conducive policy and environment to mainstream climate considerations in investments. As one of the potential practical knowledge networks, Ron Benioff and John Well spoke about the LEDS Global Partnership and the Asia LEDS Partnership as a platform to enhance coordination, information exchange and cooperation among countries and international programmes working to advance low-emission





climate-resilient growth. As an initiative in Japan, Motoko Nakayama presented the East Asia Low Carbon Growth Partnership that was launched to realise the benefits of developing cooperation towards low-carbon growth in East Asia. It aims to promote regional cooperation to prevent global warming, complementing the UN system, by sharing experiences and environmental technologies among East Asia Summit (EAS) countries. On the other hand, as tools for knowledge sharing, the usefulness of web-based tools such as the “low-carbon pathway 2050” constructed in the UK was presented by David Warillow. It is a learning aid as well as a policy tool. Such a tool can provide good hands-on capacity for various levels of experts from different countries. For further development capacity in developing countries, Jakkani Kananurak spoke of the need for capacity development. In response to such a need, the initiation of the Climate Change International Technical and Training Center (CITC) has been prepared as a “one-stop technical training center” and networking platform on mitigation and adaptation for ASEAN countries and other developing countries. The mission of CITC is to provide capacity development in the field of climate change mitigation and adaptation, facilitate and promote of Climate Change networking platform, and develop a knowledge hub and information dissemination centre for climate change mitigation and adaptation.

Plenary Session 3

PATHWAYS TOWARDS A GREEN ECONOMY IN THE ASIA-PACIFIC

Objectives

The Asia-Pacific region leads the global economy as a centre of growth, and urgently needs to shift from the traditional twentieth century type of industrial development known as “Brown Economy” to a “Green Economy” underpinned by low-carbon development, improving resource-efficiency, providing values for biodiversity and ecosystem services and achieving well-being for all including poverty alleviation.

ISAP is a good opportunity to discuss various aspects of the challenges and opportunities for promotion of green economy in Asia and the Pacific. Reflecting on two days of discussion at the forum, speakers who have worked on promoting sustainable development in the region debated possible pathways to achieve sustainable development by promoting green economy. This final plenary session summarised discussions at ISAP2013 and argued the way forward to promote green economy to the Asia-Pacific region.

List of Speakers

[Moderator]

Hideyuki Mori, President, IGES

[Key Speakers]

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

Young-Woo Park, Regional Director, United Nations Environment Programme Regional Office for
Asia and the Pacific (UNEP-ROAP)

Peter King, Senior Policy Advisor, IGES Regional Centre



Key Messages

- **It is necessary to mainstream green economy in government policy-making and also look at sustainability in economic considerations for business. An appropriate governance model should be developed for a green economy.**
- **Capacity development especially in developing countries is key to ensuring that policies and instruments for green economy work. It is also essential to fill the gaps in knowledge, capacity and resources, to explore financial mechanisms and educational opportunities, and to improve welfare.**
- **Biodiversity should be considered as the underpinning foundation of a green economy. The implication of green economy for biodiversity conservation is that ecosystems and biodiversity could produce value and generate economic benefits. It is necessary to manage ecosystems and biodiversity to build resilience.**
- **Regional integration must be inclusive, resilient and must ensure conservation of national resources. Connectivity, commerce, commutation and community are elements closely linked with regional integration and sustainable development.**
- **It is necessary to change how we see the situation in Asia and the Pacific. Although the region faces several issues such as biodiversity, climate change, resource limitation and food, those issues should be understood as good opportunities for green growth, and not as constraints.**

Summary of the Session

Dr. Abdul Hamid Zakri commented on the challenges and opportunities for promotion of green economy with conservation of biodiversity and ecosystem services in Asia and the Pacific. Some of the main findings he reported on were that:

- Recent reports have warned that species are disappearing at up to 1,000 times higher than the natural rate of disappearance because of human activities and climate change.
- A green economy is characterised by low-carbon emissions, highly efficient use of resources and social inclusiveness. Green economy cannot replace sustainable development concept; rather, it should complement it by emphasising the importance of improving the sustainability of the global economy.
- Biodiversity should be considered as the underpinning foundation of a green economy since economic activity depends on ecosystem services. The implication of green economy for biodiversity conservation is that ecosystems and biodiversity could produce value and generate economic benefits once markets for ecosystem services and goods are developed.
- Three pathways of biodiversity-based green economy are: managing ecosystems and biodiversity to build resilience; mainstreaming ecosystem values in the economy; and developing an appropriate governance model for a green economy. Healthy ecosystems represent the foundation of a resilient and truly sustainable economy and a stronger appreciation of the role of biodiversity and further investment to strengthen the function are needed. It is essential to change current accounting and planning frameworks to ensure that ecosystem values are reflected in economic decisions and policies, and to invest national capital toward transition to green economy by creation of “green” market and enterprise. Furthermore, the green economy transition should be based on strong governance principles, namely access to information, public participation and horizontal decision-making.

- Strengthening linkage between science and policy at multiple levels is the key to a transition to green economy.

Dr. Young-Woo Park commented on challenges and the way forward to promote green economy in Asia and the Pacific. Some of the main findings he reported on were that:

- Economic growth, rising population and land degradation are recent trends in the Asia-Pacific region. Climate change, energy insecurity, and ecological insecurity are challenges in the region. Widespread environmental degradation endangers ecosystems and freshwater sources resulting in an increase in pollution, and a rising demand for energy, water, and raw material.
- Key suggestions for a green economy from ISAP are to promote: 3R (reduce, reuse, recycle) including resource efficiency; sustainable consumption and production; low-carbon development, transportation, and buildings; a phase-out of fossil fuel subsidies; technology transfer; financial mechanism/assistance; development of renewable resources; and education/changing mind set and behaviour.
- In order to make suggested policies and instruments for green economy work, it is essential to fill gaps of knowledge, capacity and resources in developing countries. In this regard, financial mechanisms need to be developed to close the gaps. It is necessary to shift from a standardised, western governance and institutional system to a customised system, because developing countries all have different cultures. In addition, the welfare of the people should be improved. We should make education available to all because education is a key issue and makes a difference in emerging economies. Technology transfer itself does not work and we need to provide the whole package including capacity to maintain such technology. These could be important elements to further conserve the environment.





Dr. Peter King mentioned some key elements for promoting green economy. Some of the main findings he reported on were that:

- There are many types of regional and sub-regional cooperation for regional economic integration.
- The following four elements (named the 4C) are highly related to regional integration and sustainable development in the region: Connectivity (physical infrastructure to allow inter-regional commerce such as roads, bridges, airports), Commerce (arrangement for regional trade including custom, tariff and others), Commutation (overcoming barriers on different languages and culture in the regions), and Community (results of the above Connectivity, Commerce and Communication to form at shared vision). Regional integration must be inclusive, resilient and conservative to national resources.
- There are also 3C to be potential barriers for regional integration: Corruption, Competition, and Conflict. Regional integration could be advanced by following regional cooperation with right choices in line with the above 4C.

Mr. Hideyuki Mori, President, IGES shared his views of features in the Asia-Pacific region.

- It is necessary to change how we see the situation in the Asia-Pacific region. As Dr. Zakri mentioned, biodiversity and ecosystem services are opportunities, not constraints. Climate change was recognised as burden sharing several years ago yet it tends to be recently viewed as an opportunity for green growth.
- Asia is the most populous region in the world with relatively small availability of national resources. Providing enough food for people would be a burden. However, the relative limitation of resources of the region can be a driver to make Asia innovative and resource efficient.
- Different level of economic development in Asian countries would be a challenge, compared with Europe. Diversity in culture and divisions are potential sources of conflicts. However, these differences should not be understood as challenges, but a source of new idea and innovation and a basis of collaboration through constructive communication.

In the discussion session, Prof. Kazuo Matsushita stated that mainstreaming environmental issues and sustainable development into upstreaming policy areas is quite important, in view of limited consideration of environmental issues and resilience in emerging economic integration and cooperation. He asked how mainstreaming could be promoted. Prof. Ryokichi Hirono then commented that the three results of economic integration are important and need to be discussed further. First, inequality of income distribution is rising. It is important to argue this issue in relation to green economy. Second, unemployment rate of younger generation is high, for example, in Japan and China. Third, environmental awareness has been raised in Asia yet we need to investigate how much environmental management has been improved.

Dr. Zakri then fielded a question from the floor on how to achieve regional integration in biodiversity and ecosystem services in the region. He replied that the remaining unsolved challenges in biological diversity convention are conservation, and sustainable usage and access and benefit sharing to genetic resources. He mentioned that 40 countries have signed the Nagoya Protocol and that further cooperating with and advancing this scheme in the region is the first step to the integration. Dr. Park commented that technology transfer is key issue for green economy. He stated that demand is high for most sophisticated technology but there is a dilemma namely a lack of trust. Therefore step by step approach and customised approach may be appropriate. He pointed out the lack of commitment to environment is a challenge. He mentioned that the official cooperation document on disaster and risk between UN and ASEAN does not include environment considerations in the early stage of preparation and discussion. He then commented on shareholder capitalism, and stated that financial and insurance institutions can participate in sustainable development business by changing their loan policy and this could make difference. He added that a good approach would be to have regulations for those institutions to contribute to green growth. There is limited empirical evidence (of policies and measures) available to be used to promote green economy although possible principles and policies could be introduced. Following this, Dr. King stated that there are lessons learned available to the region. Integrated suitability assessment policies introduced in the United Kingdom are measures to mainstream sustainability in government decision-making. A very few countries have introduced Strategic Environmental Assessment (SEA) yet if all countries adopt it, it could be a powerful tool for mainstreaming in upstream planning. He stated that harmonisation of policies and standards on SEA in the region would be a good approach.

Mr. Mori explained that an IGES publication on green economy would be published in the following year and that discussions at ISAP2013 would contribute to it. Further contributions are also very welcome. He then thanked all participants for their kind attendance.

Parallel/ Lunch Sessions

GREEN ECONOMY AND ECONOMIC INTEGRATION IN THE ASIA-PACIFIC REGION

Objectives

It has been recognised by policy makers in the Asia-Pacific region that the current economic growth model is not sustainable in the long-run. Economic development has relatively improved the economic growth of countries in the Asia-Pacific region however increasing the environmental costs as well. The concept of “green economy” was proposed intensively as one possible model to achieve sustainable economic growth in the Asia-Pacific region. In addition, economic integration among countries in the region has an important role to achieve the sustainable economic growth. The Green Economy Area of IGES organised this session to provide a venue for exchanging views, sharing experiences and proposing initiatives to strengthen the nexus of green economy and economic integration.

This session focused on three key topics; (i) moving towards low-carbon development in Asia; (ii) low-carbon green growth and regional cooperation; and (iii) border carbon adjustment to address the international competitiveness and carbon leakages of countries in the Asia-Pacific region.



List of Speakers

[Moderator]

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

[Speakers]

Venkatachalam Anbumozhi, Capacity Building Specialist, Asian Development Bank Institute (ADBI)

Shuichi Ashina, Researcher, Sustainable Social Systems Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies

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

Key Messages

- For regional cooperation towards resource efficient and low-carbon green growth in Asia, the key messages are (i) establishing a network of regional low-carbon green growth in Asia; (ii) phasing out fossil fuel subsidies and creating a regional carbon market, and (iii) strengthening regional financing mechanisms.
- To move towards low-carbon development in Asia, the key messages are (i) creation of low-carbon transportation and energy-saving buildings; (ii) smart utilisation of resources; (iii) development of a low-carbon energy system using renewables, and (iv) enabling technology transfer and financial mechanisms.
- For broader carbon adjustment (BCA) to address competitiveness and carbon leakages, the key messages are (i) current proposals on BCA measures resulted in a hidden inequality; (ii) the National Inventory Adjustment for Trade (NIAfT) has been proposed to adjust the national inventories of both developed and developing countries, and (iii) regional integration can be the most appropriate platform to address the concerns for green protectionism and free riding through cooperation among all parties to ensure equity as well as environmental and social inclusiveness.

Summary of the Session

Dr. Anbumozhi addressed the issue of regional cooperation for resources-efficient low-carbon green growth in Asia's development challenges/opportunities, patterns of resource consumption and carbon emissions, the development dilemma facing emerging Asia, and the region's current policies for low-carbon society. Asia is already taking actions but still far from optimal. Resources are available, but investment needs to take new directions. Asia's efforts toward developing low-carbon society need new policies at national, sectoral and regional levels. In detail, new policies at national level should combine regulations, policy incentives, carbon price signals, and financing mechanisms to accelerate the transition to a low-carbon green growth economy. The new policies at sectoral level include policies specifically applied for energy, transport, agriculture and forestry, as well as urban sector, industry and trade. In addition, some market-based fiscal instruments are needed to support Asia's effort toward developing low-carbon society. Dr. Anbumozhi provided a framework for dynamic multilevel cooperation for low-carbon growth.

Dr. Ashina focused on the relationship between low-carbon development and green economy. He observed that Asia has sufficient potential for moving forward with low-carbon development. However, Asian economies are both similar and different at the same time. Countries have different natural endowments, cultures, industrial structures, lifestyles, etc. A “one-size-fits-all” option may not be available. However, there are certain commonalities and shared challenges which we can build on to develop a low-carbon society. He provided ten actions toward low-carbon Asia which are related to urban transport, inter-regional transport, resources and materials, buildings, biomass, energy system, agriculture and livestock, forestry and land use, technology and finance and governance. He concluded his presentation with providing several recommendations for accelerating low-carbon Asia. In addition, he also stressed the necessity to formulate leapfrogging development strategies by taking consideration of the needs of Asian countries to address economic and environmental aspects simultaneously.

Dr. Xin Zhou discussed the implications of border carbon adjustment (BCA) for trade and national emissions. Based on her empirical study on Japan's carbon tax regime, she observed that there is an inherent problem with the existing BCA proposals because the exporting countries are required to pay for the carbon costs imposed upon them by the importing countries, but the former do not receive emissions credits in return for it. In her study, she proposed an alternative way which is likely to address the inherent inequality of BCA, the National Inventory Adjustment for Trade (NIAfT) mechanism, which can adjust the national inventories of both exporting and importing countries based on the amount of trade-related emissions. In a case study for the assessment of carbon tax policy in Japan using BCA and NIAfT scenarios, the results showed that there is a strong negative carbon leakage, i.e. a major increase in domestic emissions and a major decrease in other countries when NIAfT is taken into account.



EXPLORING REDUCTION IN THE 3RS: IMPROVING RESOURCE EFFICIENCY IN ASIA AND THE PACIFIC

Objectives

Considering the steep increase in demand and consumption of resources, a shortage of natural resources will soon become one of most important items on the political agenda, in addition to climate change and biodiversity. Therefore, improving resource efficiency is becoming an important policy strategy for Asia, a region which now consumes the largest proportion of resources in the world due to the economic growth that has accompanied industrialisation. Resources are crucial for development at the global level to develop infrastructure as well as produce commodities. However, if we continue to increase the extraction of primary natural resources, we will end up overstepping planetary boundaries. We have to consider how we can limit the use of primary natural resources and how we can use resources more efficiently to meet societal objectives to achieve green growth.

