

What's New From IGES

May 2014



The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) has been published following a period of six to seven years since the previous report, and it summarises the latest scientific findings related to climate change. The AR5 is made up of reports from three working groups, with Working Group I (WGI) bringing out "The Physical Science Basis", in September 2013, WGII bringing out "Impacts, Adaptation, and Vulnerability" in March 2014 and then a report from WGIII entitled "Mitigation of Climate Change", coming out in April 2014. Finally, a synthesis report will be announced in October 2014.

Four reports from IGES, based on the results of research related to climate change adaptation, are cited in the report of WGII. In addition, Dr. Prabhakar SVRK from IGES

participated as one of the authors of the chapter on Asia in this same report.

Upon announcement of the AR5, IGES held an open symposium series with relevant organisations to explain the related topics in a way that is easy to understand and to review what kind of approach Japan can take on the issue of climate change. To mark the occasion of the 38th plenary session of the IPCC in March 2014, when the report of WGII was accepted, IGES jointly supported two open symposia in Yokohama. These symposia, one held in February just before the IPCC plenary and one held during the plenary itself, were on the theme of adaptation and the impacts of climate change in Asia. At the symposium in February, a meteorological expert was invited from the Philippines, a country which sustained

extensive damage due to the typhoon that hit in November 2013. Opinions were exchanged regarding the worsening of meteorological disasters in Asia and necessary measures to deal with such events. Meanwhile, at the symposium held during the IPCC plenary itself, the event was filled with 200 participants including attendees from the IPCC plenary. It provided a review of the contents of past IPCC Assessment Reports and there was a lecture given on the progress of research and knowledge about climate change. The symposium also reported on the latest trends and gave examples to highlight the impacts of climate change on agriculture and automotive industries in Japan and the practical adaptation measures to deal with this, as well as efforts being made by national and local governments, and research links among Asian countries.

Agriculture and Adaptation: An Eye on Asia

Dr. Prabhakar SVRK heads the IGES adaptation team, and is one of the authors for the chapter on Asia in the WGII report. He casts a detailed eye on agriculture and adaptation in the region.



Q: Agriculture is one of the sectors most vulnerable to climate change. Are adaptation policies for agriculture in Asia making progress?

Prabhakar:

Important factors contributing to vulnerability have to do with our approach for increasing the food production in the last several decades, entailing a reliance on high yielding varieties and input intensive practices. While it helped in achieving food self-sufficiency and a reduction in rural poverty in certain areas, it has also led to problems of eroding agro-biodiversity, degradation of natural resource-base, non-responsive crop yields and declining farm profits. What is necessary is to break the vicious cycle of input dependency leading to greater farm profits so that farmers have disposable income that can be put to livelihood diversification in rural areas. The situation is different in rain-fed areas, where crop yields are substantially lower as agriculture is exposed to vagaries of weather, suffering high yield variability and income fluctuations. For these areas, we are struck with the single idea of bringing them under some form of irrigation without addressing the issues associated with the irrigated areas. In addition, the national investments in agriculture R&D have been on steady decline. Climate change adaptation in this context means moving farmers away from input intensive agriculture practices and providing them with the best weather and climate information services along with instruments such as crop insurance that can buffer the shocks in income due to weather and market failures.

These are happening in small pockets and need to be scaled up. At the current pace of reaching farmers on these issues, we are looking at a decade more work on this.

Q: From the point of view of adaptation, what are the main points to focus on from the Fifth Assessment Report?

Prabhakar:

The WGI report has categorically stated the role of human intervention in changing climate. The report came up with evidence for the growing trend of extreme weather events and more importantly has indicated urgency in curbing CO₂ emissions. The WGII Report is presented in two volumes of global and sectoral aspects and regional aspects, which is a major departure from the Fourth WGII report, with rich content catering to decision-making especially from chapters on food security, livelihoods, rural and urban areas, human security and a set of chapters aimed at adaptation decision-making. We are happy that several of our papers have been cited in three chapters of the WGII report. Significant points as I see from the WGII report is providing evidence that impacts on natural systems are more alarming and that negative impact on agriculture yields is more common than previously thought. It strengthened the evidence of linkage between a multitude of factors that form vulnerabilities in natural and human systems that have nothing to do with climate in general. The report also informed us that we have a long way to go with regards to addressing the uncertainties involved in vulnerability, exposure and effectiveness of responses to changes in the longer time scales. One point that keeps coming to the table is greater GHG mitigation to reduce adaptation needs and that appears to have prompted the WGII to provide a dedicated chapter on climate resilient pathways of development exploring commonalities between adaptation and mitigation.

