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practices and solutions

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APN
Asia-Pacific Network for Global Change Research

SC 6.6 Linking climate change adaptation, disaster risk reduction, and loss & damage: lessons toward resilient Asia-Pacific region
Thursday 12 May, 13.45 – 15.30, Tokyo Room

Since its establishment in 1996, Asia Pacific Network for Global Change Research (APN) has been supporting efforts to increase scientific capacity development of countries in the Asia-Pacific region to address global change and sustainability issues. Work has been done in various thematic areas related to global change and sustainability, one of which is on the theme of climate change adaptation.

Climate change adaptation has been receiving increasing attention particularly among developing countries. Under a number of initiatives linked with UNFCCC; approaches to address adaptation associated with extreme and slow-onset events, particularly for countries most vulnerable to climate change, are ongoing in the APN. Through its Climate Adaptation Framework, launched in 2013, APN has been supporting efforts to enhance science-based adaptation through a number of projects, integrating climate change adaptation, disaster risk reduction and loss and damage.

100-word Abstract
With the UNFCCC Cancun Agreement for Adaptation and Warsaw International Mechanism for Loss and Damage in 2011 and 2013, respectively, disaster resilience through science-based climate adaptation and loss and damage has become part of APN's Climate Adaptation Framework. The session will present case studies and guidelines for strengthening adaptation and risk reduction plans from national to grassroots levels in the Asia-Pacific region. The session will promote knowledge on approaches to respond to slow onset and extreme climatic events; economic and non-economic Loss and Damage, impacts on most vulnerable, and integrating slow onset events and extreme events into climate-resilient development processes.

Session Presentations and Speakers

1. Twenty years of research and scientific capacity development in Asia Pacific Region: Integrating climate change adaptation, disaster risk reduction, and loss and damage - Linda Anne Stevenson, APN Secretariat, Japan
2. An analysis of longer-term (5-10 years) recovery following major disasters in the Asia-Pacific region: Lessons for resilient development - Michael Boyland, Stockholm Environment Institute-Asia (SEI-Asia)
3. Thailand Assessing linkages between CCA, DRR and L&D: case studies in the floodplains of Cambodia, Indonesia, Philippines, Thailand and Vietnam   - Perlyn Pulhin, Oscar M. Lopez Center for Climate Change Adaptation and Disaster Risk Management Foundation (OML Center), Philippines
4. Integrating climate change adaptation, disaster risk reduction, and loss & damages to address emerging challenges due to slow onset processes   - Joy Jacqueline Pereira, Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM), Malaysia
5. Addressing non-economic losses and damages associated with climate change: Learning from recent past extreme climatic events for future planning - S.V.R.K Prabhakar, Institute for Global Environmental Strategies, Japan

Session Summary

Presentations
Dr. Stevenson highlighted 20 years of research and scientific capacity development in Asia-Pacific at APN. During the past two decades APN has funded over 420 projects to the value of US$ 28 million. The Adaptation Futures session presents the work of four project activities under the APN Climate Adaptation Framework that investigate the **links between adaptation and DRR, in the context of loss and damage**. Meeting adaptation needs, for mutual prosperity of people and the planet, requires

approaches that include understanding the range of risks and vulnerabilities at play in a given context, meaningful stakeholder engagement across disciplines, the co-production of knowledge via enhanced partnerships, and effective communication of knowledge, experiences, and best practices.

Mr. Boyland, SEI Asia, presented the emerging insights from a project that brings together researchers from five institutions in the Asia-Pacific region to analyse long-term recovery processes following major disasters in the region with the goal of better understanding loss and damage systems and post-disaster resilience building. Economic and non-economic disaster losses and damage in the region are increasing, and over the past decade several major disasters have struck. These events, specifically the root causes of vulnerability and protracted recovery processes, need to be better understood as disasters also present windows of opportunities for positive and transformative change in practices and governance in affected areas. Analysing disaster case studies, including flooding in the Mekong delta in Cambodia and Vietnam (2000-2001), the Indian Ocean tsunami in Aceh, Indonesia (2004), and flooding in central Thailand (2011), this project uncovers the wide range of loss and damage system types that exist, and is developing a typology for post-disaster loss and damage systems. This typology is used to differentiate the array of interventions by beneficiary, geographic and temporal scales, resource level, decision-making process, and legitimacy. Approaches to improving loss and damage systems for resilience building centre on striking the balance between bottom-up and top-down approaches through both effective local empowerment and strong leadership and coordination of actors, improving the accessibility of flood insurance for the most vulnerable, widespread risk-informed development during post-disaster reconstruction and recovery, and effective disaster risk management strategies for meeting short-term humanitarian needs and long-term resilient and sustainable development goals. The case study investigations also reveal the different recovery narratives, such as build back better and linking relief, rehabilitation and development that exist to shape recovery processes and interventions. The dominant narratives are constructed by coalitions of elite powerful actors that control resources (i.e. governments and donors), but can differ significantly from those of local authorities and affected communities.