With this background, the session featured discussions of how to shift to sustainable resource use in Asia, considering the potential of 3Rs recyclable resources use as well as dematerialisation at all lifecycle stages of key products and materials. It also addressed how to find opportunities of resource efficiency improvement mainly through recycling by businesses and consumers in the context of industrialising Asia. In addition, we explored far beyond recycling, such as looking at a reduction of natural resource demand and improved governance for sustainable resource management.

List of Speakers

[Moderator]

Yasuhiko Hotta, Leader, Sustainable Consumption and Production Area, IGES

[Keynote Speaker]

Raimund Bleischwitz, Co-Director, Material Flows and Resource Management, Wuppertal Institute

[Speakers]

Shaoyi Li, Head, Integrated Resource Management Unit / Chief, Secretariat of International Resource Panel, United Nations Environment Programme (UNEP)

Chika Aoki-Suzuki, Policy Researcher, Sustainable Consumption and Production Area, IGES

[Discussant]

Kazunobu Onogawa, Senior Fellow, IGES

Key Messages

- **Promoting Resource Efficiency and Resource Reduction through systematic approaches is crucial to achieve decoupling and green growth.**
- **The 3R concept, which was born in Japan, has been recognised as an important tool for achieving resource efficiency.**
- **Linking all sectors and involvement of all actors in the resource chain would be a driving force to improve resource efficiency, leading to reduction.**
- **Issues were raised on the need to consider beyond efficiency and putting a cap on resource consumption to avoid crossing planetary boundaries.**
- **The potential and effectiveness of international collaboration to improve the governance of sustainable resource management was emphasised.**
- **However, the argument was brought up on the need to consider quality of life improvement through resource consumption in developing countries.**

Summary of the Session

Prof. Dr. Raimund Bleischwitz, in his keynote presentation, argued for the importance of international resource policy improvement and recent trends in Europe related to resource-efficient policy development. He then discussed several approaches for policy development including development of policy recommendations for international governance on resource management, and improved transparency of the resource value chain.

Mr. Shaoyi Li provided major messages from the work of IRP. He began his presentation by showing the significance of the AP region in global resource transactions. He then introduced recent findings from IRP, stating that relative decoupling is occurring; the involvement of all actors is necessary for an efficient recycling system; industry can be a driving force for maximisation of resource efficiency. Lastly, he argued that a systematic approach is crucial to address complicated resource linkages.

Ms. Chika Aoki-Suzuki presented various drivers behind the improvement of resource efficiency policy in emerging Asia, with a case study from Indonesia. She discussed that a stable increase in the labour population, outstanding industrialisation, and low penetration of infrastructure and consumer goods are the key drivers to be taken into consideration. Based on the discussion, she argued that prioritised establishment of resource efficient social system would be crucial for the leapfrog type of development in Indonesia.

Mr. Kazunobu Onogawa discussed the need to consider issues beyond efficiency and putting a cap on resource consumption to avoid crossing planetary boundaries. In addition, he questioned the feasibility of achieving decoupling, expressing his consideration that an improved quality of life could be achieved, to a certain extent, through resource consumption in developing countries.

In the panel discussion, presenters discussed the issue of “Beyond 3R, beyond recycling”. Presenters expressed the need for product innovation, systematic type invocation and lifestyle change. They also mentioned that all sectorial decoupling efforts have to be linked on a global scale in order to achieve resource efficiency.

In the Q&A session, Prof. Ryokichi Hirono of Seikei University asked about the substitution effect which could play an important role in resource efficiency improvement and overcoming resource constraints. Prof. Hirono also emphasised the need for resource governance to manage global commons. On resource substitution, Dr. Bleischwitz answered that substitution potential would be fairly limited because of the potential of product design, with a shift from non-renewable to renewable still being limited. Instead, he emphasised that functional thinking (prioritising function rather than consumption) is important. Mr. Li answered that the substitution effect is important and should be considered. However he argued that there needs to be advantages in cost and environmental impact when substitution is applied, showing example of renewable energy which has advantages in terms of energy consumption but also has concerns with regards to increasing material resource consumption. On resource governance, Dr. Hotta agreed on the need for international cooperation on sustainable resource management. The chain of resource use is now globalised. Thus for effective policy intervention on unsustainable resource consumption, it is crucial to have an international collaborative approach between resource extracting and final consuming countries. IGES research work has shown that such international collaboration is not only effective in terms of resource management but has environmental and economic benefits compared to the unilateral approach.

Another audience member asked for comments from the presenters on how to strike a balance between quality of life and resource constraints in developing countries where increasing consumption, drastic urbanisation and a steep increase in population are expected. Mr. Onogawa provided his observation that seeking prosperity within the limits of resources is the right direction for all people. He also said that we have to find the way forward, respecting the strong desire among developing countries for material prosperity.

From Experience of Fukushima: To Enhance Local Resilience

DISSEMINATING INFORMATION ON RECONSTRUCTION ACTIVITIES IN FUKUSHIMA: FROM THE VIEWPOINT OF LOCAL RESILIENCE

Objectives

Natural disasters pose a considerable and growing risk to human security, and therefore to sustainable development as well. The Asia-Pacific region has faced multiple natural disasters in recent years, including the Indian Ocean tsunami (2004), Sichuan earthquake (2008), Pakistan floods (2010), and the triple-disaster (earthquake, tsunami, nuclear accident) in Japan (2011). In addition, there are strong indications that the frequency and severity of extreme weather events will increase as a result of climate change. The Fukushima Global Communication Programme (FGC) developed by the UNU Institute for Sustainability and Peace (UNU-ISP) will take a human security approach, which moves away from the traditional prioritisation of state security to instead place primary focus on the individual. In addition to analysing the human consequences of Japan's March 2011 triple-disaster, the project will provide a platform for consolidating and disseminating information and fostering collaboration between Japanese and international experts.

The session served to introduce the Fukushima Global Communication Programme (FGC), a major new initiative developed by the UNU Institute of Sustainability and Peace (UNU-ISP), and to discuss current activities and the future direction of the programme. A keynote speech provided a broad overview of the FGC Programme and described the main elements of the programme as well as the seven areas of human security described by the 1994 UNDP Human Development report, namely economic security, food security, health security, environmental security, personal security, community security and political security. Subsequently, panelists went into greater detail on (1) how gender is a cross-cutting issue for all seven areas of human security, (2) mental health impacts from disasters, (3) the enabling role the government can play in overcoming challenges and incentivising post-disaster development.



List of Speakers

[Moderator]

Kazuhiko Takemoto, Programme Director, United Nations University, Institute of Advanced Studies (UNU-IAS) / Senior Advisor to Minister of the Environment / Policy Advisor for Global Change Research, University of Tokyo, Integrated Research System for Sustainability Science (IR3S)

[Keynote Speaker]

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

[Panellists]

Satoru Tanaka, Professor, Department of Nuclear Engineering and Management, School of Engineering, The University of Tokyo

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

Madoka Futamura, Academic Programme Officer, Institute for Sustainability and Peace, United Nations University (UNU-ISP)

Key Messages

- **Effective communication, a human security approach and enhanced collaboration with academic institutions and organisations are all crucial for reconstruction activities and enhancing resilience in Fukushima.**
- **UNU is well-positioned to act as a catalyst to support the creation of networks and facilitate sharing of knowledge between international and Japanese experts and researchers.**
- **Knowledge and lessons generated by research under the FGC Programme will be useful not only in the Fukushima context, but can also contribute to enhancing resilience in communities around the world.**

Summary of the Session

The keynote presentation was delivered by Prof. Kazuhiko Takeuchi who introduced the Fukushima Global Communication Programme (FGC), which will seek among other things to establish an environmental framework for understanding the triple-disaster of March 2011 (earthquake, tsunami, nuclear accident), with particular emphasis on human security. This approach will focus specifically on individuals rather than taking a more traditional state-centric approach. The FGC programme will focus primarily on three main areas: (1) compiling information and undertaking research; (2) creating networks and fostering collaboration between Japanese and international experts; (3) communicating information and findings with the international community. To address existing miscommunication and to foster research and collaboration, the programme will convene lectures and international conferences including both Japanese and international experts. In addition, Prof. Takeuchi noted that there has been some level of international distrust regarding information about what is happening in Japan related to the triple-disaster, and that UNU is particularly well-positioned to catalyse effective and precise dissemination of information. A website for this purpose is currently under development, and will also publicly share records from the conferences and lectures planned under the FGC Programme.

Dr. Madoka Futamura explained the importance of incorporating a gender perspective into understanding human security, specifically in relation to sustainable development and the impact of natural disasters. After introducing the seven areas of human security identified by UNDP, Dr. Futamura highlighted how each area connects to a woman's experience and needs during disasters. In addition, she underscored the distinction between 'protection', which implies a top-down approach, and 'empowerment', which corresponds with a more bottom-up approach.

Dr. Atsuro Tsutsumi provided insight into how mental health is impacted by disasters, and its importance for establishing sustainable and resilient communities. Among other things, he emphasised the psychological effects triggered by disasters, and introduced statistics from past disasters in Japan, including the Great East Japan Earthquake and Tsunami. In addition, he explained how mental health issues can be associated with many different disaster-related situations, including the loss of infrastructure (making it difficult to deliver needed pharmaceuticals) and loss of telecommunications (hindering contact with families and friends).

Prof. Satoru Tanaka spoke about many of the infrastructural challenges facing people in the area affected by the nuclear disaster in northeastern Japan. In addition, farmland has been left uncultivated in some areas leading to reduced soil fertility, while populations of animals like wild boar and deer continue to expand unchecked. While recognising the diverse challenges, Prof. Tanaka emphasised the positive role that the government can play in incentivising development and helping people to return home.

The active discussion session began with a journalist's question about the role of the media and the potential mental health effects that negative reporting can carry. Dr. Tsutsumi emphasised the importance of a free press, but also underscored the need for communicating practical information that is immediately useful to those dealing with the disaster. A researcher in the audience referred to the positive role that women can play in disaster recovery, which Dr. Futamura agreed with, while also emphasising the need to respect the different roles that women play in different communities and countries. Prof. Takeuchi responded to an audience question regarding the potential for increased resilience caused by people returning to areas affected by the disasters. Referring to areas where decontamination is still needed, he said that such discussions will need to come at a later stage, but that this was an important point for other tsunami-affected areas. Dr. Tanaka added that incentives should be created for people who are volunteering to return to the disaster-affected areas. In a final round of closing statements, the panellists reflected on current and future collaboration between Japan and the international community. Prof. Tanaka underscored the need for increased cooperation towards overseas dissemination of knowledge and experiences gained in Japan. Adding to this point, Dr. Tsutsumi explained that substantial disaster-related research is being done in Japan, but increased collaborative efforts are needed to effectively disseminate and report these outcomes in English overseas. In closing, Prof. Takeuchi underscored the role UNU can play as a catalyst for promoting such international collaboration, and expressed his hope that lessons learned from Fukushima can provide a useful perspective for other countries facing natural disasters.



From Experience of Fukushima: To Enhance Local Resilience

PREPARING AGAINST NUCLEAR EMERGENCIES: LESSONS LEARNT FROM FUKUSHIMA AND EUROPE

Objectives

In Europe, after the Chernobyl nuclear accident in 1986, many activities and projects have been initiated to support the affected area for rehabilitation, control of contaminated foods and decontamination operations, including the European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery (NERIS platform). Several countries, such as Spain, France, Norway and Slovakia, have implemented emergency preparedness, based on the emergency scenario with relevant stakeholders.

On the other hand, in Japan, after the Fukushima Daiichi Nuclear Power Plant accident, many residents of nearby cities, towns and villages have been forced to evacuate and there have been substantial limitations on their everyday activities, with such evacuations imposed with no planning and no information on SPEEDI (System for Prediction of Environmental Emergency Dose Information).

Thus, based on the lessons learnt from Europe and Fukushima, emergency preparedness for nuclear accidents is crucial to address any possible nuclear accidents in the future and to achieve sustainable development in Japan, Asia-Pacific and the entire world.

This session on “Preparing against nuclear emergencies: lessons learnt from Fukushima and Europe” shared the actual emergency responses to the accident at the Fukushima Daiichi Nuclear Power Plant and presented lessons learnt for what society needs to prepare. It also provided experiences from European countries that have been working with stakeholders on emergency preparedness for nuclear accidents. Discussions centred on clarifying what should be prepared in a nuclear emergency situation based on the Fukushima and European experiences, in order to deal with any possible nuclear accident in the future.

List of Speakers

[Moderator]

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

[Keynote Speaker]

Tamotsu Baba, Mayor of Namie-machi, Fukushima, Japan

[Speakers]

Erich Wirth, Head of Department on Emergency Preparedness, Federal Office of Radiation Protection, Germany

Tatiana Duranova, Mathematician / Emergency Planning Expert, VUJE, Inc., Slovak Republic

Inger Margrethe H. Eikermann, Head of the Section High North, Department of Nuclear Safety and
Environmental Radioactivity, Norwegian Radiation Protection Authority, Norway

[Discussants]

Viktor Averin, Director, Research Institute of Radiology, Belarus

Gilles Hériard-Dubreuil, President, MUTADIS, France

Key Messages

- **Nuclear emergency responses with civic participation are important.**
- **It is necessary to consider measures to deal with nuclear emergencies and also create a roadmap for reconstruction when emergencies occur, in collaboration with decontamination, compensation and livelihood rehabilitation, so as not to repeat the tragedies such as those in Chernobyl and Fukushima.**
- **In Europe, an international network for nuclear emergency was established after the Chernobyl accident. A similar network is necessary in Asia.**
- **Scenario-based emergency preparedness with stakeholder involvement is important.**

Summary of the Session

First of all, Prof. Hiroshi Suzuki highlighted the importance of understanding of the emergency responses to the Fukushima Daiichi Nuclear Power Plant accident in 2011 and also introduced the concept of emergency preparedness for nuclear accidents.

Sharing actual emergency responses:

Mr. Tamotsu Baba provided a keynote speech on “Namie Town’s emergency response to the Fukushima Daiichi Nuclear Power Plant Accident”. At the start of his speech, Mayor Baba described Namie before and after the nuclear accident (detailing what the town has lost), including the severity of damage, and then he spoke about the town’s actual emergency phase including doubts about governance, such as information provided by governments. Challenges remain for Namie, and Mr. Baba emphasised the restoration plans, including rehabilitating the life of each citizen and regeneration of the town.

