

APN, LoCARNet and AIT-RRC.AP Capacity Building Workshop and Science-Policy Dialogue on Climate Change: Low Carbon and Adaptation Initiatives in Asia

6 – 8 February 2017

AIT Conference Centre, Asian Institute of Technology Thailand

Summary Report on Day One Capacity Building Workshop

APN, LoCARNet and AIT-RRC.AP Capacity Building Workshop and Science-Policy Dialogue on Climate Change: Low Carbon and Adaptation Initiatives in Asia¹

SUMMARY

The Low Carbon Asia Research Network (LoCARNet), together with the Asia-Pacific Network for Global Change Research and the Regional Resource Centre for Asia and the Pacific (RRC.AP) of the Asian Institute of Technology (AIT), organised a three-day capacity building workshop and policy dialogue on climate change, low carbon and adaptation initiatives in Asia. The three-day event took place in Bangkok from 6 to 8 February 2017. This report presents the brief summary of the proceedings from the first day relating to LoCARNet's capacity building workshop on climate change and low carbon development in Asia.

LoCARNet works to foster dialogues between researchers and policymakers. Its core activities focus on three specific means: policy dialogues, capacity development, and knowledge sharing. With financial support from the Ministry of the Environment of Japan, the Network has facilitated dialogues in several Asian countries such as Bangladesh, Cambodia, Indonesia, Malaysia and Thailand. In continuation with its previous activities, the recently-held workshop will bring together regional and national policymakers and experts as well as other public and private stakeholders for informed and practical discussions on challenges and progress toward low carbon development in Asia. *It focused on three thematic sessions:*

- *The role of Asia in mitigating climate change: The Paris Agreement and beyond*

This session started with an overall understanding of how Asia has fared so far in its path toward low-carbon society. Following this, the session focused on identifying the gaps in building synergies between research, policymaking and implementation, and highlighted the growing importance of capacity development in Asia.

- *Science-based research and integrated climate policy*

This session discussed science-based methods for assessing low-carbon society measures. Several instances of quantitative tools such as the Japan 2050 Low Carbon Navigator was presented. One

¹ This report presents the summary of the day one workshop (LoCARNet-related) on capacity building for low carbon development. The policy dialogue (APN-related) on days two and three are not included. This brief report has been prepared by Dr. Mustafa Moinuddin, Senior Policy Researcher of Green Economy Area at the Institute for Global Environmental Strategies (IGES).

presentation highlighted the use of the Asia-Pacific Integrated Model (AIM) and its contribution to developing Thailand's nationally determined contributions (NDCs). The session also presented national perspectives from Thailand for achieving its NDCs.

- *The role of the research community in supporting capacity building for low-carbon development*

This session discussed how to strengthen regional capacities for low carbon development by making use of some of the already existing activities and how to scale up these activities. For this, regional, national and sub-national level experiences from Thailand and Malaysia were presented. This session also highlighted the effort of LoCARNet to support capacity development in Asia.

A panel session followed the thematic sessions to propose the next steps in integrating researchers from different disciplines, taking into consideration the global policy processes (the Paris Agreement and Sustainable Development Goals) and with a focus on Asian regional perspectives. .

OPENING SESSION

The opening session set the context of the workshop with welcome remarks senior representatives of the LoCARNet, APN and AIT/RRC.AP. **Mr. Osamu Mizuno, Director of AIT/RRC.AP** noted that Asia needs to initiate actions to achieve the Sustainable Development Goals (SDG) and the Paris Agreement. However, Asia faces serious gaps in capacity in the region's efforts to combatting climate change. He argued that Asia needs capacity building in all areas, but perhaps the most urgent need is for moving from policy to action. Mr. Mizuno informed the audience about a new initiative – Climate Change Asia (CCA), which was launched in January 2016 to meet diverse but specific needs of capacity development in Asia. CCA's activities aim at supporting Asian countries in particular regarding their capacity development for implementing the SDGs and the Paris Agreement. However, to promote this initiative, CCA needs partnership with like-minded institutes to mobilise available expertise and resources. The supported and praised the collaboration between AIT/RRC.AP, LoCARNet and APN for holding the workshop and policy dialogue in Bangkok, noting that it is a small but important step for low carbon development in Asia.