"An Integrative Approach to Mitigation and Adaptation" — Global Environment Seminar held by IGES

IGES Global Environment Seminars are held to offer an easy-to-understand explanation on global environmental issues, combining the latest domestic and international developments. On 17 March 2014 a seminar was held in Yokohama on the theme of "An Integrative Approach to Mitigation and Adaptation". There were about 40 participants.

The seminar pointed out that not only was mitigation important for future climate change measures, but also that progress must be made on adaptation strategies. Dr. Shuzo Nishioka, Senior Research Advisor, and Mr. Isao Endo, Senior Policy Researcher, from IGES gave reports on integration of mitigation measures and adaptation strategies.



Presentation Excerpts



An Example of the Efforts in the Philippines

Isao Endo, IGES

Up to now mitigation measures have been at the centre of efforts to combat climate change. However, recently, the integration of mitigation measures and adaptation strategies has come to the forefront, such as in the chapter on the relationship between mitigation and adaptation provided in the Fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC).

The biggest merit of integrating these strategies is synergy. This is particularly striking in the agricultural sector where, for example, the reduction of nitrous oxide (N₂O) emitted from nitrogen fertilisers will improve the water quality of groundwater and reduce the loss of biodiversity. In addition, at present, climate change mitigation measures and adaptation strategies are considered to be part of a development strategy. This way of thinking has come to the forefront internationally as a way to transform problems into opportunities. In the World Bank and the Food and Agriculture Organization of the United Nations (FAO),

developments that consider climate change bring co-benefits such as improvements to air pollution and the creation of green jobs, leading to green growth.

At this point, I would like to take up the case of the Philippines as an example from Asia. The Philippines is a region that is geographically vulnerable to climate change, as can be seen from previous typhoon damage. On the other hand, it is expected that CO₂ emissions will greatly increase due to industrialisation and urbanisation. Against this backdrop, the Philippines has comprehensive mitigation measures and adaptation strategies from the perspective of sustainable development with ambitious climate change measures being taken, such as moving forward with eco-towns that take into account economic efficiency and ecosystem conservation.

At IGES, we are focusing on such efforts undertaken by the Philippines and have started a pilot programme to look into an effective combination of mitigation measures and adaptation plans, targeting the Silang Santa Rosa river basin which is located 40km south of Manila. Over the next years, research activities will be conducted using scientific tools and policies will be proposed, to enable local governments to move forward with climate change and land-use plans that take into account ecosystem and flood control measures. Furthermore, we would like to share and widely disseminate the findings of this programme through IGES' international research network on adaptation and low carbon research.

Applying Japan's Technologies to India

IGES has been carrying out a co-research project with The Energy and Resources Institute (TERI), aiming to accelerate the application of Japanese private sector energy-saving and low-carbon technologies to small and medium enterprises in India. On 4 March 2014 an international symposium on "Application of Low Carbon Technology for Sustainable Development in emerging countries" was held in Kobe, co-organised by IGES, the Asia-Pacific Network for Global Change Research (APN) and Hyogo Prefectural Government. The findings of research activities that have been carried

out over the past four years were reported on by both Japanese and Indian company representatives and experts who participated in the joint research.

The joint research looked in detail at local needs, with researchers in both countries conducting studies on the effects and economic efficiency of introducing such technologies. As a result, it has been possible to implement innovative approaches such as installing the first electric heat pump in an Indian factory, using the latest energy-saving technology, as well as actually measuring the effects of energy-saving and reductions in

carbon dioxide emissions. The symposium was an occasion to share experiences of the joint research and deepen discussions on further actions to take on the path to a low-carbon society, including technology transfer to developing countries.



Lecture at the Council of Prefectural and Municipal Environmental Research Institutes

The Council of Prefectural and Municipal Environmental Research Institutes* held a workshop in Yokohama on 28 February 2014 for various researchers. Dr. Kentaro Tamura, Principal Policy Researcher at IGES, was invited to give a lecture.