After that, Dr. Viktor S. Averin added his experience in Belarus after the Chernobyl Nuclear Accident in 1986 that the lack of close communication with its residents might have led to a sense of concern and distrust; it was necessary for governments and scientists to give adequate explanations focusing on the positive aspect of reconstruction.

To provide the practical experience of European countries for emergency preparedness against nuclear accident:

Dr. Erich Wirth made a presentation on “Nuclear Emergency Preparedness in Germany”. Dr. Wirth began by referring to the overall structure of external emergency response with three tasks; 1) evaluation (e.g. evaluation of the radiation situation; presentation of results in standardised maps; and information exchange of the results between institutions), 2) decisions (e.g. reviewing the dose evaluation; comparison with reference levels; decision-making on evacuation and sheltering; and communication with the public) and 3) protective measures (e.g. implementation of measures, such as evacuation and sheltering at the early stage, and decontamination and shielding at the late stage, as well as medical care). Dr. Wirth then introduced Integrated Measurement and Information System (IMIS) with the basic components: Decision Supporting Model (RODOS), Monitoring System, Central Data Bank, Tools for Presentation of Results, and Electronic Situation Display.

Dr. Tatiana Duranova made a presentation on “Experiences of Nuclear Emergency Preparedness in Slovakia with Stakeholder Involvement”. Dr. Duranova indicated that Slovakia has been impacted by the Chernobyl accident but is hosting nuclear activities with four nuclear reactors. She indicated that both management and preparedness processes form the basis for activities related to stakeholder involvement in the area of nuclear or radioactive emergency and post-accident recovery. Dr. Duranova then introduced 1) the EVATECH (Information Requirements and Countermeasure Evaluation Techniques in Nuclear Emergency Management (2001 – 2005)) project in Slovakia; 2) Training Course on Decision Making in Emergency Management; and 3) EURANOS-related activities with stakeholder involvement, including a seminar and facilitated workshop on a Generic Handbook for assisting in the management of contaminated inhabited areas in Europe following a radioactive emergency.

Dr. Inger Eikermann made a presentation on “Post Chernobyl Experience and Nuclear Emergency preparedness involving Stakeholders in Norway”. In Dr. Eikermann’s presentation, she mentioned that Norway was one of the Western European countries most affected, with deposition levels in hot spots reaching 500 kBq/m² and took two approaches: 1) measures in agriculture/food production (food safety) and 2) limit intake by exposed groups (dietary advices in leaflet). As specific examples of stakeholder involvement, Dr. Eikermann mentioned reindeer herders who are engaged in sampling/mapping; authorities, farmers’ and reindeer herders’ unions; food industries etc. involved in this work, and coordination groups on countermeasure R&D and practical implementation.

Mr. Gilles Hériard-Dubreuil made a presentation on “Nuclear Emergency and Post-Emergency Preparedness: The NERIS Framework in Europe”. First of all, Mr. Hériard-Dubreuil described the specifics of a post-nuclear accident situation, as follows: post-accident situations cannot be dealt with using conventional strategies of radiation protection; appropriate actions of protection must be taken by those that perform day-to-day activities in contaminated areas, and so on. Mr. Hériard-Dubreuil then explained the European framework for nuclear accident & post-accident preparedness. For example, local and national entities will develop, in context, specific institutional, legal and technical tools and procedures for radioactive contamination. Mr. Hériard-Dubreuil added that putting radioactive contamination on the agenda of the various entities in society is a very difficult challenge.

After the presentations, the panelists discussed what measures should be taken to prepare for a nuclear emergency situation based on the Fukushima and European experiences, in order to deal with a possible nuclear accident in the future.

In this discussion:

Mr. Tamotsu Baba underlined that Fukushima is no different from the Chernobyl accident and he asked what the lessons have been learnt from the accident. He stressed the necessity of quick information disclosure on radioactive contamination (e.g. seawater as a recent case) by governments and Tokyo Electric Power Co., Inc. (TEPCO). There is still no detailed radiation map. He emphasised that European countries have carried out such activities.

Prof. Hiroshi Suzuki stressed the necessity of active discussion on emergency preparedness for nuclear accidents, as there is little discussion on it in Japan while European countries have implemented the emergency preparedness based on emergency scenarios.

Dr. Viktor S. Averin emphasised how important it was for citizens and scientists to engage in open discussion on the status of radioactive contamination and its risks. He also stated that it was necessary for citizens to gain an understanding of scientists' views and build up a trusting relationship.

There were some questions from floor (Q&A session):

A member of the audience stated that an emergency situation is inherently unpredictable, and asked whether or not emergency preparedness should be considered when the system of emergency response in Europe does not work or when information that must be shared cannot be obtained.

Dr. Tatiana Duranova described a database of all necessary information that has been developed in Slovakia using both electronic and paper media, in order to address such emergency situations.

Dr. Erich Wirth added that technical preparedness is also needed for emergency response, such as technology to measure radiation levels, and decision-making on standards of radiation levels. Dr. Wirth also mentioned that communication with the public is related to psychological factors.

Dr. Inger Eikermann indicated that it is important to prepare countermeasures, including the development of a radiation contamination map. Dr. Eikermann also referred that it is necessary to present people with an option on whether or not to continue to live in the contamination area after the nuclear accident, and whether they can continue to earn their living by farming and fishery.

Dr. Viktor S. Averin stated that it is also important to present basic information about radiation to the public in an easy-to-understand manner because it is very difficult for people to understand radiation units of becquerels (Bq). Dr. Averin also added that it is necessary to give answers on whether or not people can continue to live in the area and grow crops there.

Another member of the audience asked Mr. Gilles Hériard-Dubreuil whether or not it is difficult to promote discussion on risk management given that there are 50 nuclear power plants in France.

Mr. Hériard-Dubreuil specified that it may well be easier to ignore risk management, but it is important for people to promote discussion on risk management and be involved in decision-making for their own sake. Mr. Hériard-Dubreuil also added that active participation of people will result in changes in governance, not only on nuclear emergency preparedness but also post-accident recovery.



STRUCTURING A NEW CLIMATE REGIME TOWARD THE TWO DEGREE TARGET

Objectives

While the international community agreed on the long-term target of holding the increase in global average temperature below two degrees Celsius, achieving such a goal will be tough. This session discussed the future climate change regime with its aim of achieving the two degree target. In current negotiations on the post-2020 regime, the idea of nationally-determined commitments has received a great deal of attention. However, it is critical to establish a mechanism to link nationally-determined commitments and emission reductions required to achieve the two degree target. In addition, since developing countries need to be effectively involved in the post-2020 regime, not only mitigation but also adaptation policies, as well as technological and financial support should be taken into account. Furthermore, it is also critical to have synergy with other international regimes which have significant impact on greenhouse gas emissions.

List of Speakers

[Moderator]

Hironori Hamanaka, Chair of the Board of Directors, IGES

[Speakers]

Toshihiko Masui, Chief, Integrated Assessment Modeling Section, National Institute for Environmental Studies

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

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

Yasuko Kameyama, Head of Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies

Yukari Takamura, Professor, Graduate School of Environmental Studies, Nagoya University

Key Messages

- **The latest scientific research indicates that to achieve the target of two degrees Celsius, GHG emissions should be reduced to half the current level of GHG emissions by 2050. Moreover, those emissions have to be reduced to the minus level by 2080.**
- **There are many topics and agenda items to be discussed in international negotiations on climate change. To structure an international climate regime towards the two degree target, issues identified in the work stream under ADP should be addressed in consideration of the pre-2020 actions and post-2020 regime.**
- **The results of the questionnaire showed that emissions reduction/limitation target setting is an indispensable component of the new agreement. However, the determination of targets is likely to be made in a bottom-up process.**
- **For coordination with other regimes, there will need to be more aggressive approaches and further legal and institutional coordination at the international level.**

Summary of the Session

Dr. Masui focused his presentation on how we could limit the global average temperature increases below two degrees Celsius from the pre-industrial period. To keep below two degrees, it is very important to consider when and how to start the implementation activities. According to IPCC 4th Assessment Report, the temperature will increase by more than 3-4 degrees Celsius if the concentration of GHG level is over 445-490 ppm. To achieve the two degree target, he strongly insisted that GHG emissions should be reduced to half the current level of GHG emissions by 2050. Moreover, those emissions have to be reduced to the minus level by 2080. According to his analysis, Japan will have to reduce GHG emissions per capita from 10 ton-CO₂e/person to 2 ton-CO₂e/person if all countries have the same GHG emissions per capita in 2050. Finally Dr. Masui raised the issues of changes to the development pathway in the future when we limit the global temperature by cutting GHG emissions. He also mentioned some measures to be considered: 1) leap frog development from high GHG society; 2) ambition level to achieve the commitment; 3) green growth, green development, and 4) technology innovation (renewable energy and CCS).

Dr. Tamura's presentation was on the "Overview of Future Climate Regime Negotiations". He explained how the international climate regime has developed since the Bali Action Plan in 2007 at COP13 which set out five building blocks for the post-2012 climate regime. They were: Shared Vision, Mitigation, Adaptation, Technology, and Finance. To structure an international climate regime toward a two degree target, he pointed out that both pre-2020 actions and post-2020 regime are critical. To build momentum, pre-2020 actions should show tangible progress, and also should be operationalised, taking in account its implications for the post-2020 regime. Post-2020 regime should be designed by reflecting pre-2020 institutional development.

Mr. Ueno explained various approaches to set mitigation commitments or contributions, which have been discussed under the ADP. After reviewing the positions held by key negotiation groups on bottom-up (nationally determined) and top-down (internationally determined) approaches, he focused on the hybrid approach which has been proposed by various developed countries. Mr. Ueno explained the sequence of

determining national targets; 1) how parties submit draft commitments; 2) international consultation and assessment of draft commitments; 3) national determination of commitments; 4) enhanced transparency for implementation, and 5) review of collective level efforts. He also raised the issue of post-2020 mitigation commitments and the difficulty in getting international agreement in the “G-zero” world.

Dr. Kameyama introduced the outcomes and implications of her research project “Possible Structure and Components of a Future Climate Regime: implications on debates on the long-term goal”. The purpose of the research is to pursue what kind of future regime could be agreeable in 2015 under the ADP. For that purpose, Dr. Kameyama distributed a questionnaire on various mailing lists, eliciting 100 respondents: 64 from Annex I countries of UNFCCC and 34 from Non-Annex I countries. Many of the respondents were researchers and officials of international organisations. Based on the analysis of answers, she drew implications for achieving the two degree target. The long-term goal should be clearly indicated in the new agreement for a post 2020 regime. This is because emissions reduction/limitation target setting is an indispensable component of the new agreement. However determination of targets is likely to be made in a bottom-up process. In that case, a long-term goal is also indispensable to check the overall emissions gap at the global level, and to discuss how that gap could be closed. Additional measures should then be discussed: sectoral approaches such as bunker fuels and forestry, targeting types of GHGs such as HFCs, and the means to achieve more emissions reduction using finance and technology transfer.

Prof. Takamura argued the importance of enhancing collaboration between the UNFCCC and other international regimes to realise the mitigation potential and to fill the emissions gap. She focused on the discussion on hydrofluorocarbons (HFCs), which are not ozone depletion substances and have not been covered by the Montreal Protocol. HFCs, like greenhouse gases, fall within the UNFCCC and its protocol, but regulation of HFCs has been weak so far. For Annex I countries, HFCs are covered by the Kyoto target, but come under a basket approach. For non-Annex I countries, HFCs are covered by the UNFCCC, but relevant commitments are quite limited. She commented that the recent agreement between China and the United States to cooperate in eliminating HFCs was inspiring. She concluded that dealing with HFCs was not diverting from but adding to the implementation of the Cancun agreements and Kyoto target towards the 2 degree target, and called for more aggressive approaches and further legal and institutional coordination at the international level.

In the discussion section, there were two questions for Dr. Masui. One was about the rationale behind the two degree target, and the other is clarification of the term ‘stabilisation of two degrees Celsius’, since the term seems to be unclear. Dr. Masui answered that the two degree target was set in consideration of possible negative impacts of climate change. The term ‘stabilisation’ of a two degrees Celsius increase may be unclear, but due to the inertia in the climate system there is a risk of going beyond two degrees Celsius after achieving the target within a specific time period. Therefore, the term stabilisation is more appropriate.

One question was directed to Mr. Ueno regarding how the US would consider the indicators to measure the equity and comparability of self-determined commitments. Mr. Ueno responded that the US is not aiming to prohibit other countries from using it, but will allow other countries to use indicators if they wish.

Asked about the efficiency of negotiations among the top 20 GHG emitters, Dr. Tamura answered that because 20% of the countries emit 80% of the GHG, it would be more efficient and effective to have fewer

countries discuss the issue, than trying to reach consensus among over 190 countries. On the other hand, small countries, LDCs, African groups, etc. have made significant contributions to progress and are more vulnerable to the climate change, so these countries should be included. The multilateral approach is important.

Asked about additional findings from the survey, Dr. Kameyama explained that the survey results indicated that the countries would be willing to set quantitative targets. The differentiation of countries may take place not with the number itself but with the conditions and the meaning of those targets, such as the inclusion of the use of oversea offset mechanisms, forest sink, or per GDP target.

Asked on the synergy among different regimes, Prof. Takamura outlined how each regime categorises Parties in a different way, and explained how each regime's financial mechanism works. She suggested that coordination rules among these regimes would be required to create synergy among them.

Prof. Hamanaka closed the session by summarising that further discussions should take place on how to strengthen the climate change regime by 2015 and beyond, how to coordinate with systems outside of the UNFCCC and how the governance structure should be developed.



LOW CARBON POLICIES IN CITIES AND CREATION OF BUSINESS OPPORTUNITIES

Objectives

Half of population in the world lives in Asia and the Pacific. In addition, urbanisation is rapidly growing in the region. People, commodities, services, and infrastructure are more concentrated in cities than ever before. In order for cities to continue meeting the needs of citizens and minimising environmental impacts in and outside urban areas, cities need to transform their policy and regulatory structures into green ones. Cities have the potential to realise this transition, if diverse stakeholders collaborate and if international cooperation occurs at city level. Japanese leading technologies and lessons are highly valuable for developing countries to achieve leapfrog development. In this context, this session explored how to make the transition to green economy possible at city level by inviting six speakers from the city, the central government, the private sector and research organisations. Cases utilising a Joint Crediting Mechanism (JCM) were also introduced as one of the ways to promote such a transition.

This session addressed how to effectively promote city-to-city collaboration involving diverse stakeholders, including municipalities, the central government, the private sector and research organisations. It looked at Japanese environmental technologies and know-how for operation and management in an energy-efficient manner, which can be connected to green economy and growth in the Asia-Pacific region. By introducing cases utilising innovative schemes including the JCM, the session explored how international cooperation at city level can potentially promote leapfrog development for cities in developing countries. Further, the session discussed how to ensure this transition by providing support for the enabling environment including measurement, reporting and verification (MRV) of greenhouse gases.

