



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.