In his welcome remarks, **Professor Shuzo Nishioka, Secretary General of LoCARNet**, pointed out that a breakthrough in global climate policy was realised at COP21. In order to achieve the 2°C target, knowledge and wisdom from around the world must be collated. Further, having entered the stage of action, for sharing scientific knowledge with civil society, private industry, the financial sector, cities and local administrative bodies, it is necessary for the actors involved to implement mitigation and adaptation measures and take action. COP21 bookended an era of protracted climate negotiations and led to a new

era for action and implementation towards realising low-carbon, or decarbonised societies, where not only national governments but also non-state stakeholders will be focused on as actors of the transition. In other words, actual actions on the ground at all levels will take centre stage. And, to carry out the make-it-happen for the transition, we will need to foster science-based expert communities in each country and develop systems to keep the stakeholders concerned updated with all available and pertinent knowledge. Professor Nishioka reminded the audience that Asia has an important role to play in the global low-carbon transition, both due to its significant present and future emissions as well as its high vulnerability to climate change. Improving capacities in this region therefore is utmost important. LoCARNet, together with other institutions sharing similar values, is working on supporting Asia's low carbon development efforts through promoting dialogues among researchers and policymakers. He praised the workshop and policy dialogue initiative and encouraged the audience to actively participate in the workshop discussions.

Dr. Monthrip Sriratana of APN expressed her satisfaction to the policymakers, experts and other participants at the three-day event. She noted that since its establishment in 1996, APN has been actively promoting low carbon development in Asia. From 2010 onwards, APN has adopted a three-pronged strategy to support (i) regional initiatives (such as low carbon development pathways, scenarios etc.); (ii) capacity building activities, development of educational toolkits, and dialogue between researchers and policymakers; and (iii) communication and networking activities. Dr. Sriratana recalled that the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) noted the optimism that substantial reduction over the next few decades can indeed reduce the threat of climate change in the 21st century and beyond. She further noted that climate technology development and transfer is important in combatting climate change and in developing resilience. She concluded by wishing the success of the workshop and the policy dialogue.

SESSION I

THE ROLE OF ASIA IN MITIGATING CLIMATE CHANGE: THE PARIS AGREEMENT AND BEYOND

This session was chaired by **Professor Shuzo Nishioka of LoCARNet**, and it included three keynote presentations. **Dr. Bindu Lohani, currently a faculty at AIT and former senior official of the Asian Development Bank (ADB)**, talked about Asia's path to a low carbon society. He held that the significance of Asia's role in combatting climate change is clear, and that Asia urgently needs to make some transformational strategies and take actions in order to ensure the success of the Paris Agreement. Dr.

Lohani then focused his talk on what Asia looks like now, and what Asia needs to do to ensure resilient low carbon development. He observed that Asian countries' nationally determined contributions (NDC) targets can be achieved just by business as usual activities, but in fact Asia can contribute far more to the Paris Agreement's success. This, he argues, is logical because it is in Asia's own interest to choose a low carbon path. If nothing is done, then as much as 10% of Asia's GDP can be lost by the year 2100. Dr. Lohani suggested that for Asia, transforming the energy sector will be the key. Under the current or business as usual option, fossil-based conventional fuels will be the bedrock of Asia's energy until 2040. Plenty can be done to change this. He proposes several major transformation opportunities of Asia's energy sector. To begin with, Asia's energy efficiency is now same as the world average, but there are lots of opportunities to improve the region's energy efficiency, which will contribute immensely to reduce emissions. Next, Asia can focus more on increasing the share of renewables in its total energy use. Unlike the past, now in many countries the cost of generating renewable energy is same or below the cost conventional fossil fuels. So it seems appropriate for Asia to focus on renewable energy. Next, many Asian countries are heavily dependent on coal-based power plants. It will be hugely beneficial if the old subcritical power plants are retrofitted with supercritical plants. Other areas that need special focus are cities, urban transport, agriculture land use, low carbon infrastructure and so forth. Dr. Lohani argued that Asia needs to transform policies, strategies and mechanisms. For example, putting a price on carbon (carbon tax) generates tremendous results, and in Asia the cost of carbon tax at a global scenario in terms of GDP reduction is quite small and affordable. Asian countries should work together to lead similar initiatives, do most of the things by themselves and within Asia.