List of Speakers

[Moderator]

Hidefumi Imura, Senior Fellow, IGES

[Speakers]

Kotaro Kawamata, Director, Office of International Cooperation, Global Environment Bureau, Ministry of the Environment, Japan

Shigenori Jinbo, Group Manager, Fellow, Nikkei BP Cleantech Institute

Tetsuya Nakajima, Director, International Technical Cooperation Division, Policy Bureau, City of Yokohama

Takejiro Sueyoshi, Special Advisor in the Asia Pacific Region, UNEP Finance Initiative

Akira Ogihara, Manager, Project and Research Group, Urban and the Environment Section, Kawasaki Environment Research Institute, City of Kawasaki

Gen Takahashi, Deputy General Manager, Business Development Group, Sales and Marketing Department, Asia Pacific Division, Overseas Business Sector, JFE Engineering Corporation

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

Key Messages

Due to rapidly growing urbanisation in Asia, it is necessary for cities to transform their economies into green and low-carbon oriented ones. Cities are closely connected to citizens, who are also the consumers of economy; therefore, they have the potential to cause societal transition.

Japanese technologies and experiences are highly valuable to achieve leapfrog development in cities. To promote international cooperation between cities, it is crucial for diverse stakeholders to work together not only to transfer green technologies, but also support provision of the enabling environment.

There already exist cases of international cooperation at city level utilising innovative financial support schemes. It is essential to design effective MRV schemes to promote transparency and to ensure accountability.

Summary of the Session

To begin the session, the moderator, Hidefumi Imura raised several points on the importance and potential of international cooperation at city level, noting that views from cities in developing countries are as important as those in developed countries, like Japan.

Kotaro Kawamata introduced the JCM as one of the ways to promote leapfrog development in cities. He said that support in one package, involving diverse stakeholders such as cities, the central government, the private sector and research organisations, is crucial to provide not only the opportunity for technology transfer but ensure an enabling environment. In line with the development and implementation of the JCM, he introduced the launch of several platforms for different stakeholders for information exchange and networking with support from the Ministry of the Environment, Japan.

Shigenori Jinbo stressed that Japanese efficient technologies are highly valuable for use in developing countries. These technologies are linked with experiences in Japan during the period of rapid economic growth, which is similar to the current experience of cities in developing countries. He suggested it is necessary to understand the needs of developing countries and demonstrate the appeal of Japanese technologies more widely.

Tetsuya Nakajima mentioned that it is important for cities in both Japan and developing countries to achieve green growth together. He introduced the Yokohama Smart City Project which is being implemented in cooperation with the private sector, using highly advanced environmental technologies. The project is the first of its kind and any lessons gained will be shared at a later stage.

Takejiro Sueyoshi stated that unless transition from brown to green economy is achieved, it is unlikely that cities will continue providing basic services for citizens in a sustainable way. He emphasised that cities should have the potential to enable such transition, as they are the centre for not only natural capitals but also social and cultural capitals. Cities are also closely connected to citizens, who play an important role in the economy as consumers.

Akira Ogihara introduced cases of international cooperation at the city level with the participation of local industries. These include the organisation of international exhibitions for environmental technologies; provision of support for local companies to extend business overseas; and implementation of a JCM project with the City of Penang, Malaysia.

Gen Takahashi presented a project to install advanced Japanese solid waste management technology in Da Nang City, Viet Nam. He pointed out due to the installation of this technology, landfill sites can now be used up to 2026, which is much longer than otherwise. He pointed out that collaboration among diverse stakeholders, including the City of Kawasaki, was essential to implement this project successfully.

Finally, Kazuhisa Koakutsu touched upon the importance of MRV (measure, report, verify). By introducing MRV for the JCM, he highlighted that its transparency and simplicity are basic features. He noted that it was important to understand the different circumstances of countries and cities, and therefore their needs are key for implementing MRV.

Kotaro Kawamata concluded that city-to-city collaboration is crucial to achieve a green and low-carbon economy. It is possible only if diverse stakeholders work together and such city-to-city collaboration becomes beneficial both for developing countries and Japan. Cities have the potential and can become a driving force to promote the transition to a green economy.

POTENTIAL OF CITY-TO-CITY COOPERATION FOR LOW-CARBON DEVELOPMENT IN ASIA: A CASE OF THE COOPERATION BETWEEN SURABAYA CITY AND KITAKYUSHU CITY

Objectives

With rapid urbanisation throughout the Asian region many local governments are struggling to maintain the environment and create opportunities for all in line with the three pillars of sustainable development. In recent years, city-to-city cooperation has been an effective way of improving the environment through technology transfer and capacity building, with the long standing cooperation between Surabaya, Indonesia and Kitakyushu, Japan being one of the pre-eminent examples within the region. This has led to Surabaya being selected as one of the flagship cities for a feasibility study for the Joint Crediting Mechanism project (JCM) which will help green Surabaya's economy by reducing GHG emissions across Surabaya through cooperation between the Indonesian and Japanese national and local governments as well as the private sector. It is envisioned that the project will not only introduce environmentally-friendly technology and lower emissions but will also boost employment, establishing clear co-benefits and a strong benchmark for similar projects across the region.

This session introduced a city-to-city cooperation model between Surabaya City, Indonesia and Kitakyushu City for low-carbon development in order to use the Joint Crediting Mechanism (JCM) promoted by the Government of Japan. This session intended to share practical measures and policies for reducing GHG emissions in various sectors, including energy, transportation, solid waste, and water supply and wastewater management, at a city level. In addition, the session discussed the constraints and challenges to transfer low-carbon technologies and systems from Japan to other Asian cities in terms of legal, institutional and technical aspects, as well as the advantages of a city-to-city cooperation arrangement to address them.

List of Speakers

[Moderators]

Toshizo Maeda, Leader / Principal Policy Researcher, Sustainable Cities Area, Kitakyushu Urban Centre, IGES
Shiko Hayashi, Programme Manager, Kitakyushu Urban Centre, IGES

[Speakers]

Kotaro Kawamata, Director, Office of International Cooperation, Global Environment Bureau, Ministry of the Environment, Japan

M.Taswin, SE, MM, Mayor's Assistant, Surabaya City

Kengo Ishida, Executive Director, Kitakyushu Asian Center for Low Carbon Society, Environment Bureau, City of Kitakyushu

Motoshi Muraoka, Partner, Senior Executive Manager, Socio & Eco Strategic Consulting Sector, NTT Data Institute of Management Consulting, Inc.

Yasuhiro Nishihara, Senior Managing Director, Nishihara Corporation

Key Messages

- **Private sector can capitalise on the framework provided by established city to city co-operation – the long-standing relationship between Kitakyushu and Surabaya has meant that this project could go straight to the heart of the industrial complex.**

- **Technological transfer should not be the sole focus, but also organisation improvement through capacity building is vital for sustainable change.**

- **Cross-ministerial support is key – both Surabaya and Kitakyushu has been able to leverage support from a variety of ministries.**

- **Long-term co-operation can ensure that although projects will end, new projects and opportunities can be pursued due to long standing relationships built on mutual trust and understanding.**

Summary of the Session

Alongside Ho Chi Minh City, Viet Nam and Iskandar, Malaysia, Surabaya City is one of the three flagship cities of the JCM project which will conduct 17 feasibility studies in 12 cities during this fiscal year. Upon the successful completion of the feasibility study, Japan will provide substantial funds for comprehensive support in order to realise low-carbon city development through cooperation between the Indonesian and Japanese private sector and local and national governments.

NTT Data Institute of Management Consulting Inc. aims to assess the possibility of co-generation and energy conservation through the picking of low-hanging fruits of large energy consumers in buildings, industrial estates and lighting. Generating electricity through the use of waste steam and heat will also be pursued. As the commercial and industrial sectors jointly contribute to more than 50% of GHG emissions in Surabaya it should be possible to achieve large reductions.

Nishihara Corporation has established a pilot waste management project through the creation of a model waste depot which introduced modern waste management techniques by formalising the role of the waste pickers, introducing a conveyor belt for more efficient waste separation and decreasing transportation costs and emissions through re-organising collection arrangements. By introducing these more efficient waste separation and transportation technologies, Nishihara will be able to both create employment and commercial opportunities as well as reducing associated GHG emissions.

Surabaya City aims to create a green city through concentrating on five sectors – green open spaces, transportation, solid waste and wastewater, energy and food security. Green spaces are being increased through the establishment of parks and conservation areas, green rooftop projects and the greening of roadsides; transportation is being improved through car free days, emissions tests and development of mass transport; solid waste and waste water management has been tackled through community based solutions with technical assistance from Japan; energy policies are focusing on both usage reductions and renewables; food security is being improved through support for urban farming. During its 10 year cooperation with Japan, Surabaya has managed to leverage Japanese technology through the commitment of the local people and government to create effective partnerships for change.

Kitakyushu City has been involved with Surabaya City for 10 years, a relationship which has culminated in the establishment of a Green Sister City agreement in November 2012. Kitakyushu City is not simply interested in exports and technology transfer but aims to establish a Low Carbon City development model. The city is well-supported by its citizenry in these efforts and has also managed to leverage substantial support from the national governments.

GREEN ECONOMY AND SATOYAMA INITIATIVE: BUILDING RESILIENT SOCIETIES AT LOCAL LEVEL

Objectives

In times of rapid social and environmental changes, ecosystems can be highly vulnerable, with serious consequences for the local livelihoods and ecological integrity. Options for building resilient societies to respond to external drivers are thus needed. A green economy is one that results in improved human well-being and social equity, while reducing environmental risks and ecological scarcities. The *Satoyama* Initiative aims to conserve sustainable human-influenced natural environments, or Socio-Ecological Production Landscapes and Seascapes (SEPLS) through broader global recognition of their value. Given the advantages of SEPLS, which support subsistence while generating incomes and regulating ecosystem services, this session explored how the *Satoyama* Initiative can contribute to strengthening the resilience of SEPLS and building a green economy at the local level.

Based on experiences under the *Satoyama* Initiative, the session aimed to identify options to build green economies through the sustainable use of SEPLS, and to raise awareness on the need for an integrated approach to a local green economy.

SEPLS reinforce the capacity of societies to cope with disasters from a multi-disciplinary perspective while maintaining functionality of local ecosystems. Thus the management of SEPLS increases resilience not only in the face of frequent disasters, but also gradual environmental changes, and contributes to the development of disaster-resilient communities and societies. Additionally, multi-sectoral partnership can support effective marketing and branding of the diverse agricultural products, obtained from SEPLS and thus improve local economic performance while supporting local biodiversity. Engaging with local stakeholders can support efforts to develop value-added practices characterised by good agricultural practices, ecosystem management and market access.

List of Speakers

[Moderators]

Krishna Chandra Paudel, Secretary, Government of Nepal, Water and Energy Commission Secretariat

Yoko Watanabe, Program Manager and Senior Biodiversity Specialist, Natural Resources Team, Global Environment Facility (GEF) Secretariat

[Keynote Speakers]

Abdul Hamid Zakri, Science Adviser to the Prime Minister of Malaysia /

Chair, Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

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

[Panel Presenters]

Naoya Furuta, Senior Project Officer, Japan Project Office, International Union for Conservation of Nature (IUCN)

Yoshiko Mikasa, Manager, Division of Oriental White Stork and Human Coexistence, Toyooka City



Key Messages

- **Bridging local and traditional knowledge systems with scientific knowledge will be vital for building green economy at the local level.**
- **Adding value to agricultural products based on more sustainable cultivation methods is essential for ensuring the conservation of biodiversity in production landscapes, and can provide incentives for the business sector and consumers to shift to a more sustainable business model.**
- **Local initiatives are important to demonstrate resilience and coexistence with nature, as well as education and sharing of lessons for the wider dissemination of good practices.**
- **There needs to be a paradigm shift towards sustainable ecosystem management, which requires a shift in values and the way we measure them. Eventually a shift from conventional measures such as GDP to a more inclusive measurement of wealth would be needed.**

Summary of the Session

Dr. Abdul Hamid Zakri spoke on the linkages between IPBES and the green economy. He identified the loss of biodiversity as the most important threat facing the world, alerting the audience that not only wild species, but also domesticated species are at risk of extinction. The resulting loss of a range of invaluable ecosystem services will impact activities such as crop production. Dr. Zakri highlighted some good examples of political advances such as the reduction of global pollution, increase in protected areas, increase in recognition of the importance of biodiversity, and growing recognition of the role of indigenous communities, which, he stressed, are needed to secure services essential for human wellbeing. He introduced the role of IPBES, which aims to provide sound science for policy decision-making through prioritisation and identification of key policy measures, regular assessment of biodiversity and ecosystem services, and support for policy formulation and implementation. He highlighted the issue of valuing nature as an important element of discussions in IPBES. He also pointed out that local communities, particularly in the Asia-Pacific region, can serve as microcosms in bridging different knowledge systems to develop solutions that are relevant at local scales.

Prof. Kazuhiko Takeuchi introduced the relationship between SEPLS and the green economy. He explained that it is important to consider biodiversity and ecosystem services as foundations for a green economy. He presented a series of initiatives to shift to a green economy, such as agroforestry in Brazil, where people conserve the environment while obtaining benefits from it through added value to their products. He highlighted three essential elements of SEPLS: building resilience, establishing a new commons through co-management systems between rural and urban populations, and creating new business models based on natural capital. He gave an example from Yunnan, China, where traditional tea forests have shown high resilience to natural disasters like pests and droughts, as well as to economic fluctuations, as they can produce higher quality tea compared to conventional tea plantations. Prof. Takeuchi also provided an example from Japan, where measures are being taken to revitalise rural areas through production of value-added speciality goods and sales in urban areas with support from urban dwellers. He explained that the *Satoyama* Initiative is working with developed and developing country partners to facilitate collective action towards promoting SEPLS.

Mr. Naoya Furuta spoke on ecosystem-based solutions for disaster risk reduction. He pointed out that the number of disasters has been steadily increasing, while the associated economic losses are increasing exponentially, comprising one of the largest obstacles to achieving sustainable development. Mr. Furuta also reminded the audience that the Asian region is one of the most prone to natural disasters, and has high risks in terms of potential human and financial losses. He pointed out that biodiversity and ecosystem services are closely linked to risk reduction, and specifically mentioned wetlands, which contribute to flood reduction, and afforestation, which can help to stabilise sand dunes, but tend to be forgotten in discussions. He highlighted that ecosystems such as well-managed SEPLS are more cost efficient than green infrastructure, and can provide benefits under normal conditions.

