



Proceedings

4th Asia-Pacific Climate Change Adaptation Forum New Partnerships for Resilient Development: Government, Business and Society

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ACRONYMS

ACCCRN	Asian Cities Climate Change Resilience Network
ADB	Asian Development Bank
APAN	Asia Pacific Adaptation Network
APN	Asia Pacific Network for Global Change Research
ASEAN	Association of Southeast Asian Nations
CANSA	Climate Action Network South Asia
CAREC	Regional Environment Centre for Central Asia
CBA	Community-based Adaptation
CCA	Climate Change Adaptation
COP	Conference of the Parties
CSR	Corporate Social Responsibility
DRR	Disaster Risk Reduction
EBA	Ecosystem-based Adaptation
GAN	Global Adaptation Network
GCF	Green Climate Fund
GEF	Global Environment Facility
GWP SAS	Global Water Partnership South Asia
HFA	Hyogo Framework of Action
ICIMOD	International Centre for Integrated Mountain Development
ICLEI	Local Governments for Sustainability, Southeast Asia
IGES	Institute for Global Environmental Strategies
IPCC	Intergovernmental Panel on Climate Change
KEI	Korea Environment Institute
L&D	Loss and Damages
MOEJ	Ministry of Environment Japan
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NIE	National Implementing Entity
RCCCA	Research Center for Climate Change Adaptation, Keio University
REGATTA	Regional Gateway for Technology Transfer and Climate Change Action in Latin America and the Caribbean
RRC.AP	Regional Resource Centre for Asia and the Pacific
SEADPRI-UKM Malaysia	Southeast Asia Disaster Prevention Research Initiative, Universiti Kebangsaan Malaysia
SEARCA	Southeast Asian Regional Center for Graduate Study and Research in Agriculture
SEI	Stockholm Environment Institute
SIDS	Small Island Developing States
SPREP	Secretariat of the Pacific Regional Environmental Programme
UN	United Nations
UNEP	United Nations Environment Programme
UNEP ROAP	United Nations Environment Programme Regional Office for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
5AR	Fifth Assessment Report of the IPCC

EXECUTIVE SUMMARY

The Fourth Asia-Pacific Climate Change Adaptation Forum was held in Kuala Lumpur, Malaysia, on October 1-3, 2014. It brought together more than 500 policymakers, scientists, donors, youth, and representatives from over 50 countries. The Forum was organised by the Asia Pacific Adaptation Network (APAN) along with several other partners. The Forum placed special emphasis on adaptation actors, and how they can collaborate to form partnerships and networks that enable access to adaptation solutions.

Adaptation solutions

Adaptation solutions are often available; the challenge is to make that knowledge and technology accessible where it is most needed. High-level policy frameworks and international agreements do not give a lot of guidance on trade-offs, priorities or specific solutions in adaptation, and hence, the need for networks such as APAN, which provides the opportunity for different stakeholders to discuss issues at a regional platform. As Kaveh Zahedi, Regional director of UNEP ROAP put it in his opening remarks, *“Asia Pacific countries are generators of adaptation solutions. This Asia Pacific Adaptation Forum is a place to showcase these solutions. It is also the place to learn from others generating and implementing innovative ideas and practices to reduce the vulnerability of our region and its people from the all too evident impacts of a changing climate.”*

At the same time, solutions are often partial, tentative or provisional. Adaptation planning needs to consider uncertainty, starting with ranges of plausible futures, not just assumptions on what is the most likely scenario. There is a need to learn-by-doing from safe-to-fail experiments; and, there is also a need to continue anticipating change and innovate to adapt.

Mainstreaming and transformative change

There are many opportunities to mainstream climate change adaptation (CCA) into urban spatial planning, disaster risk reduction, water management and so on. A key goal should be to minimise policy contradictions. As previous Climate Change Adaptation forums have concluded, greater efforts are needed to mainstream CCA into national development strategies, policies and programs.¹ Improving coordination is essential; including defining roles of different agencies and actors more clearly. Securing additional finance is also critical. A key strategy is to combine sources of funding; wherein one part comes from an adaptation fund, and the other from another source(s) such as a government agencies' budget. Thereby helping projects to be awarded with a higher priority and moreover, gain wider support. Adaptation is one of many issues on development agendas; however, it is usually not marked as an immediate priority. Moreover, for many others, climate change is still just an environmental problem, not an issue of development. Mainstreaming adaptation into planning and policy requires commitment: experiences in the region suggest that it is a decadal project.