His lecture was on the topic of "International

Efforts on Climate Change Issues" focusing on scientific knowledge and international efforts. The event was a good opportunity to share awareness of challenges in the face of climate change, with the question and answer session featuring specific points of view from researchers.



*The Council is composed of three organisations: Kanagawa Environmental Research Center, Yokohama Environmental Science Research Institute, and Kawasaki Environment Research Institute.

Expanding “Environmentally Sustainable Cities” throughout Asia

Under the framework of the East Asia Summit Environment Ministers Meeting, the Fifth High Level Seminar on Environmentally Sustainable Cities (ESC) was held in Surabaya, Indonesia from 28 February to 1 March 2014. Taking part were 180 representatives from national governments, local governments, research institutes, international organisations, companies and NGOs.

IGES has been actively developing research activities for ESC and, in addition to playing a part in the development and operation of the programme as the secretariat for the seminar, IGES announced the results of research related to MRV (Measurement, Reporting and Verification) of greenhouse gas emissions from the transport sector in cities. Furthermore, there have been major results on the ESC

Model Cities Programme that IGES has been implementing with the ASEAN Secretariat through this seminar, with 14 cities from eight ASEAN countries currently setting their own environmental goals and making progress with the creation of sustainable cities. In the future it is expected that these results will be expanded domestically and internationally and further developments will be made.

Indicators to Measure the Progress of 3R Policies -Regional 3R Forum in Asia and the Pacific-

In Asia and the Pacific, policymaking on the 3Rs has been making steady progress with focus on measures to effectively implement these policies. IGES has participated in international collaborative research with research institutes and universities to promote the 3Rs in Asia, and is moving forward on development of policy indicators and monitoring methods to address the needs of developing countries.

The Fifth Regional 3R Forum in Asia and the

Pacific was held in Surabaya, Indonesia from 25 to 27 February 2014. IGES has participated as one of the supporting organisations from the time of the first Forum, and this time, announced the research results on developing the recycling industry, as well as releasing a report consisting of 11 factsheets on indicators to monitor the progress of 3R policies in developing countries. A proposal on a core set of indicators for 3R policies was suggested

by IGES and the United Nations Centre for Regional Development (UNCRD) which serves as the Forum Secretariat.



Researchers' Viewpoint

Composting in Municipal Solid Waste Management in Sri Lanka

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Municipal Solid Waste Management (MSWM) is a fast growing urban environmental issue in Sri Lanka. The quantity of MSW has increased over the years due to rapid urbanisation, economic growth and changes in production and consumer patterns. Waste generation in Sri Lanka totals about 6,400 tonnes per day. Currently, the crucial challenge faced by the local governments (LGs), who manage solid waste, is not merely an increase in the waste generation rate but also inadequate collection and disposal. Only half of the MSW is collected by LGs, with the rest either piled up on the streets or dumped in the lowlands. In addition, 85% of MSW is open dumped in low lying areas such as marshes and abandoned paddy fields, bringing serious environmental, health and social impacts.

The National Solid Waste Management Policy and Strategy issued in 2002 highlights the importance of following the waste management hierarchy: “Avoidance of waste generation; reduction, reuse and recycling of unavoidable waste; and disposal of the residual waste in an environmentally sound manner”. Composting has high potential as a viable, appropriate and low cost option for managing organic waste, especially as 80% of MSW is organic with high moisture content and low calorific value making it inappropriate for incineration.

To promote composting in MSWM, the government initiated a national campaign to increase domestic organic food production using compost. In 2003, Sri Lanka became the

first country in the region to issue compost quality standards. Financial and technical support in the form of incentives at national and local level has been given to the LGs to develop and implement more sustainable MSWM strategies. The Ministry of Environment (MOE), Sri Lanka, launched a national programme called Pilisaru in 2008, supporting the construction and operation of composting plants in LGs. The Pilisaru programme also provides training to municipal staff in the operation and maintenance of such plants, as well as providing design and business support. The Ministry of Local Government and Provincial Councils established the National Solid Waste Management Support Center (NSWMSC) to provide technical support to the nine provinces and to collaborate with the Ministry of Environment, the Ministry of Planning, the Central Environment Authority, and the Waste Management Authority of the Western Province, as well as international donors.