Ms. Yoshiko Mikasa introduced the successful development of sustainable agriculture in Toyooka City using habitat conservation of Oriental White Storks as a flagship species. She explained that storks went extinct in Japan due to hunting, loss of nesting trees, overuse of agricultural pesticides, and changes in agricultural practices. For 25 years, Toyooka City has been following a captive breeding programme aimed at eventual release of storks back into the wild. In this process, Ms. Mikasa explained that Toyooka City established a Strategy for Environmental Economy to foster agriculture that allows coexistence with the storks. Under this strategy, efforts were made to promote awareness among consumers and to market sustainably produced rice. The efforts have been successful, with 505 shops across Japan now selling sustainably produced rice from Toyooka City, as well as the replication of similar measures across Japan. There are 83 storks living in the wild now, and they have been observed in 33 prefectures across Japan.

The discussions highlighted the need for a paradigm shift towards sustainable agriculture, and the need for the reduction of harmful subsidies. The participants pointed out that the provision of subsidies for activities that are more sustainable should be encouraged. It was suggested that local governments could try to encourage this transition.

The importance of the business sector in ensuring the sustainability of local activities and agriculture was also highlighted. Businesses would need to adopt a new business model and consumers would need to become more sensitive to sustainably produced goods. Certification and labelling were mentioned as examples of useful tools to promote this. The importance of promoting more sustainable cultivation methods that add value to agricultural products was emphasised as an important strategy for ensuring coexistence of biodiversity and agriculture.

Participants also discussed the potential linkages between the sustainable development goals (SDGs) and biological and cultural diversity. It was suggested that cultural diversity is particularly important for SEPLS, and thus more emphasis should be placed on cultural diversity within discussions on SDGs and green economy. Participants recognised the need to integrate traditional knowledge systems with scientific knowledge systems. It was also suggested that some numerical targets from the Aichi Biodiversity Targets could be reflected in the SDGs.

The positive knock-on effect of local initiatives on neighbouring communities was highlighted through the discussions based on the example of Toyooka City, as good agricultural practices have been seen to be spreading to other cities and prefectures.



ADAPTING TO CLIMATE CHANGE: EXPERIENCE AND CHALLENGES FOR ASIA

Objectives

This session provided both in-country experiences and regional perspectives on addressing and planning for climate change adaptation in the Asia-Pacific region. It allowed participants to exchange lessons learned and share best practices from both developing and developed countries in the region. Discussion was carried out on how climate change adaptation could be further improved with the latest scientific findings of the climate change impacts assessment and the experience from other countries. The discussion further focused on how information and knowledge on adaptation can be shared by countries to develop such strategies.

The session aimed to discuss how Japan can develop its national adaptation strategy with the latest findings of the climate change impacts assessment and the experience from other countries. The discussion further extended how information and knowledge on adaptation can be shared by countries to assist in developing such strategies.

List of Speakers

[Moderator]

Taka Hiraishi, Senior Consultant, IGES (IPCC Inventories Programme Co-chair)

[Speakers]

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

Jeongho Lee, Director, Division of Planning and Water and Cooperation, Korea Adaptation Center for Climate Change, Korea Environment Institute

Takuya Nomoto, Deputy Director, Research and Information Office, Global Environment Bureau, Ministry of the Environment, Japan

[Panelists]

Monthip Sriratana Tabucanon, Senior Adviser, Senate Commission on Natural Resources and Environment, Office of the Parliament, Thailand / Director, Climate Change Research Center, National Research Council of Thailand

Huicheul Jung, Research Fellow, Korea Adaptation Center for Climate Change, Korea Environment Institute

Ajaya Mani Dixit, Executive Director, Climate Change Adaptation, Institute for Social and Environmental Transition-Nepal

Prabhakar SVRK, Task Manager, Adaptation, Natural Resources and Ecosystem Services Area, IGES

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

Key Messages

- **Building resilient human, natural environments is an important objective of green economy and adaptation to climate change can help achieve this. Though the research has proven early adaptation to be cost effective, notwithstanding the several advances made to date, large gaps still exist in policy development and implementation.**
- **Several important lessons can be drawn from the local-level experience that emphasised the need for greater links between policy making and science, in particular vulnerability assessment, public participation and a need for greater understanding of concepts such as risk and vulnerability.**
- **Networks play an important role in sharing good practices, experiences and scientific knowledge to relevant stakeholders and in building capacity for better adaptation planning.**

Summary of the Session

Dr. Kiyoshi Takahashi began by stating that there are several areas of research on costs of inaction/ benefits of climate policy, projections of impacts considering future socio-economic development, evaluation of adaptation options, projections of impacts of extreme events, communication of uncertainties in impact projections, economics of adaptation and detection and attribution of observed impacts. Findings from this series of research include the higher adaptation costs in Asia compared to other regions. This shows the importance of collaboration among Asian countries in order to tackle significant costs on adaptation. However, he stated that there are still gaps between science understanding and needs from policy makers. Linkage between climate projection and assessment research community is also important. He added that further efforts seem to be necessary in order to fill these gaps and such efforts include downscaled climate change scenarios, socio-economic scenarios both top-down (downscaled) scenarios and bottom-up scenarios, public archive system for storing and sharing the data, collaborative research for developing and sharing tools and methods for impact analyses, menu of adaptation options including ones for indigenous people, successful and failure case studies.

Dr. Jeongho Lee outlined the various impacts of climate change in South Korea has been observed, including 1.8°C temperature rise for the last 100 years and 22cm sea level rise over past 40 years. These changes cause issues such as increase in incidence rates of infectious diseases, damages from extreme events and shifts of cultivation areas. Future prediction shows further temperature rise will be 3.2 degree Celsius by 2050 and changes on seasonal patterns. Thus, future climate change impacts are predicted to increase. In order to adapt to climate change impacts, he mentioned that the Framework Act on Low Carbon, Green Growth that was approved in 2009 and the National Adaptation Plan, established in 2010. The Adaptation plan was established based on the future climate change forecast, impacts and vulnerability assessment and measures on relevant sectors. He added that measures include establishing a responding system from forecast to recovery as well as expanding partnerships with local governments, private sector and global communities. Measures are also conducted in each sector such as health, agriculture water management, disaster management, ecosystem/forest conservation, land/coastal area as well as industry and energy.

Dr. Takuya Nomoto talked about the rise of average temperature during last 100 years was 1.15 and further increase of temperature is projected. Predicted future impacts from climate change includes increase of floods, decrease of coral habitat, negative impacts on rice quality and health issues such as dengue fever. He mentioned the countermeasures on adaptation taken by the Ministry of the Environment,

Japan (MOEJ) including research projects namely the Project for Comprehensive Projection of Climate Change Impacts (2005-09) and Comprehensive Research on Climate Change Impact Assessment and Adaptation Policies (2010-14). Furthermore, the MOEJ established the “Expert Committee on Climate Change Impact Assessment” under the Central Environmental Council in July 2013. The committee will conduct detailed projections of climate change in Japan, assessment on climate change impacts and analysis on risk information. This information will be summarised by 2015 and will be utilised for extraction of priority areas/issues in short-term (- 10 years), middle-term (10-30 years) and long-term (30-100 years) as well as for reviews at relevant ministries. Dr. Nomoto stated that, based on these activities, the government of Japan will develop an adaptation plan as a government-wide integrated effort in 2015. This plan will be reviewed every 5 years. He then added that some prefectures such as Nagano, Kyoto, Saitama, Mie, Kumamoto, Okinawa have their own local adaptation measures.

Dr. Monthip Sriratana Tabucanon gave a presentation in which she stated that climate change in Thailand significantly and adversely affects the country’s water resources, marine and coastal ecosystems, forest, biodiversity and agricultural systems, and these changes will affect socio-economic development. She introduced the fact that Thailand is in the process of developing National Adaptation Plans (NAP) to facilitate the integration of climate change adaptation into relevant new and existing policies, programmes and activities. The planning process of NAP is designed to offer the central and local governments an opportunity to work towards transformational change in their capacity to address adaptation. A medium to long-term approach is necessary to reduce vulnerability to the adverse effects of climate change, and that approach must be integrated with national development planning processes and strategies. She stated that the formulation of NAP consists of laying the groundwork and addressing gaps, indicating preparatory elements, and implementation strategies, as well as reporting, monitoring and review. She showed a flow chart indicating the process to achieve endorsement of NAPs which involves various entities with separate responsibilities that must work together. These are: 1) cabinet/senate/parliament, 2) national climate change committee, 3) technical committee, 4) focal point & supporting institutions, 5) departments & ministries, and 6) public, civil society and private sector. Finally, she mentioned that Thailand has also set up the Thailand Climate Change Research Strategy (2013-2017), looking into autonomous adaptation at the community level and assessment of planned responses to climate adaptation and mitigation needs.

Dr. Huicheul Jung commented on local government action plans for climate change adaptation that have been established under the national plan. He stated that the Ministry of Environment, Korea (MOEK) is coordinating the whole process and the Korea Adaptation Center for Climate Change (KACCC) functions as a national task force. Information such as climate change scenarios and vulnerability assessment is provided to local governments through the KACCC to assist them in making policies and implement projects. He outlined some of the lessons from local activities including good coordination among relevant ministries, local governments and the private sector based on the national plan. He added that adaptation can be improved based on strategic coordination and prioritization.

Dr. SVRK Prabhakar (presenting on behalf of Dr. Ajaya Dixit) commented that Nepal has diversified geographical conditions and climate change impacts should be tackled at the local level keeping in view the local contexts. Considering this, local adaptation planning was initiated in Nepal, taking into consideration local vulnerability contexts and carrying out effective implementation of the national adaptation plan of action. He mentioned that in 2012, Nepal approved 70 local adaptation plans. Case studies found that climate change is one of the many drivers that affect the livelihoods of rural populations, and always the most communities take autonomous actions to respond to stress and attempt to improve their quality of life. Hence, adaptation should be integrated into the development agenda instead of treating it in isolation. He then introduced the next steps to enhance climate change adaptation including engaging

the lowest level of governance municipal and national level authorities for piloting adaptation measures, monitoring and drawing lessons of the process and the outcomes in the changing political landscape of Nepal and sharing learning on different platforms at national, regional and global levels.

Dr. SVRK Prabhakar then gave his own presentation outlining important elements of adaptation planning. These are stakeholder engagement, understanding impacts and vulnerabilities, sharing opinions and reaching an agreement on how the vulnerabilities are addressed by implementing proven strategies and evaluating the interventions in regular intervals. For enabling this, bottom-up approaches have become one of the important approaches. However, he acknowledged that bottom-up approaches rely heavily on the community opinions and often these opinions are not cross checked with the facts. Though communities know the best of what they need, the external interventions should make sure that these decisions are made based on sufficient learning of facts. He stated that research results in Japan show that the agriculture community is more likely to observe long-term changes in precipitation than other communities. Hence, it matters who is included in the participatory decision-making at the local level. Mainstreaming climate change adaptation is also one of the significant factors. However, lack of knowledge of people, poor collaboration and cooperation among city and prefectural governments are found to be important barriers to mainstream climate change adaptation. He added that other findings including the bottom-up approach should be clarified, and stated that scientific facts should be utilised for verifying and shaping opinions on adaptation.

Dr. Puja Sawhney introduced the Asia Pacific Adaptation Network (APAN) that has been established under Global Adaptation Network, managed by the United Nations Environment Programme (UNEP), for institutional capacity building, knowledge mobilization and, demonstration and dissemination of adaptation knowledge and best adaptation practices in the region. She outlined some lessons from network activities including the lack of awareness on climate change, lack of conceptual understanding which can be attributed partly to the on-going debate as to what constitutes adaptation, and what represents good and sustainable development, low adaptive capacity, lack of expertise to assess vulnerability and adaptation, limited availability of specific studies on climate change impacts and lack of meteorological data. She stated that these challenges could be overcome through needs assessments, stakeholder collaboration, technical capacity development, awareness creation. She then added that adaptation strategies could be improved through mainstreaming adaptation as national priority, and better inter-ministerial coordination.

In the discussion session, debate focused on the importance of scientific knowledge and its linkage to policy making, top-down and bottom-up approaches for developing national and local adaptation plans, integration with development planning and investment, and coordination and collaboration with relevant sectoral ministries and stakeholders as well as international cooperation especially south-south cooperation.

Some challenges highlighted at the session included the need to consider differences in geographical landscape and local activities, especially agriculture, which would require adequate localised climate change adaptation planning. In addition, the importance of involving diverse stakeholders including communities, local governments and NGOs was also stressed.

Building a Transformational Post-2015 Development Agenda: Perspectives from Asia

24th July 2013, 13:45-15:45
Pacifico Yokohama Room 503



BUILDING A TRANSFORMATIONAL POST-2015 DEVELOPMENT AGENDA: PERSPECTIVES FROM ASIA

Objectives

This parallel session took place on Wednesday 24 July 2013 at Pacifico Yokohama, Japan - as part of the annual International Forum for Sustainable Asia and the Pacific (ISAP), which this year focused on Regional Perspectives on Green Economy. The session focused on sustainable development goals (SDGs) proposed for the period post-2015 and aimed to solicit views on experiences in Asia.

The focus areas for discussion included key themes pertaining to: 1) lessons learned from the MDGs; 2) linkages across issues; 3) measurability of goals/targets; and 4) means of implementation. These focus areas refer to IGES' research work on governance aspects of the SDGs, which is a part of larger project called S11 involving both Japanese and international experts in and beyond Japan.

List of Speakers

[Moderator]

Surendra Shrestha, Senior Advisor & Focal Point for Sustainable Development Goals (SDGs) at UNEP

[Speakers]

George C. Varughese, President, Development Alternatives

Dave Griggs, Chief Executive Officer, ClimateWorks Australia / Director, Monash Sustainability Institute / Professor, Monash University

Yoshihiko Wada, Professor, Faculty of Economics, Doshisha University

Tetsuro Yoshida, Task Manager /

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

Key Messages

- **The process to define sustainable development goals (SDGs) represents a golden opportunity to refocus governments' attention towards sustainable development.**
- **There is a need to generate implementation on the ground. For this to happen, inclusive participation in goal setting and especially national level target setting will be essential.**
- **While the SDGs have to apply to all countries, targets will ultimately be up to countries to decide and design implementation mechanisms.**
- **The long-term SDGs also need shorter term targets relevant for measuring implementation in governments' 4-year legislative periods. Such short-term targets will enhance government accountability over shorter time frames.**
- **Energy is a good candidate for an SDG. Much headway has been made with the SE4All Initiative, but there is a need for differentiated targets depending on countries' specific development situation, as well as their natural resource endowments.**

Summary of the Session

Surendra Shrestha stated that Rio+20 only reconfirmed what had already been agreed on in past summits and conferences. He emphasised that for future development goals there needs to be a link between global goals and national development plans. There also needs to be a focus on overall well-being as an ultimate goal, and he outlined the need for alternative measures of progress at local levels. Finally, he stated that each target could be nationally differentiated but that universal indicators are necessary to enable global progress tracking towards the SDGs.