Incremental adaptation is important, but it can only address a subset of risks and only for a while. Ultimately, transformative change or 'metamorphosis', will be needed in many areas of development. One such domain is with respect to inclusiveness. Women and men have distinct adaptation capacities and needs. Adaptation needs to become much more gender-inclusive and gender-sensitive. The key to just or fair adaptation, given diverse interests and values, and unequal power relations, is the empowerment of marginalised and vulnerable people. Unjust social attitudes

¹ <http://www.asiapacificadapt.net/adaptationforum/2014/past-forums>

and governance make people vulnerable. Inclusion in political processes, the removal of barriers to access resources, and solidarity, are key to empowered adaptation.

The water-food-energy nexus

The need for more integrative responses to climate change is apparent when attention is focused at the intersections of major development systems. Water, food and energy systems individually face rising constraints, and are increasingly interconnected. Attention to synergies can support adaptation; reflection on trade-offs can reduce the risks of maladaptation.

Large-scale hydropower, for instance, has been promoted as climate-compatible development. Discussions at this forum, however, noted that significant controversies persist over social justice and environmental impacts. There are also emergent concerns over how climate change might influence electricity production and dry season flow allocations to agriculture. Synergies and trade-offs are likely to depend on the location and design of projects.

The water-food-energy nexus also provides an opportunity to look for co-benefits for adaptation from mitigation. Agriculture and forestry, for instance, would appear to offer opportunities for integrating adaptation with low-carbon development. In urban planning and the energy sector, on the other hand, there often appears to be more challenges to overcome. To achieve more progress in these sectors, it may be necessary for projects to have synergies as their primary objective, rather than counting side-products.

An important insight from the forum was that governance of “supply chains” through regulations, standards and certification have significant implications for adaptation opportunities and challenges in the nexus.

Disaster risk reduction and human security

Floods and droughts already have huge impacts under the current climate. Strengthening risk management remains critical to adaptation in most sectors, especially in countries already experiencing an adaptation deficit. Building resilience more broadly, including reducing social and political drivers of vulnerability, is also important to reducing risks from climate-related disasters.

Vulnerabilities to floods may be reduced with low-cost, well-designed community-based early warning systems; whereby local residents can trust and know how to act when warned. Likewise, for droughts, information in advance on evolving seasonal conditions and the likelihood of water shortages, can help farmers reduce risks of crop failures through better cropping and water management decisions. In many situations, better information on conditions and response actions, can improve the management of climate-related risks.

While there has been good progress on improving disaster preparedness, early warning systems and emergency responses, ensuring long-term recovery following disasters increases resilience and reduces vulnerabilities, remains a challenge. Greater attention must be paid to the underlying drivers of vulnerability and human insecurity, such as political marginalisation and lack of fundamental rights. For long-term recovery, approaches which put people at the centre of recovery programs are effective. Resource centres are required at the local level for developing local capacities. By the same token, supporting legal frameworks are critical to ensuring that ‘build back better’ objectives, for instance in terms of building standards, are actually achieved.

The loss and damages from climate change can be reduced by adaptation and mitigation. Meanwhile, the residual will require significant knowledge and resources to address. Insurance could also play a larger role, but in practice, are significant financial and political impediments. Therefore, creative solutions are needed to address non-economic loss and damages.

Ecosystems and communities

Evidence presented at the forum demonstrated how ecosystem-based adaptation (EBA) brings benefits to communities and countries. It also showed that EBA is cost-effective in a wide-range of situations suggesting that policy-makers need to more seriously consider the contributions ecosystems can make to adaptation. Funding for EBA however, remains limited, and is often too short-term and project-oriented for full merits of approach to be realised.

Community forestry is one approach which combines features of ecosystem- and community-based adaptation. Local knowledge is drawn upon, and good management of ecosystems yields multiple local benefits, potentially making livelihoods more resilient to climate change and other stresses and shocks. The restoration of coastal mangroves is another example where attention to ecosystems can significantly reduce disaster risks.