Ms. Ina F Islam, Deputy Director of the International Centre for Climate Change and Development (ICCCAD), presented her views on building synergies between research, policymaking and implementation for low carbon development in Asia. She noted that Article 11 of the Paris Agreement places climate change education as a central element in climate action. Capacity and transparency are also emphasised, noting the need for short term as well as long term capacity, while at the same time capacity building should be participatory, cross-cutting and efficient. Ms. Islam observes that the Paris Agreement calls for a paradigm shift, for which enabling creativity is important. To generate a paradigm shift, we need appropriate institutions as platforms. Ms. Islam argues that one major institution could be universities. As the tertiary education institution, universities can bring together researchers and policy makers, and also has the capacity for generating knowledge. Based on the experience from her own institute, she called for increased collaborations among academic institutions from North and South, as well as among South and South. She further highlights that her institute is also actively collaborating with the government through several ministries in Bangladesh.

In the last presentation of the session, **Professor Juan M. Pulhin of the University of the Philippines Los Banos** talked about the growing importance of capacity development in Asia. He started with the challenges of capacity development in the context of the Paris Agreement. Then he introduced the basics of the concept of capacity development, including the process, availability of resources, and the dimensions of capacity development. Professor Pulhin explained the capacity development needs for a low carbon Asia and provided several examples of capacity development initiatives towards low carbon society. At the regional level, APN's training workshops that develop scientific capacity to formulate low carbon scenarios and pathways as well as dialogue between researchers and national/ local policy makers in developing member countries and development of educational toolkits on low carbon development were emphasised. Professor Pulhin also provided national level example from the Philippines such as trainings on the conduct of GHG inventory for incorporation in the Local Climate Change Action Plan or capacity development of local government authorities on Climate Resilience and Green Growth. He concluded by highlighting that moving from high carbon path of development towards a low carbon society in Asia requires more comprehensive, integrated, and sustained capacity development process at the individual, organizational, and environment levels across space and time. Different stakeholders requires different types of capacity development to realize the low carbon society goal in Asia which requires more investments. Finally, concerted capacity development efforts at the local, national and regional levels in the spirit of collaboration and sharing of resources will better achieve the goal of low carbon development in the Asian Region.

Following the keynote presentations, an open floor discussion was held to allow the audience to have a more lively discussion with the three panellists. One major issue raised from the audience was regarding funding for adaptation measures. Climate funding has typically gone more in the direction of mitigation actions, but in Asian developing countries adaption may be more important. It was suggested by the panellists that it will be effective to make climate screening for adaptation mandatory for certain projects. For example, renewable energy projects already spare some money for adaptation. And at present, funding for adaption in Asia is not too bad. Another important issue raised during the discussion was about bridging the gap between research and policymaking. The panellists suggested that incremental approach in bringing various stakeholders together is necessary. It takes time to build relationships. One panellist also observed that developing countries probably spend too little in research and development. Finally, it was suggested that unlike the past, capacity development initiatives need to focus more on the longer term than short term to ensure effectivity.

SESSION II

SCIENCE-BASED RESEARCH AND INTEGRATED CLIMATE POLICY

Dr. Bindu Lohani of Asian Institute of Technology chaired this session on science-based research and integrated climate policy. The panellists of this session presented several instances of the use of analytical tools that have been used, or can be used in formulating and analysing climate-related policies.

Dr. Phirun Saiyasitpanich, Director of Climate Change Management Coordination Division of Thailand's Office of Natural Resources and Environmental Policy and Planning discussed about achieving Thailand's nationally determined contributions (NDC) from the national perspective. Starting with an overview of Thailand's climate change situation and impacts, Dr. Saiyasitpanich discussed the Paris Agreement and Thailand's response to the Agreement. This was followed by an explanation of Thailand's efforts to address climate change, including the national institutional structure for climate change mitigation. The final part of Dr. Saiyasitpanich's presentation focused on Thailand's INDC/NDC, how they were formulated, the procedures for NDC roadmap development, plans to meet the NDC targets as well as the supporting measures. The national-level example from Thailand provides a clear picture of the interaction between science and policy and its significance in informed, integrated climate policymaking.

The next panellist, Dr. Bundit Limmeechokchai of Sirindhorn International Institute of Technology at Thammasat University discussed about quantitative analytical tools for assessing low carbon society measures in Asia. He shared his experience of using the Asia-Pacific Integrated Model (AIM) for Thailand. The AIM model, developed by the National Institute for Environmental Studies (NIES) of Japan, is a very useful tool used for emissions mitigation analysis. The AIM modelling framework can be applied both at national and global levels, which can take a top-down (AIM/CGE), hybrid (Aim/ExSS, AIM/Enduse, AIM/Backcast and AIM/Energy Snapshot), or bottom-up approach (Element/transition (service demand)). Dr. Limmeechokchai introduced the variants of the AIM model. Next, he explained the low carbon society (LCS) modelling for Thailand. For example, the LCS scenarios were developed by AIM/ExSS, the mitigation targets and the roadmap to low carbon Thailand were developed by AIM/Enduse, and economic impacts were analysed using AIM/CGE. Dr. Limmeechokchai's presentation included the role of Integrated Assessment Model (IAM) in Thailand's domestic discussions. Then he focused his discussion on a policy package for roadmap to "low carbon Thailand". He provided how the IAM was

successfully applied to Thailand's LCS, explaining the high potential scenarios, abatement costs, co-benefits, and identified actions necessary for achieving LCS.