Dave Griggs stated that humanity faces many challenges, and that addressing all of them at the same time is the greatest challenge of all. He showed that earlier development happened by exchanging natural capital for human capital, but now the rules of the game have changed, since natural capital is increasingly depleting. He also stated that there is a new responsibility to find a safe operating space for humanity in the epoch of Anthropocene. He went on to present his proposal of six sustainability goals, namely, thriving lives and livelihoods, sustainable food and security, secure sustainable water, universal clean energy, healthy and productive ecosystems, and governance for sustainable societies.

Yoshihiko Wada gave a presentation on measuring progress by the Ecological Footprint (EF). He also presented a simplified definition of sustainable development, stating that it means living well within the means of nature. He explained the concept of overshoot, thereby warning that we are living in period of overshoot and therefore far from achieving sustainable development. He also briefly compared the Human Development Index (HDI) and the EF, showing that most countries are using too much ecological space to achieve development objectives and stated that a combination of EF and HDI might be useful to track country progress towards the SDGs. He ended his presentation by stating that increasingly developing countries in Asia-Pacific are interested in knowing their EF to see how heavy a toll their development is taking on the environment.

Tetsuro Yoshida presented on governance for the SDGs, with a particular emphasis on energy SDG. He thought that future goals would not be relevant for planning purposes but would be better for raising awareness. He also stated that SDGs should be informed by science, but that sometimes negotiations are not well-informed by science and evidence. He gave an overview of the Sustainable Energy for All (SE4All) initiative, stating that this exercise would be useful in setting energy SDGs, since many countries had already subscribed to the SE4All and that energy would be a good candidate for an SDG due to its importance for both development and environment. He also emphasised that a future energy SDG might need a goal on per capita reductions of energy consumption mainly for developed countries and in addition there should be targets/indicators on access, efficiency and the share of renewable energy for energy SDGs. He ended his presentation by pointing out that while many countries already have targets on energy, there is still a need for internationally harmonised progress tracking and that therefore more and better data would be needed.

George Varughese presented on the local dimensions of development. He focused on how local priorities can be incorporated in the global development agenda and vice-versa. He warned that the world has seen too many lofty global processes but that there is still a lack of local implementation. He reminded the audience that the top 20% of human population still consumes 80% of resources. He also was of the opinion that sustainable development means to ensure resilience over the long term and that for this it would be essential to ensure equal access to goods and services for the people. Further he stated that the local population needs simple, relevant frames and methods for implementation and measurement of progress.

In terms of discussion, participants and the audience raised additional key points to be considered for design, implementation and review of the SDGs. Firstly it was emphasised that goals do work. The past experience has shown that while not all have been achieved, some have made substantial progress, especially when they found their way into national development plans. It is important to agree on a small number of goals that are simple in concept and which have measurable and time bound targets. They have to apply to all countries, but targets will ultimately be up to countries to decide on themselves. In terms of interlinkages between sectors such as food, water and energy, it was pointed out that they can best be dealt with on the ground, and that recognising the interlinkages is the first step to understanding synergies and trade-offs. It was also pointed out that we humans depend very much on the earth and the land for our development and that it therefore is imperative to provide a central position for environmental sustainability in a future goal framework. It was also pointed out that discussions on the goals have started and that they most likely will be limited in number; generic motherhood goals with a larger basket of possible targets and indicators are likely. The audience also pointed out that subnational integration will be critical because the goals or targets will be more specific at those levels. Finally, it was reflected whether it is possible to expect global governance to emerge assisting the implementation of global goals. A realistic pathway here might be the emergence of voluntary institutional arrangements that allow cooperatives to form among nation states with shared interests and dependencies.

CREATING NEW FINANCIAL FLOWS: EXTENSIVE DIFFUSION OF RENEWABLE ENERGY THROUGH GREEN GIFTS

Objectives

It is becoming widely recognised that in a global, carbon and resource-constrained economy, green investment must be scaled up and accelerated. Under the deteriorating fiscal conditions in many industrialised countries however, the solution cannot depend solely on public funds. There is a high risk that lack of finance will become a bottleneck in the shift to a green economy unless a significant level of private investment is mobilised. In Japan, the interest in green investment has been growing. Today, private capital of around JPY4 trillion per year has been already invested in renewable energy. Policies such as FIT (Feed-in Tariff) has pushed this trend.

At the same time, if society plans to shift 30% of its energy source to renewable energy, Japan needs ten times the current investment base. In addition to public funds, the session drew attention to the potential utilisation of individual savings for investment in renewable energy infrastructure. By using financial entities such as trust banks, the Green Gifts scheme aims to secure capital transfer to the younger generations, creating tax benefit for grandparents. This session discussed a) new financial flows to enable longer-term green investment on a large scale, and b) the feasibility of an innovative idea called “Green Gifts” in Japan to redirect gifts and inheritance towards investment in renewable energy.

List of Speakers

[Introduction Remarks]

Shuichi Katoh, Former Member of the House of Councillors

[Moderator]

Hikaru Kobayashi, Professor, Graduate School of Media and Governance, Faculty of Environment and Information Studies, Keio University (former Vice Minister, Ministry of the Environment)

[Speakers]

Kazuhiro Ueta, Professor, Dean of the Graduate School of Economics, Kyoto University

Sachiko Ai, Senior Deputy General Manager and Senior Chief Manager of Environmental Product Development Office, Frontier Strategy Planning and Support Division, Mitsubishi UFJ Trust and Banking Corporation

Masahiro Kobayashi, General Manager, Offering Ecological Solutions, AEON Delight Co., Ltd.

Rae Kwon Chung, Director, Environment and Development Division, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

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



Key Messages

- **The Japanese government is recommended to show a roadmap of a robust energy policy to provide security among investors to answer their investment appetite.**
- **The Green Gifts scheme is suitable for the demands of investors who want to invest for their grandchildren, rather than for a short-term return.**
- **The tax incentive is attractive to increase the investment base, and the Trust Bank Association backs the policy. There is some worry that the tax benefit may reduce the tax profit, however, the analysis indicated that the scheme would bring more profit than tax loss.**
- **The Green Gifts scheme is to be a part of a package policy to create synergy. The aim is to create a win-win situation among individual tax payers, machine and service providers, and the environment.**

Summary of the Session

Hikaru Kobayashi started his introductory presentation by making a comment as a member of the senior generation. Those in the older generation have savings but they may not feel secure enough to step into long-term investment when looking at insecure social security. If politics had more determination over energy policy, more people would be willing to invest in renewable energy. If a large amount of capital is poured into renewable energy, it would create a return, and thus Green Gifts would bring a win-win situation to tax payers, machine and service providers, the government and the environment.

Kazuhiro Ueta highlighted the importance of converting individual citizen's goodwill into tangible policy, and Green Gifts could be a trigger for this. Many of those in the older generations have ample individual savings but they prefer to use it for themselves or in short-term investments. Investments for grandchildren are the exception according to the survey. Green Gifts would have a positive effect on the actual economy, and it brings about solidarity among generations, as well as fostering green growth. Renewable energy has a unique character unlike other energy sources that use fossil or nuclear fuels, because renewable energy could be your own energy.

Rae Kwon Chung stressed tax neutrality, and the importance of encouraging Diet members to pass the law.

Richard Oppenheim agreed on a need for a package policy to ensure long-term returns.

Sachiko Ai confirmed that there was a general interest in renewable energy investment, and any tax incentives would be a trigger to boost the existing investment interest in renewable energy. This summer, tax incentives for gifts from grandparents to grandchildren have already started for educational funds. Such educational funding based on gifts from grandparents to grandchildren is receiving strong interest among private investors and Ms. Ai expects similar opportunities for Green Gifts. The Green Gifts scheme could bring about tax incentives when money is inherited for renewable energy investment, or it could be in the form of equity, loans or other financial instruments, through the trust banks.

Masahiro Kobayashi claimed that reducing energy was crucial as it comes directly back to business costs. Creating energy was the next target and he explained the high potential of Green Gifts to business.

The panel discussion concluded that the economy can be revitalised through this type of gift, and to ensure new capital flow, the policy could provide the security to investors to make long-term investments.

COMPARISON OF REDUCTION POTENTIAL IN KEY ASIAN COUNTRIES FOR THE TWO DEGREE STABILISATION TARGET

Objectives

To achieve sustainable development in Asia, greenhouse gas emissions in the year 2050 need to be kept below the current levels. In order to reduce emissions in the year 2050 by half compared with the 1990 level, in keeping with the two degree target, Asian countries need to estimate the CO₂ reduction potentials and consider how each country can contribute to the global target while pursuing green economy.

The purpose of this session is to initiate the discussion on strategic actions in Asia to contribute to the global two degree stabilisation target. With the recent progress of the Fifth Assessment Report (AR5) by Intergovernmental Panel on Climate Change (IPCC), the global emissions pathway toward the two degree target is receiving state-of-the-art modeling results. Most modeling assessments show that the global CO₂ emissions have to peak before 2020; a smaller number of scenarios permit peaking no later than 2025. These results show the urgency for research community in Asia to develop the roadmap for achieving the global emission pathway which is consistent with the two degree target.

List of Speakers

[Speakers]

Toshihiko Masui, Chief, Integrated Assessment Modeling Section, National Institute for Environmental Studies

Hancheng Dai, Research Associate, Integrated Assessment Modeling Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies / **Jiang Kejun**, Director, Energy Research Institute (ERI), China

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

Bundit Limmeechokchai, Co-coordinator, Sustainable Energy Environment research Unit (SEE-U), Sirindhorn International Institute of Technology (SIIT), Thammasat University

Ho Chin Siong, Universiti Teknologi Malaysia

Hak Mao, Chief of Vulnerability and Adaptation Assessment Office, Climate Change Department, Ministry of Environment, Cambodia

Nguyen Tung Lam, Head, Integrated Research Management, Institute of Strategy and Policy on Natural Resources and Environment (Ispnre), Vietnam Ministry of Natural Resources and Environment

Ram Manohar Shrestha, Emeritus Professor, Asian Institute of Technology / Chairman, Academic Council of Asian Institute of Technology and Management (AITM)

Retno Gumilang Dewi, Head of the Center, The Center for Research on Energy Policy, Institut Teknologi Bandung, Indonesia



Key Messages

- **GHG mitigation activities in Asia are crucial, because in the business as usual (BAU) scenario, almost half of all global GHG emissions in 2050 will be from Asia.**
- **Low-carbon technology options have been found to be economically attractive in different sectors under the two degree rise scenario.**
- **There are various domestic co-benefits of adopting the low-carbon resource and technology options under the two degree rise scenario.**

Summary of the Session

Toshihiko Masui introduced the overall structure of this session and presented the results of top-down analysis under the global emission cap. According to Dr. Masui, in order to meet the two degree target, global GHG emissions in 2050 should be halved from 1990 levels, and GHG emissions in Asia should be cut below the current level by 2050. Hancheng Dai/Jiang Kejun reported that in order to meet the two degree target, China would be required to reduce CO₂ emissions in 2050 by 60% from 2005 level, and 86% from BAU case. Priyadarshi Shukla introduced some calculation results based on assumptions of increasing nuclear cost and changing marginal abatement cost in order to meet the two degree target by using global scale model. Bundit Limmeechokchai introduced the current situation of Thailand NAMAs and pointed out the progress of analysis on Low-Carbon Society (LCS) scenarios. Although it is thought that CO₂ emissions can be reduced by taking LCS actions, Thailand needs to make further cuts its CO₂ emissions. Ho Chin Siong mentioned the importance of green technology. His research covers GHG emissions from the energy and waste sectors, as well as agriculture, forestry and other land-use (AFOLU). Hak Mao presented GHG emissions reduction options and its strategy. Based on his analysis, in BAU scenario, it is thought that GHG emissions in Cambodia will be increasing 100-fold comparing to the current level. Nguyen Tung Lam stressed the importance of creating GHG inventories and also presented several options for reducing GHG emissions in Vietnam. Ram Manohar Shrestha presented the results of GHG reductions pathways in Nepal under the exogenously set carbon tax. In his analysis, the carbon tax has been set based on the results which seek feasible pathways of GHG emissions in order to meet the two degree target. Retno Gumilang Dewi reported on the results of GHG reduction strategies not only in energy sector, but also in agriculture and land use sectors.

Lunch Session

MITIGATING AIR POLLUTION AND CLIMATE CHANGE IN ASIA: TOWARD AN INTEGRATED APPROACH

Objectives

It is increasingly clear that air pollution poses a threat to public health, agriculture production, ecosystem services and climate systems. It is also increasingly clear that a critical component of green development will be explicitly recognising the multiple benefits from a more integrated approach to air quality management. By underlining the multiple benefits of this integrated approach, this session had several important policy implications for sustainable development and green economy in Asia.

A series of recent air pollution crises has focused attention on improving air quality management in Asia. To understand the sources and impacts of the recent crises, the session began with an overview of current air pollution science and modelling in Asia. From there, the session looked at how science and modelling is reflected in local, national and regional air pollution control efforts. It then highlighted the fact that some air pollutants pose an immediate threat to local and national air quality while also disrupting regional and global climate systems. Mitigating these pollutants can bring air pollution and climate co-benefits. Finally, discussions focused on the potential for regional and international initiatives to promote the consideration of co-benefits in local and national air pollution policies in Asia.

List of Speakers

[Moderator]

Mark Elder, Senior Coordinator / Principal Policy Researcher, Programme Management Office, IGES

[Speakers]

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

Hideaki Koyanagi, Director, Beijing Office, IGES

Supat Wangwongwatana, Coordinator, the EANET Secretariat

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

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

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

[Discussants]

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



Key Messages

- **A series of recent air pollution crises in Asia has focused attention on the opportunity to improve the region's air quality and stabilise climate systems.**

- **Realising this opportunity will require mitigating short-lived climate pollutants (SLCPs) such as black carbon and tropospheric ozone.**

- **Realising this opportunity will also require improving communication between and within national governments as well as across science and policy.**

- **Capitalising on this opportunity in Asia could bring benefits that go beyond cleaner air and a stable climate.**

Summary of the Session

Dr. Eric Zusman opened the session by underlining that air pollution crises were not new phenomena. He said that ever since the London smog broke out in the early 1950s, there has been a growing interest in atmospheric science. But while atmospheric science has evolved steadily the current air pollution policy has tended to lag behind. He therefore highlighted that it was important to link science and policy in order to link climate change and air pollution.

Dr. Hajime Akimoto explained the science of air pollution in Asia. He underlined that Asia needs a strategy that combines reductions in CO₂ with several air pollutants—such as Nitrogen Oxides (NO_x) / Volatile Organic Compounds (VOC), methane (CH₄) and black carbon—to achieve co-benefits from air pollution and climate change mitigation. He also set out that the SLCPs co-benefit approach could offer a practical solution to trans-boundary air pollution problems in East Asia.