Local governments are well placed to support adaptation that takes into account, services provided by ecosystems and used by residents. Though reviews suggest that local governments often do not engage communities in adaptation actions, nor do they take into account how the roles of ecosystems could play in adaptation in their planning.

Economic analysis of the benefits of ecosystem-based interventions can provide strong rationales for such approaches being pursued. Innovative instruments that reward stewardship of ecosystem services can facilitate adaptation, but more work is needed in general on the use of incentives and role of the private sector, in both ecosystem- and community-based adaptation.

Cities and coastal development

Ecosystems have an important role to play in adaptation in coastal tourism areas; but urban areas also must pay special attention to physical infrastructure. Adequate and robust water supply and sanitation provisions are fundamental to adaptation and resilient development. Infrastructure solutions are about getting the right technology in the right place. Solutions should be safe-to-fail, not assumed to be fail-safe.

Building urban resilience requires actions across sectors and city boundaries, and special attention to the disempowered poor. Informal settlements are often near drainage canals with low water quality and at risk of floods. Access to clean water and sanitation is poor; on top of this, systems are easily disrupted by extreme climate events.

With respect to sea-level rise, it is important to consider the realistic life-time of infrastructure assets such as roads, water supply and drainage systems. Plans to replace or shift infrastructure should also adopt, where appropriate, modified design standards.

In the long-term, the on-going migration into vulnerable urban and coastal areas is an outstanding planning problem in many parts of the Asia-Pacific region.

New partnerships, evolving roles

New partnerships between government, business and society are needed for successful adaptation. Engaging new partners takes time, and requires careful attention to communication, incentives and roles. Leverage for joint action comes from compelling ideas for adaptation projects, programs and policies.

The incentives for business to more fully engage with the adaptation agenda are growing. Businesses face increasing risks of damages and losses; besides, adaptation can also be viewed as a business opportunity. Businesses will need to work together as well as with the societies in which they are embedded.

Governments, through their efforts to mainstreaming CCA concerns into normal development, will need to engage more directly with science and civil society. Evidence-based decision making on adaptation and climate resilient development is critical. Science and practical experience are important sources of evidence. Effective ways to improve the links between science and governance with respect to CCA are known. Most involve building and maintaining relationships; in which policy planning and practice can also inform science, and not just the other way around. Civil society organisations can be valuable partners in facilitating cooperation and ensuring the interests of marginalized groups are taken into account in adaptation interventions.

Adaptation is a multi-scale process; which creates a need for effective coordination among the multiple actors involved. In terms of geographical space, there is an important set of relationships between specific places and national governments. In time, there are needs for and capacities to undertake shorter- and longer-term actions that support adaptation. In terms of sectors, there are needs to take specific, independent measures, as well as actions which depend on and interact with, those in other sectors, and which thus must be integrated.

The finances needed for adaptation are significant, but not large in comparison to other major investment stocks and flows. The potential private finance available for adaptation is immense and underutilised. While governments should enable these flows, we, as individual investors and shareholders, can do so as well.

INTRODUCTION

This report is a synthesis of the Fourth Asia-Pacific Climate Change Adaptation Forum held in Kuala Lumpur, Malaysia, 1-3 October 2014.

The Forum was the fourth in a series organised by the Asia Pacific Adaptation Network (APAN) since 2010. The Forum is an on-going collaboration between the four core co-organisers: United Nations Environment Programme (UNEP)², Institute for Global Environmental Strategies (IGES)³, Regional Resource Centre for Asia and the Pacific (RRC.AP)/Asian Institute of Technology (AIT)⁴, and the Stockholm Environment Institute (SEI)⁵.

The Office of the Science Advisor to the Prime Minister of Malaysia hosted the event, with technical support from the Universiti Kebangsaan Malaysia's Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM).