Dr. Mustafa Moinuddin, Senior Policy Researcher at the Green Economy Area of the Institute for Global Environmental Strategies (IGES) then presented the Japan 2050 Low Carbon Navigator, an innovative, easy-to-use simulation tool for assessing Japan's energy systems and emissions up to 2050. His presentation focused on how the tool can be applied for assessing climate policy impacts. He provided background information on Japan's energy and climate policies, and the 4th strategic energy plan. Next, the key features of the Japan 2050 Low Carbon Navigator — including the methodologies, scenarios and trajectories setting, how results are generated, and what questions it can respond — were introduced. Dr. Moinuddin then explained how the Navigator tool has been modified to help assess the 3E+S (economic efficiency, energy security, environmental protection, and safety) policies as set forth in Japan's 4th strategic energy plan. Based on the inputs provided by the users of the Navigator, the tool generates results on the impacts related to the 3E+S policy, reflected through changes in a set of predetermined indicators (dependence on imported energy, diversification of energy sources, total and sectoral costs per capita, total greenhouse gas emissions and emissions intensity of energy, and share of nuclear in power generation mix) that are included in the Navigator. Dr. Moinuddin informed the audience that the Low Carbon Navigator has been developed as a tool that gives the users an option to look ahead to understand what would happen and what could be done. In this end, the inclusion of option to see how the chosen pathways affect governmental policies (i.e. the "3E+S" objectives), is unique and useful. He further demonstrated that the tool can also be used for assessing various pathways for achieving Japan's NDC and associated additional costs. The Japan 2050 Low Carbon Navigator, he concluded, serves as an important tool to generate awareness among researchers, policymakers and the general public, provides a platform for engaging debate on the energy and emissions choices that Japan faces, and also serves as an easy-to-use but practical education tool.

Following the presentations, the panellists also responded to some queries and questions from the floor. Several questions were asked about the replicability of the discussed scientific methodologies in other country situations. The panellists provided examples of how these and similar tools and methodologies are already being used in some other Asian countries, and informed the audience that all these methodologies can also be used in or developed for other countries as well. There were specific issues raised, such as the choice of indicators for safety under the 3E+S policy assessment in the Low Carbon Navigator. Some audience suggested that share of nuclear in the total power generation may not always reflect safety, for which the panellist as well as the session chair explained that the issue of safety varies from country to country and hence it is contextual. In post-Fukushima Japan, given public concerns,

nuclear safety is a national issue and the proxy indicator thus is suitable for Japan. On other issues, data sources as well as the quality of data were also discussed. The panellists concerned explained what type of data has been used in the models, how they were treated and how they were reviewed by several other institutions. The overall discussion of the session provided both generic and specific examples and guidance for demonstrating how science-based research can reinforce integrated climate policymaking.

SESSION III

ROLE OF THE RESEARCH COMMUNITY IN SUPPORTING CAPACITY BUILDING TO FACILITATE COUNTRY-LEVEL LOW CARBON DEVELOPMENT

Chaired by **Dr. Bundit Limmeechokchai of Sirindhorn International Institute of Technology at Thammasat University**, this session included three panellists talking about the role that the research community can play in supporting capacity building for low carbon development at the country level. **Ms. Tomoko Ishikawa from the LoCARNet Secretariat at IGES** was the first panellist. Her discussions focused on three major topics: why capacity development is urgently needed in context of Paris Agreement; present circumstances and opportunities of capacity building for LCD in developing countries, particularly in Asia; and role of research community and Low Carbon Asia Research Network (LoCARNet) as practical example. She noted that against the background of the Paris Agreement, Asia has crucial roles and responsibilities in terms of climate stabilisation and that capacity building for supporting developing countries' leapfrog development should be put forward. LoCARNet, she explained, is working in this end, as demonstrated by various examples provided in her presentation. There are many positive signs that have also emerged recently. For example, Thailand, Malaysia, and Indonesia already established links with science and policy, and some other countries such as Vietnam and Cambodia in the process of forming research communities. However, Ms. Ishikawa further noted that research communities in Asia are still insufficient and that there is an urgent need to bridge science to actions and implementations in close collaboration with experts in this region.