Mr. Hideaki Koyanagi noted that there had been various examples of Japan-China cooperation on air pollution, including yen loans from 1979 to 2007. He also underlined more recent joint research on total emissions reduction of NO_x and a network on improvement of China's air pollution. He noted that international cooperation in the area of air pollution control was easier said than done, especially in the private sector.

Dr. Supat Wangwongwatana explained the air pollution situation in Thailand. He explained that the government introduced an air quality management system in response to heavy air pollution in Bangkok in the early 1990's. However, while the air quality during the past decade had improved, concentrations of particulate matter (PM) and ozone (O₃) still remained high. He thus said that the future challenges were addressing PM and O₃ through improving air quality management and harnessing global opportunities for local air quality improvement in order to achieve co-benefits.

Dr. Kevin Hicks explained that there are many international initiatives to facilitate cooperation on mitigation of short-lived climate pollutants (SLCPs). In listing existing regional institutions, he said that the Climate and Clean Air Coalition (CCAC), launched in February 2012 and currently consisting of 66 partners, was the first global effort to reduce SLCPs. He underlined that Bangladesh developed a national action plan to reduce SLCPs, and that the Asian region needed a harmonising framework and collaborative partnership between organisations working in this area. He also said that it was important to consider combining voluntary and regulatory approaches to air pollution controls under a new framework to promote synergies.

Prof. Katsunori Suzuki explained about the emerging needs for better air quality management in Asia by strengthening the link between climate change and SLCP mitigation. He said that addressing these challenges required more effective policy frameworks. He further recommended that countries in Asia adopt voluntary initiatives leading to more concrete legal instruments in the future. Prof. Suzuki proposed to establish a regional epistemic community of scientists (Asian Science Panel on Air and Climate: ASPAC) in order to provide a solid scientific basis to facilitate policy dialogues for international cooperation.

Mr. Hiroshi Fujita summarised the Japanese government's response to severe air pollution originating in China. He noted that the government announced "The Future Efforts for the Solution of the Air Pollution Issue in Asia" in March 2013 right after the air pollution event happened, and it was agreed at the Fifteenth Tripartite Environment Ministers Meeting (TEMM15) in May that a tripartite policy dialogue among Japan, China and Korea would be set up between the three countries. The policy dialogue would be designed to promote cooperation and leverage existing regional efforts on air pollution in the Asia region. He concluded that the MOEJ would take advantage of this policy dialogue and existing regional efforts, and further consider specific cooperative actions to address air pollution issues in Asia including air pollution from China.

In summing up the discussions, the prevailing view is that legally binding mechanisms and commitments are critical to controlling air pollution. However, the ASEAN haze agreement is legally binding but still suffers from several weaknesses. This suggests that voluntary mechanisms may be an effective first step to reduce air pollution in Asia.

It was also mentioned that discussions at IGES now emphasise looking at embedding best practices in legal frameworks, while previously the focus was on gaining compliance with legal restrictions. This is a more bottom-up perspective, and has potential to attract more support from local stakeholders.

While Europe focused more on legally binding mechanisms, Asia could take an approach consistent with its own legal traditions. This could consist of working within the context of existing mechanisms, and then developing common principles and standards that can be built into an effective institutional framework.

Certainly, China took impressive strides with the inclusion of air pollution reduction targets in the 12th Five Year Plan. It will be critical for China to enhance coordination across and within its 31 provincial governments to reach these targets. Reforms to China's domestic policies and institutions—such as improved coordination—might set the stage for broader and deeper regional coordination on air pollution in Asia.

Finally it could be said that one of the key characteristics of the CCAC is its voluntary nature. Much can be solved by voluntary efforts and working with affected industries.



Lunch Session

MYANMAR SPECIAL SESSION: CHALLENGES AND OPPORTUNITIES FOR GREEN GROWTH

Objectives

After the formation of a new administration in 2011, Myanmar has been seeking a new development model in which economic development, social equity and environmental conservation have been harmonised. This session gave an overview of current efforts towards green growth, and featured discussions on challenges and opportunities in the search for a leap-frogging type of development.

Eminent experts on the subject were invited to the session. Prof. Nay Htun is one of the key leaders of green growth in Myanmar, and Dr. Bindu Lohani represented the ADB which is one of the important developing agencies working in Myanmar. Mr. Kazuhisa Koakutsu also gave a presentation on IGES operations in Myanmar.

List of Speakers

[Moderator]

Hideyuki Mori, President, IGES

[Speakers]

Nay Htun, Professor, State University of New York, Stony Brook

Bindu N. Lohani, Vice-President, Knowledge Management and Sustainable Development,
Asian Development Bank (ADB)

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

Key Messages

- **As the investment increases, Myanmar needs to be equipped with appropriate institutions and human resources for environmental management.**
- **As Myanmar is rich in natural resources such as forest, water and fossil fuels, it is imperative to use the resources wisely and sustainably.**
- **Myanmar's government is strongly committed to green economy and green growth at the highest level.**
- **Participation to Green Economy Green Growth (GEGG) is a good entry point to understand environment-related discussions in Myanmar.**

Summary of the Session

Prof. Nay Htun introduced the actions taken for a Green Growth in Myanmar.

- World investors are coming to Myanmar and window of opportunities are opening. Investment will massively increase over the next 5 years. Along with attracting investment, Myanmar needs to be equipped with appropriate institutions and human resources for environmental management.
- There is full commitment at the highest level governments in Myanmar to work on environment, including the President. This commitment is backed by some challenges and opportunities that Myanmar is facing, such as increasing labour productivity, preparing for urbanisation, and adding value to natural resources. With regards to urbanisation, lessons can be learned from Japanese cities, by reviewing historical examples of pollution damage in Yokohama and Kawasaki.
- Green Economy Green Growth (GEGG) Forum is a good opportunity as an entry point to participate in the discussion on environment. The third GEGG is taking place this November.
- "Centers of Excellence", to be established in every region of Myanmar, can serve as venues to showcase green technologies, develop human resource and conduct research and development. The first one will be established in Yangon.

Dr. Bindu Lohani then explained how ADB supports Myanmar.

- Strategic importance of Myanmar is about its location. The coastline is an important gateway to Southeast Asia, South Asia, and Northeast Asia. Myanmar is also rich in natural resources.
- ADB now has a project in Myanmar worth half a billion US dollars. ADB's main work in Myanmar is how to mainstream environmental issues into key sectors of development projects, such as agriculture, energy and urban development.
- ADB strongly advocates the necessity to build capacity in Myanmar and fully supports the idea of "Centers of Excellence" which can bring in experiences from other parts of Asia.

- Myanmar currently lacks good environmental laws and regulations. How to make these appropriate for Myanmar's context is a major challenge.
- ADB is conducting assessment on most renewable energy resources in Myanmar. Myanmar has more than 100 thousands megawatts potential in hydropower. ADB is now focusing on energy and can facilitate the introduction of overseas private sectors (Yangon, Mandalay, Sagain), while directly financing more public infrastructure such as power distribution. ADB also supports the development of a law on electricity.

Mr. Kazuhisa Koakutsu introduced the work of IGES in Myanmar.

- IGES participated in GEGG. The government and people in Myanmar are keen to gain knowledge and learning experiences from overseas. High-level commitment in Myanmar is impressive and very important to move forward.
- Many things can be done in cities in Myanmar, such as Yangon (e.g. reducing traffic jams) and Nay Pyi Taw (Bus rapid transit). Institutional building and capacity development present both major challenges and opportunities.
- IGES is organising a domestic working group on low-carbon Myanmar.

In the discussion, Mr. Hideyuki Mori shared his observation that rich natural and human resources are very important features of Myanmar. The country's strategic position in terms of geopolitical context should be considered. Then he asked Prof. Nay Htun for his comments on how a low-carbon pathway would be different from other areas, especially in the energy sector. Prof. Nay Htun commented that Myanmar has very rich natural resources and still relies on fossil fuels, but these have lower and lower carbon content. Off-grid supply of energy is a tremendous opportunity, and energy conservation and consumption should be carried out. Responding a question about whether Myanmar can be a good example for low-carbon development for other countries, he answered that Myanmar is the only country that had a persistent and strong military rule and subsequently experienced a peaceful transition. It is against this background that Myanmar could achieve a new type of leapfrogging. Related to the question, Dr. Bindu Lohani commented that economic growth in other countries had generated a great deal of inequality and this model of growth must not be repeated in Myanmar. Population increase and immigration from Great Mekong Sub-region presents a very good opportunity for regional cooperation in terms of bilateral opportunities.

There were two questions on how to set a best strategy for deforestation and what the situation is regarding political stability in Myanmar. Prof. Nay Htun explained that Myanmar had the best forest management system for nearly 200 years. Recently laws have been enacted and GEGG members are helping to establish remote sensing GIS systems. Regarding the second question, he commented that the government has signed peace accords with most of the country's ethnic groups. By 2015, there will be an election in Myanmar and whatever government is elected, it is unconceivable that Myanmar will return to the old regime. He gave reassurances that the private sector need not worry in that regard.

Special Events

● Interactive Session

An interview was conducted by young researchers to get an in-depth understanding on the experiences and insights of a prominent guest speaker followed by a Q&A session with the audience. This session was carried out away from the plenary sessions, allowing for close dialogue between young researchers, ISAP audience members, and the invited speaker.

Guest Speaker:

Ruud Kempener, Technology Roadmap Analyst,
International Renewable Energy Agency (IRENA)

Interviewers:

Takeshi Kuramochi, Policy Researcher, IGES
Chea Eliyan, Deputy Head, Department of Environmental Sciences,
Royal University of Phnom Penh, Cambodia

Facilitator:

Satoshi Kojima, Principal Policy Researcher, IGES



● ISAP2013 Exhibition

ISAP2013 held an exhibition and poster display on the main floor with outputs of the latest research activities at IGES as well as attractive displays from related organisations.



Exhibiting Organisations

- Kanagawa Prefectural Government
- City of Yokohama
- Kawasaki City
- City of Kitakyushu
- Toyama City
- Leadership Program in Sustainable Living with Environmental Risk, Yokohama National University
- Global Cooperation Institute for Sustainable Cities, Yokohama City University
- Keio University International Program for Environmental Innovators
- Overseas Environmental Cooperation Center, Japan
- Nikkei BP Cleantech Institute
- International Research Network for Low Carbon Societies (LCS-RNet)
- Low Carbon Asia Research Network (LoCARNet)
- JVC KENWOOD Corporation / Earth Literacy Program Joint Exhibit "Tangible Earth"

● Students' Poster Session

A poster session was held to give young researchers and students a chance to participate and exchange views on their research ideas with participants at ISAP2013. This year's posters were provided by graduate students from four universities, namely, Yokohama National University, Yokohama City University, Keio University Shonan Fujisawa Campus and United Nations University. In total, eight posters were presented. Many ISAP participants and speakers stopped by the posters and listened to students' explanations. The "Audience Award", which was decided by the votes of general ISAP participants, went to Mr. Muriadi Arip, Keio University, and the "ISAP Award", which was decided by the votes of the ISAP speakers', went to Mr. Lee Soo-hyun, United Nations University.



Thiri Aung Yokohama National University
 "Can Biological Traits Predict the Invasion Risks of Alien Plant Species in Central Dry Zone of Myanmar?"



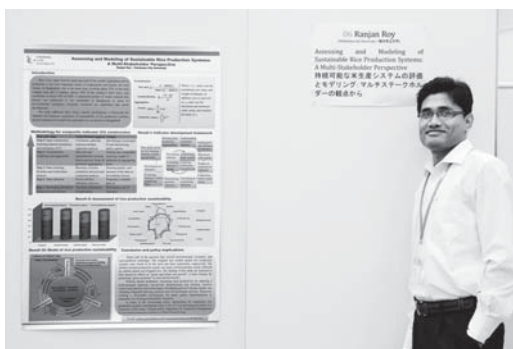
Vuillaume Jean-Francois United Nations University
 "Improve Resilience to Climate Change Impact: Urban Flood Early Warning System based on Middle Range Weather Forecast"



Weena Gera United Nations University
 “Institutionalizing Disaster Resilient Metropolitan Governance and Collaboration in the Philippines”



Lee Soo-hyun United Nations University
 “Prima Facie Rule of Investment and Its Implications for Green Economy”



Ranjan Roy Yokohama City University
 “Assessing and Modeling of Sustainable Rice Production Systems: A Multi-Stakeholder Perspective”



Muriadi Arip Keio University
 “Assessment of Vulnerability to Flood: A Case Study in Sambas Regency, Indonesia”



Wei Phyo Oo Yokohama National University
 “Conservation Prioritization of Forest Communities and Species in the Tropical Dry Forest Area of the Central Dry Zone, Myanmar”



Csaba Pusztai United Nations University
 “Governance Indicators for Co-Benefits-Oriented Urban Transport”

Programme

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

- A** Green Economy for Asia
B Green Economy & Business
C Climate Regime and Its Implications for Asia
D Low Carbon City Development
E Local Resilience and Green Economy

Tuesday, 23 July 2013

9:30	Opening Session [OP]	Room 503
	<ul style="list-style-type: none"> ● Opening <p>Welcome Remarks Hironori Hamanaka, Chair of the Board of Directors, IGES Govindan Parayil, Director, United Nations University Institute of Advanced Studies (UNU-IAS) / Vice-Rector, United Nations University</p> <p>Guest Remarks Ryutaro Yatsu, Vice-Minister, Ministry of the Environment, Japan Shinji Yoshikawa, Vice Governor, Kanagawa Prefectural Government</p>	
10:00	Plenary Session 1 [P-1]	Room 503
	<ul style="list-style-type: none"> ● Green Economy: Perspectives from the Asia-Pacific <p>[Moderator] Charmine Koda, Journalist [Key Speakers] Rajendra K. Pachauri, Director-General, The Energy and Resources Institute (TERI) / Chair, The Intergovernmental Panel on Climate Change (IPCC) Masamitsu Sakurai, Executive Advisor, Ricoh Company, Ltd. [Discussants] Rae Kwon Chung, Director, Environment and Development Division, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Tomoko Nishimoto, Director, Division of Regional Cooperation (DRC), United Nations Environment Programme (UNEP)</p>	
11:30	Break	
11:45	Plenary Session 2 [P-2]	Room 503
	<ul style="list-style-type: none"> ● Knowledge Sharing Networks towards Realising Low Carbon Societies <p>[Moderator & Keynote Speaker] Bindu N. Lohani, Vice-President, Knowledge Management and Sustainable Development, Asian Development Bank (ADB) [Speakers] Ron Benioff, Director, LEDS Global Partnership / Green Growth Best Practices Initiatives John Bruce Wells, Head of Secretariat, Asia LEDS Partnership / Chief of Party, Low Emissions Asian Development (LEAD) program David Warrilow, Head of Science in the UK's Department of Energy and Climate Change (DECC) Jakkanit Kananurak, Director, Capacity Building and Outreach Office, Thailand Greenhouse Gas Management Organization (TGO) Masami Tamura, Director, Climate Change Division, International Cooperation Bureau, Ministry of Foreign Affairs / Motoko Nakayama, Deputy Director, Climate Change Division, International Cooperation Bureau, Ministry of Foreign Affairs</p>	
13:15	Lunch Session [L-1]	C
	<ul style="list-style-type: none"> ● Mitigating Air Pollution and Climate Change in Asia: Toward an Integrated Approach <p>[Moderator] Mark Elder, Senior Coordinator / Principal Policy Researcher, Programme Management Office, IGES [Speakers] Hajime Akimoto, Director General, Asia Center for Air Pollution Research (ACAP) Hideaki Koyanagi, Director, Beijing Office, IGES Supat Wangwongwatana, Coordinator, the EANET Secretariat Kevin Hicks, Senior Research Fellow, Stockholm Environment Institute (SEI) / Environment Department, University of York Katsunori Suzuki, Director & Professor, Environment Preservation Center, Kanazawa University Eric Zusman, Leader / Principal Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES [Discussant] Hiroshi Fujita, Deputy Director, Air Environment Division, Ministry of the Environment, Japan</p>	Room 502
14:30		