With national support, many LGs have taken steps to establish compost facilities in their respective cities as a strategy to manage organic waste. Currently, more than 70 medium and small-scale compost plants are in operation nationwide, although most face challenges in ensuring the sustainability of operations. IGES in partnership with the Japan International Cooperation Agency (JICA), Sri Lanka and the NSWMSC therefore organised a national workshop in March 2014 inviting more than 100 participants from relevant

national organisations, local governments, NGOs and academic institutions to share best practices, discuss key challenges and identify recommendations for improving composting in MSWM.

The workshop participants recognised the co-benefits of composting in MSWM but identified that current composting programmes do not operate to their full potential because composting uses mixed waste and is not integrated into the MSWM system. There is also a lack of capacity in choosing suitable technologies and their application, a lack of financial viability, difficulty in finding suitable land and high operational costs, including quality control and marketing. It was recommended that LGs introduce separated waste collection systems and integrate composting into their MSWM strategies, that synergies between different actors in composting should be recognised, and that partnerships should be formed between actors with complementary skills. Local and national governments need to be convinced of the economic benefits of composting and begin to pass some of these benefits on to producers as tipping fees or gate fees to motivate more private sector participation. There is a need to develop simple and easy to follow procedures for granting national standards for organic quality compost as well as establish research and capacity building programmes in collaboration with local and international research agencies, academic institutions and multilateral development banks.

Publications

Policy Brief:

“Quality Education for Sustainable Development: A Priority in Achieving Sustainability and Well-being for All”

Enhancing quality should now be the foremost priority for educational development, and this policy brief presents an Education for Sustainable Development (ESD) Learning Performance Framework (LPF) to address both learning processes and educational contents. The LPF provides a roadmap for how stronger ESD can promote greater educational quality, and can serve as a basis for developing targets and indicators for both the post-2014 Global Action Programme on ESD and the Sustainable Development Goals (SDGs).



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Policy Brief:

The Feasibility of Pricing of Carbon Emissions in Three Northeast Asian Countries: Japan, China and the Republic of Korea

Based on IGES original research surveying the policy preferences of companies in energy-intensive industries in Japan, China and Korea, this policy brief discusses the feasibility of implementing carbon pricing measures in these three countries. A rise in carbon prices accelerates the application of energy saving technology and a modest price is affordable for the businesses. Accordingly, policy recommendations are proposed for each country.



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Memorandum of Understanding Signed with Myanmar on Environmental Policy

On 6 March 2014 IGES signed a memorandum of understanding with the Myanmar Ministry of Environmental Conservation and Forestry to support cooperation on environmental policies.

IGES has been working with the government of Myanmar in the areas of waste, water resources, forest resources and climate change. IGES will

continue to promote activities that contribute to sustainable development in Myanmar whilst making use of the experience gained in the fields of pollution prevention and environmental protection in Japan, as well as the knowledge obtained from environmental cooperation with Southeast Asian countries.



Shonan Village Academia “Garbage and Global Warming – Cambodian Action”

On 1 March 2014 the Shonan Village Academia entitled “Garbage and Global Warming – Cambodian Action” was held at IGES’ Hayama headquarters, with Mr. Yoshiaki Totoki, a researcher from IGES’ Sustainable Consumption and Production Area, giving the presentation. (Sponsored by IGES/ Kanagawa International Foundation)

Mr. Totoki spoke on the topic of waste management in Cambodia’s second city Battambang, and introduced activities that IGES carried out there. He gave a clear, easily understandable description of the relationship between the familiar problem of waste management and how it links with global warming, and also talked about the importance of the 3Rs (reduce, reuse and recycle waste).



IGES Affiliate Membership

IGES welcomes affiliate members from corporations, NGOs, the public and students. The purpose of the IGES affiliate membership is to publicise IGES strategic research activities and ask the members to support IGES activities.

Registered affiliate members receive priority announcements and registrations for symposiums and seminars hosted by IGES, as well as IGES publications. IGES puts up the logo marks of membership foundations, corporations and NGOs on the IGES website to show their support. In addition, members

receive preferential tax treatment.

IGES welcomes all new members and hopes they will take an active role in IGES research activities.

For details, please visit <http://www.iges.or.jp/en/outline/member.html>

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