Dr. Pereira, SEADPRI-UKM, presented findings from integrating adaptation, DRR and loss and damage to address increasing climate risk, both disasters and slow onset events, in Southeast Asia. Many countries in the region face high levels of multi-hazard risk, the majority of which are climate-driven. Rapidly growing cities are particularly vulnerable to economic losses. To better understand these risks, different data sets at several scales are required, but there is often a mismatch between the scale of information available (e.g. for risk mapping) and the local authority decision-making power. Risk mapping needs to become more localised, and therefore accurate, through the co-production of scientific and traditional community knowledge. In Hulu Langat, Malaysia, there is emerging flood and landslide susceptibility, and the project is combining scientific and community knowledge to evaluate the cascading multi-hazard risks. Through this approach, the communities have increasing ownership of and engagement with early warning systems, and are continuously improving the quality of available risk information. Community risk maps and emergency plans are key communication outputs of this approach, which is also being tested in Eastern Selangor, Malaysia, where sea level rise places the groundwater at risk of salinization. A notable challenge of understanding emerging and cascading risks is the availability of sufficient data for loss and damage assessment and risk mapping. New and innovative models for risk sharing and effective social protection schemes are required to reduce vulnerabilities, as well as the overall synchronisation of scientific inputs and local administrative processes.

Ms. Pulhin, OML Center, presented on-going work in developing a framework for linking adaptation, DRR and loss and damage assessments. Through Southeast Asian case studies, a number of issues and needs have emerged, including the low availability of reliable and comparable data leading to inaccuracy in loss and damage estimations, and the lack of clear, consistent guidelines and methodologies for loss and damage assessment. Further, collection of non-economic loss and damage data is currently low priority. From the research, the following recommendations are made; better integration of local and technical knowledge, more effective capacity building and risk communication, stronger governance institutions and enabling policies, and a more systematic loss and damage methodology and assessment framework. The proposed framework for linking adaptation and DRR through loss and damage sees the combination of predictive and reactive loss and damage systems through a socio-ecological systems lens. A significant limiting factor that still needs to be overcome is the fact that often disasters will transcend national political boundaries, making loss and damage assessment challenging, particularly where different countries use different assessment procedures. A shared regional framework could help address this challenge, and

also increase the availability of data in cases where individual country capacity is low due to limited resources and increasing disaster impacts.

Dr. Prabhakar, IGES, focused on assessing and addressing non-economic loss and damage. Non-economic loss and damage may be "subjective and non-verifiable" but can be more significant than economic losses and damages. They need to be better considered and more widely reported. Through two case studies, Bangladesh and Japan, three categories of non-economic loss and damage are found; human functions, socio-cultural assets and environmental assets. In terms of loss and damage assessments, there are a number of quantitative and qualitative methodologies, but overwhelmingly they are derived from disaster rather than climate change contexts. Further, many are too complex for comprehensive use. In order to better prioritize adaptation interventions, the research in Bangladesh, Thailand, India and Japan employed a multi-criteria assessment methodology called the analytic hierarchy process (AHP) to capture both subjective and objective evaluation measures. Selected results suggest the importance of access to sanitation, compensation, and disaster preparedness plans for reducing non-economic loss and damages following cyclones. Low importance is attached to insurance as it is rarely considered for non-economic losses, and increasing income does not necessarily lead to immediate improvements in non-economic aspects of life. To raise the profile of non-economic loss and damage on the political agenda, governments must be provided with compelling evidence for its importance, so that indicators can be incorporated into existing forms of data collection.

Discussion

The Focused Science Session on "*Linking Climate Change Adaptation, Disaster Risk Reduction, and Loss and Damage: Lessons toward Resilient Asia-Pacific Region*" gathered knowledge gained from APN-supported projects and invited knowledge sharing and input from participants. Points raised during the discussion included elaboration on how to measure resilience in the Philippines; integration of CCA, DRR and L&D for understanding risk; role of the research community for reducing risk by providing methodologies and compelling evidence for policy-makers. There was consensus that there are still a lot of knowledge gaps and challenges in L&D systems that require smaller step-by-step processes that take time; although there is a strong awareness that, for policy-making processes, these steps need to be quickened. The limitations are often complex in nature, require steep learning curves and, with the current lack of experience and methodologies, particularly in a developing Asia-Pacific providing decision-relevant information for DRR and CCA will continue to be a challenge for the foreseeable future. For example, for prioritizing adaptation interventions, multi-criteria methodologies that cross sectors and scales are crucial. In closing the discussion, 2 key questions were highlighted: Is all that is currently reported sufficient for decision-making on DRR & CCA measures? And, how can DRR & CCA measures differ to address residual L&D and how best can the interactions be designed to achieve effective results? These questions will form part of a synthesis of the work conducted under CCA-DRR-L&D by APN.

Wrap-Up/Key Message

1. Challenge discussed
Residual loss and damage from climate change that goes beyond adaptation and resilience. This is already happening in the Asia-Pacific region and includes both rapid onset events like floods and hurricanes as well as slow onset events like sea level rise and also non-economic loss and damage.
2. How is the challenge being addressed?
As this is a new and emerging area, APN has been supporting a series of research projects in the Asia Pacific region (with funding from Government of Japan).
3. What needs to happen next?
The Research needs to be completed, published and synthesized to inform policy makers at national, regional and global levels.