Next, **Professor Ho Chin Siong from Universiti Teknologi Malaysia** talked about the capacity building needs for low carbon development at subnational/city level in Asia. Based on his own work, he shared experiences from Iskandar city project in Malaysia. He explained Malaysia's commitment to address climate change and low carbon development, including country-level plans, issues and visions. Then he explained how the Iskandar city project evolved from a policy blue print to a local action plan. He briefly explained the modelling and policy documentation for the low carbon development project, including the

roadmap towards low carbon Iskandar by 2025 and ways to accelerate the implementation of decarbonisation. Professor Ho noted that the role of research communities towards NDC development and implementation is by working in collaborating with policy makers with good methodology, baseline study with models and developing scenarios for policy makers to make better objective decision. Effective implementation of low carbon measures at city level needs multi-disciplinary professional input and multi stakeholders and buy in. Low carbon measures has to relate to local co benefits (safety, income generation or increase in property value, health improvement, better air quality, saving from commuting, stronger community engagement and interaction). Finally, he highlighted that S2A (Science to Action) paradigm can facilitate the formulation and implementation of science-based policies for low-carbon development in the Asian region order to realise a sustainable future based on a stabilised climate.

The final presentation of the session was made by **Ms. Chanyaphak Wathanachinda from Climate Change International Technical and Training Center (CITC), Thailand Greenhouse Gas Management Organization (Public Organization) (TGO)**. Ms. Wathanachinda share the experience of Thailand from working on capacity building needs for low carbon development. She observed that both the Paris Agreement and the Sustainable Development Goals (SDG) call for enhancing capacity development for efficient implementation. She recalled Thailand's nationally determined contributions (NDC) and stressed the significance of capacity building for achieving the NDC. Ms. Wathanachinda then introduced her own institute, CITC with specific illustrations of the activities related to capacity development for climate change. She highlighted that CITC services include training, networking and collaboration, and knowledge dissemination, all of which are significant for capacity development. She further elaborated the CITC knowledge areas, which include climate change policy, climate change actions for adaptation and mitigation, and climate change sciences, and greenhouse gases inventory and accounting. Then she elaborated a number of signature courses on climate change offered by the CITC to policymakers and local government officials, researchers and academicians, practitioners, as well as financial and other specialised agency officials. The courses, ranging from climate change economics to management for sustainable development to climate change finance, are offered both for domestic and international audiences.

A question and answer session followed the panel presentations. There was an inquiry for Professor Ho about the selection of Iskandar, a Malaysian city for the model low carbon development project. Professor Ho explained that a Malaysian city may provide as an intermediate example for the model project, which other Asian developing countries could follow up. This would not be the case if for example a Japanese city was chosen, because the gap between a Japanese city and another city from developing Asia may be too big and may not be a role model. There was another question whether low carbon development

is compatible with economic growth or not. There is a general perception that low carbon development could be expensive and may retard economic growth. The panellist explained that this is not necessarily the case as low carbon actions can also promote growth. One of the audience also pointed to the studies done under UNEP/PAGE's Green Economy Initiative, where it is quantitatively demonstrated that green investment for green growth can in fact generate economic growth and create job opportunities, among other benefits. Another issue discussed was about linking national and local level implementation. The panellists pointed out that at the national level it is more related to political statements but the real actions for implementation take place basically at the local level. Nonetheless central and regional governments also play an important role by providing support to these activities.

SESSION IV

PANEL DISCUSSIONS/CLOSING

The final session of the day was through a panel discussion followed by closing remarks. **Professor Shuzo Nishioka of LoCARNet** chaired this session. The panel members for this session were **Dr. Bindu Lohani of AIT, Ms. Ina F. Islam of ICCCAD, Dr. Bundit Limeechakchai of SIIT/TU, Prof. Ho Chin Siong of UTM, Dr. Shobhakar Dhakal of AIT and Professor Juan M. Pulhin of UPLB**. In the beginning the chair explained that now that the Paris Agreement is already active, capacity building is emphasised and needs urgent action. The roles of cities, companies and people are also far more emphasised than the past. He outlined three specific questions/issues upon which the panel discussion will concentrate:

- Intervention on how to (i) integrate researchers from different disciplines, and (ii) enhance dialogue among research communities and decision makers
- Specific focus on global policy process (the Paris Agreement and the Sustainable Development Goals)
- Specific focus on Asian regional perspectives.