<p>14:45</p>	<p>Parallel Session [PL-1] A</p> <p>● Green Economy and Economic Integration in the Asia-Pacific Region</p> <p style="text-align: right;">Room 503</p> <p>[Moderator] Kazuo Matsushita, Senior Fellow, IGES / Professor Emeritus, Kyoto University</p> <p>[Speakers] Venkatachalam Anbumozhi, Capacity Building Specialist, Asian Development Bank Institute (ADB) Shuichi Ashina, Researcher, Sustainable Social Systems Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies Xin Zhou, Leader / Principal Policy Researcher, Green Economy Area, IGES</p>	<p>From Experience of Fukushima: To Enhance Local Resilience</p> <p>Parallel Session [PL-3] E</p> <p>● Disseminating Information on Reconstruction Activities in Fukushima: From the Viewpoint of Local Resilience</p> <p style="text-align: right;">Room 511+512</p> <p>[Moderator] Kazuhiko Takemoto, Programme Director, United Nations University, Institute of Advanced Studies (UNU-IAS) / Senior Advisor to Minister of the Environment / Policy Advisor for Global Change Research, University of Tokyo, Integrated Research System for Sustainability Science (IR3S)</p> <p>[Keynote Speaker] Kazuhiko Takeuchi, Senior Vice-Rector, United Nations University (UNU) / Director and Professor, Integrated Research System for Sustainability Science (IR3S) The University of Tokyo</p> <p>[Panelists] Satoru Tanaka, Professor, Department of Nuclear Engineering and Management, School of Engineering, The University of Tokyo Atsuro Tsutsumi, Research Fellow, United Nations University International Institute for Global Health Madoka Futamura, Academic Programme Officer, Institute for Sustainability and Peace, United Nations University (UNU-ISP)</p>	<p>14:45</p> <p>Parallel Session [PL-5] C</p> <p>● Structuring a New Climate Regime toward the Two Degree Target</p> <p style="text-align: right;">Room 502</p> <p>[Moderator] Hironori Hamanaka, Chair of the Board of Directors, IGES</p> <p>[Speakers] Toshihiko Masui, Chief, Integrated Assessment Modeling Section, National Institute for Environmental Studies Kentarō Tamura, Leader / Principal Policy Researcher, Climate and Energy Area, IGES Takahiro Ueno, Researcher, Socio-economic Research Center, Central Research Institute of Electric Power Industry / Visiting Researcher, Graduate School of Public Policy, The University of Tokyo Yasuko Kameyama, Head of Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies Yukari Takamura, Professor, Graduate School of Environmental Studies, Nagoya University</p>
<p>16:15</p> <p>16:30</p> <p>18:00</p>	<p>Parallel Session [PL-2] A</p> <p>● Exploring Reduction in the 3Rs: Improving Resource Efficiency in Asia and the Pacific</p> <p style="text-align: right;">Room 503</p> <p>[Moderator] Yasuhiko Hotta, Leader, Sustainable Consumption and Production Area, IGES</p> <p>[Keynote Speaker] Raimund Bleischwitz, Co-Director, Material Flows and Resource Management, Wuppertal Institute</p> <p>[Speakers] Shaoyi Li, Head, Integrated Resource Management Unit / Chief, Secretariat of International Resource Panel, United Nations Environment Programme (UNEP) Chika Aoki-Suzuki, Policy Researcher, Sustainable Consumption and Production Area, IGES</p> <p>[Discussant] Kazunobu Onogawa, Senior Fellow, IGES</p>	<p>Parallel Session [PL-4] E</p> <p>● Preparing against Nuclear Emergencies: Lessons Learnt from Fukushima and Europe</p> <p style="text-align: right;">Room 511+512</p> <p>[Moderator] Hiroshi Suzuki, Professor Emeritus, Fukushima University / Chair, Fukushima Prefecture Reconstruction Committee / Senior Fellow, IGES</p> <p>[Keynote Speaker] Tamotsu Baba, Mayor of Namie-machi, Fukushima, Japan</p> <p>[Speakers] Erich Wirth, Head of Department on Emergency Preparedness, Federal Office of Radiation Protection, Germany Tatiana Duranova, Mathematician / Emergency Planning Expert, VUJE, Inc., Slovak Republic Inger Margrethe H. Eikermann, Head of the Section High North, Department of Nuclear Safety and Environmental Radioactivity, Norwegian Radiation Protection Authority, Norway</p> <p>[Discussants] Viktor Averin, Director, Research Institute of Radiology, Belarus Gilles Hériard-Dubreuil, President, MUTADIS, France</p>	<p>16:45</p>

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<p>10:00 Parallel Session [PL-6] D</p> <p>● Low Carbon Policies in Cities and Creation of Business Opportunities Room 503</p> <p>[Moderator] Hidefumi Imura, Senior Fellow, IGES</p> <p>[Speakers] Kotaro Kawamata, Director, Office of International Cooperation, Global Environment Bureau, Ministry of the Environment, Japan Shigenori Jinbo, Group Manager, Fellow, Nikkei BP Cleantech Institute Tetsuya Nakajima, Director, International Technical Cooperation Division, Policy Bureau, City of Yokohama Takejiro Sueyoshi, Special Advisor in the Asia Pacific Region, UNEP Finance Initiative Akira Ogihara, Manager, Project and Research Group, Urban and the Environment Section, Kawasaki Environment Research Institute, City of Kawasaki Gen Takahashi, Deputy General Manager, Business Development Group, Sales and Marketing Department, Asia Pacific Division, Overseas Business Sector, JFE Engineering Corporation Kazuhiisa Koakutsu, Leader / Principal Policy Researcher, Climate and Energy Area, IGES</p> <p>11:20</p>	<p>10:00 Parallel Session [PL-8] E</p> <p>● Green Economy and Satoyama Initiative: Building Resilient Societies at Local Level Room 502</p> <p>[Moderators] Krishna Chandra Paudel, Secretary, Government of Nepal, Water and Energy Commission Secretariat Yoko Watanabe, Program Manager and Senior Biodiversity Specialist, Natural Resources Team, Global Environment Facility (GEF) Secretariat</p> <p>[Keynote Speakers] Abdul Hamid Zakri, Science Adviser to the Prime Minister of Malaysia / Chair, Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) Kazuhiko Takeuchi, Senior Vice-Rector, United Nations University (UNU) / Director and Professor, Integrated Research System for Sustainability Science (IR3S) The University of Tokyo</p> <p>[Speakers] Naoya Furuta, Senior Project Officer, Japan Project Office, International Union for Conservation of Nature (IUCN) Yoshiko Mikasa, Manager, Division of Oriental White Stork and Human Coexistence, Toyooka City</p> <p>12:00</p>	<p>10:00 Parallel Session [PL-9] C</p> <p>● Adapting to Climate Change: Experience and Challenges for Asia Room 511+512</p> <p>[Moderator] Taka Hiraishi, Senior Consultant, IGES (IPCC Inventories Programme Co-chair)</p> <p>[Speakers] Kiyoshi Takahashi, Senior Researcher, Center for Social and Environmental Systems Research, National Institute for Environmental Studies Jeongho Lee, Director, Division of Planning and Water and Cooperation, Korea Adaptation Center for Climate Change, Korea Environment Institute Takuya Nomoto, Deputy Director, Research and Information Office, Global Environment Bureau, Ministry of the Environment, Japan</p> <p>[Panelists] Monthip Sriratana Tabucanon, Senior Adviser, Senate Commission on Natural Resources and Environment, Office of the Parliament, Thailand / Director, Climate Change Research Center, National Research Council of Thailand Prabhakar SVRK, Task Manager, Adaptation, Natural Resources and Ecosystem Services Area, IGES Puja Sawhney, Asia Pacific Adaptation Network (APAN) Coordinator, IGES Regional Centre Huicheul Jung, Research Fellow, Korea Adaptation Center for Climate Change, Korea Environment Institute Ajaya Mani Dixit, Executive Director, Climate Change Adaptation, Institute for Social and Environmental Transition-Nepal</p> <p>12:30</p>
<p>11:30 Parallel Session [PL-7] D</p> <p>● Potential of City-to-City Cooperation for Low-Carbon Development in Asia: A Case of the Cooperation between Surabaya City and Kitakyushu City Room 503</p> <p>[Moderators] Toshizo Maeda, Leader / Principal Policy Researcher, Sustainable Cities Area, Kitakyushu Urban Centre, IGES Shiko Hayashi, Programme Manager, Kitakyushu Urban Centre, IGES</p> <p>[Speakers] Kotaro Kawamata, Director, Office of International Cooperation, Global Environment Bureau, Ministry of the Environment, Japan M. Taswin, SE, MM, Mayor's Assistant, Surabaya City Kengo Ishida, Executive Director, Kitakyushu Asian Center for Low Carbon Society, Environment Bureau, City of Kitakyushu Motoshi Muraoka, Partner, Senior Executive Manager, Socio & Eco Strategic Consulting Sector, NTT Data Institute of Management Consulting, Inc. Yasuhiro Nishihara, Senior Managing Director, Nishihara Corporation</p> <p>12:30</p>	<p>12:00</p>	<p>12:30</p>

<p>12:30</p> <p>13:30</p>	<p>Lunch Session [L-2] A</p> <p>● Myanmar Special Session: Challenges and Opportunities for Green Growth Room 502</p> <hr/> <p>[Moderator] Hideyuki Mori, President, IGES</p> <p>[Speakers] Nay Htun, Professor, State University of New York, Stony Brook Bindu N. Lohani, Vice-President, Knowledge Management and Sustainable Development, Asian Development Bank (ADB) Kazuhisa Koakutsu, Leader / Principal Policy Researcher, Climate and Energy Area, IGES</p>	<p>13:15</p> <p>Parallel Session [PL-12] C</p> <p>● Comparison of Reduction Potential in Key Asian Countries for the Two Degree Stabilisation Target Room 301</p> <hr/> <p>[Speakers] Toshihiko Masui, Chief, Integrated Assessment Modeling Section, National Institute for Environmental Studies Hancheng Dai, Research Associate, Integrated Assessment Modeling Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies / Jiang Kejun, Director, Energy Research Institute (ERI), China Priyadarshi Shukla, Professor, Public System Group, Indian Institute of Management, Ahmedabad, India Bundit Limmeechokchai, Co-coordinator, Sustainable Energy Environment research Unit (SEE-U), Sirindhorn International Institute of Technology (SIIT), Thammasat University Ho Chin Siong, Universiti Teknologi Malaysia Hak Mao, Chief of Vulnerability and Adaptation Assessment Office, Climate Change Department, Ministry of Environment, Cambodia Nguyen Tung Lam, Head, Integrated Research Management, Institute of Strategy and Policy on Natural Resources and Environment (Isponre), Vietnam Ministry of Natural Resources and Environment Ram Manohar Shrestha, Emeritus Professor, Asian Institute of Technology / Chairman, Academic Council of Asian Institute of Technology and Management (AITM) Retno Gumilang Dewi, Head of the Center, The Center for Research on Energy Policy, Institut Teknologi Bandung, Indonesia</p>
<p>13:45</p> <p>15:45</p>	<p>Parallel Session [PL-10] A</p> <p>● Building a Transformational Post-2015 Development Agenda: Perspectives from Asia Room 503</p> <hr/> <p>[Moderator] Surendra Shrestha, Senior Advisor & Focal Point for Sustainable Development Goals (SDGs) at UNEP</p> <p>[Speakers] George C. Varughese, President, Development Alternatives Dave Griggs, Chief Executive Officer, ClimateWorks Australia / Director, Monash Sustainability Institute / Professor, Monash University Yoshihiko Wada, Professor, Faculty of Economics, Doshisha University Tetsuro Yoshida, Task Manager / Senior Policy Researcher, Integrated Policies for Sustainable Societies Area, IGES</p>	<p>Parallel Session [PL-11] B</p> <p>● Creating New Financial Flows: Extensive Diffusion of Renewable Energy through Green Gifts Room 502</p> <hr/> <p>[Introduction Remarks] Shuichi Katoh, Former Member of the House of Councillors</p> <p>[Moderator] Hikaru Kobayashi, Professor, Graduate School of Media and Governance, Faculty of Environment and Information Studies, Keio University (former Vice Minister, Ministry of the Environment)</p> <p>[Speakers] Kazuhiro Ueta, Professor, Dean of the Graduate School of Economics, Kyoto University Sachiko Ai, Senior Deputy General Manager and Senior Chief Manager of Environmental Product Development Office, Frontier Strategy Planning and Support Division, Mitsubishi UFJ Trust and Banking Corporation Masahiro Kobayashi, General Manager, Offering Ecological Solutions, AEON Delight Co., Ltd. Rae Kwon Chung, Director, Environment and Development Division, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Richard Oppenheim, First Secretary and Head of the Climate Change and Energy Section, British Embassy Tokyo</p>
<p>16:00</p> <p>17:00</p> <p>17:00</p> <p>17:30</p>	<p>Plenary Session 3 [P-3]</p> <p>● Pathways towards a Green Economy in the Asia-Pacific Room 503</p> <hr/> <p>[Moderator] Hideyuki Mori, President, IGES</p> <p>[Key Speakers] Abdul Hamid Zakri, Science Adviser to the Prime Minister of Malaysia / Chair, Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) Young-Woo Park, Regional Director, United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP-ROAP) Peter King, Senior Policy Advisor, IGES Regional Centre</p> <hr/> <p>Closing Session [CL]</p> <p>● Closing Room 503</p> <hr/> <p>Poster Session Award Ceremony Closing Remarks</p>	

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