One panelist noted that the first question was basically the focus of the day-long discussion. How to integrate different disciplines is a complex issues, and that it will require multi-stakeholders involvement. It needs a paradigm shift in terms of breaking the disciplinary barriers. Multi- and transdisciplinary approaches are needed. This needs to be institutionalised at academic and research institutes. A university-based example was given. The university has recently institutionalised an interdisciplinary centre where faculties come from various backgrounds ranging from engineering to social science to identify and address problems in an interdisciplinary manner. There is a need to promote more dialogues on problem-related issues. Engaging targeted stakeholders to the output dissemination is also important. It would be valuable to take an aim-oriented approach, such as what type of knowledge outputs

are aimed at. It generates interests among stakeholders. Enhancement of dialogues for effective communication is central to this discussion. So the question is how to communicate efficiently in a manner that is not only understandable, but also relevant and appreciated by the policymakers. Video or images can be helpful to gain the interest of policymakers and also address their problems. Thus is necessary to essentially look for champions in terms of policymaking and working with them from the beginning.

The need for multidisciplinary approach was endorsed by other panellists as well, particularly because addressing the problems often go through a spectrum of disciplines. The difficulty in integrating researchers from so many different disciplines were duly noted. It was suggested that the concept of low carbon development should be introduced even at the school level, and that school teachers can act as the low carbon champions. Schools thus can play a key role in low carbons society development.

The role that funding agencies can play in the multidisciplinary integration was also discussed. For example, under the Future Earth funding initiative, both research questions and researchers involved must be multidisciplinary. So it was suggested that how the funding agencies can work to promote multidisciplinary approaches could be further elaborated. The chair supported the question and provided example of a 1999 Japanese scheme on trans-ministerial research funding plans, noting that it can be a useful way that other countries can follow. The chair also recalled his experience from reviewing a report of the Intergovernmental Panel on Climate Change, where he found that the task needed multidisciplinary approach especially from the science community.

One of the panellists pointed out that the intent for integrating researchers and policymakers need to be clear from the very beginning. And then comes the question of what platform should be used for integrating different stakeholders groups. Universities, for example, could be an ideal platform where multiple stakeholders, governments and private groups can be easily brought together. It is also the platform where knowledge is generated. Some important steps are partnerships among universities from developed and developing countries as well as among developing countries themselves.

A gap in the SDGs in terms of inter-related research was discussed when focusing on the question on global policy processes.. For example there are separate goals for water and energy, but nothing related to their nexus. Similar silo approach is seen in the academia as well as the multilateral development banks. Basically there is a need for both top-down and bottom-up approaches.

The issue of cost of policy was raised. It is easy to say there is a need for policy change, for example from coal to renewables. But for many countries it will incur a cost of millions of dollars. So the process is not as straight-forward as it seems. Many other things need to be taken care of.

The role of the media is also important. Politicians often prefer to be present where media is present. So for enhancing dialogues, media and press can be used. For example, at the local level, media can play an important role in bringing the community and decision makers together. Another way to work with the press, one panellist suggested, is to train the reporters. There is an example from Bangladesh where ICCCAD trained an English language daily newspaper, and now the newspaper even goes to COP events to cover the news. It is often said that there is not enough evidence based policy. But often the quality research is also not available. So often it makes a difference to look into how to develop partnership between senior and junior researchers. In Bangladesh, ICCCAD is working on developing a website compiling all publications on Bangladesh, either by researchers who wrote on Bangladesh, or by Bangladeshis who worked on climate change in general. These could be some instances to follow on.

Given the common issues and challenges, the significance of regional cooperation in Asia was emphasised. If foreign direct investment comes in, when there is one country which applies carbon tax while another country does not, then there is no level playing field. Policy harmonisation through regional cooperation is therefore important.

It is clear that Asia needs some transformative changes. The role of networks such as LoCARNet and LCSR-Net are also very important. During one of the presentations, there were demonstrations of the activities of these two networks, and quite a lot of things have already started and the networks are already very active. However, the challenges ahead for Asia are also huge and LoCARNet and LCSR-Net should be further promoted to address them. These networks can perhaps pick up a few issues from this workshop (such as regional cooperation and common issues) and then put them in the agenda for LoCARNet's upcoming Annual Meeting in late 2017.