The APAN partners were⁶: the Asian Development Bank (ADB), Climate Action Network South Asia (CANSAs), Regional Environment Centre for Central Asia (CAREC), Global Adaptation Network (GAN), Global Water Partnership South Asia (GWP SAS), International Centre for Integrated Mountain Development (ICIMOD), Local Governments for Sustainability, Southeast Asia (ICLEI), Institute for Global Environmental Strategies (IGES), Korea Environment Institute (KEI), Research Center for Climate Change Adaptation, Keio University (RCCCA), Ministry of the Environment Japan (MOEJ), Regional Resource Centre for Asia and the Pacific (RRC.AP)/Asian Institute of Technology (AIT), Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), Stockholm Environment Institute (SEI), Secretariat of the Pacific Regional Environmental Programme (SPREP), United Nations Environment Programme (UNEP), and the United States Agency for International Development (USAID).

The 4th Adaptation Forum placed special emphasis on adaptation actors, and how they can collaborate to form partnerships and networks. Actors are individuals, organisations or networks, that participate in decision-making and action-taking related to adaptation to climate change. Actors in adaptation can influence agendas and activities in many ways; from lobbying or advising through to creating and following rules, norms and procedures, and by taking discrete action. Some actors have authority, influence or power, whereas others have much less over the ways in which adaptation is pursued in development. State actors typically claim legitimacy to act on behalf of their constituencies, and make substantial efforts to enable adaptation to climate change. Non-state actors – civil society organisations and businesses – can also make critical contributions towards adaptation actions.

Actors are important at local, national and international scales. At the international level, for example, are various intergovernmental organisations. Scientific networks operate at several scales, and may contain members from both public and private bodies. Business associations have roles within and among countries. Local actors are usually critical for success of adaptation policies and

² <http://unep.org/roap/>

³ <http://www.iges.or.jp/en/index.html>

⁴ <http://www.rrcap.unep.org/>

⁵ <http://sei-international.org/>

⁶ Full list with web links at: <http://www.asiapacificadapt.net/adaptationforum/2014/partners>

programs in particular places. Thus, actors and their partnerships are critical for resilient development.

To help address the general questions about adaptation actors in a way that can be useful for practice, the 4th Adaptation Forum was organised around the following five themes:

1. **Mainstreaming and Transformative Change:** policy; trade and finance; technology/knowledge transfer; public-private partnerships; ethics and values; gender sensitive development; community involvement; poverty alleviation.
2. **Development and the Food-Water-Energy Nexus:** agricultural land; water-use; water resources; infrastructure/reconstruction; private investment; energy/water/food security.
3. **Disaster Risk Reduction and human security:** loss and damage; insurance; risk communication; risk management and adaptation; reconstruction; health; conflict; migration; poor and vulnerable groups.
4. **Forestry, Biodiversity and Ecosystems Change:** livelihoods; traditional ecological knowledge; conservation; community-based and ecosystem-based adaptation.
5. **Cities with an emphasis on coastal Development and Sea-Level Rise:** urbanisation, tourism; heat waves; mangrove protection; sea-level rise and small island developing states (SIDS).

The three day program was built around six plenary and 30 parallel panel sessions. The report is organised thematically following the structure of the forum's program.

OPENING AND PLENARY 1

"The Honourable Prime Minister of Malaysia has stressed that new partnerships are critical for climate resilient development and in this context the relationship between government, business and society has to be pursued with greater intensity and seriousness to build resilience in Asia and the Pacific."

Emeritus Professor Dr. Zakri Abdul Hamid,
Science Advisor to the Prime Minister of Malaysia

In his opening remarks, Zakri Abdul Hamid noted the outcomes from the UN Climate Summit held in September 2014 in New York; highlighting the need to galvanise cooperation from both developed and developing countries. He added that the 4th Asia-Pacific Climate Change Adaptation Forum represents an opportunity to foster cooperation and build strong partnerships towards climate resilience. He underlined the high number of vulnerable communities in the region – seven countries out of the top 10 most vulnerable are in the Asia-Pacific region. Central to this Forum, he stressed, was the need for science-based decision making and the mobilisation of new partnerships. He underscored Malaysia's science to action program as a means to promote climate resilience nationally; its aim is also to use science to sustain Malaysia's growth beyond 2020.

In light of the IPCC projections on climate impacts, Kaveh Zahedi emphasised the need to scale up climate change adaptation (CCA) efforts to match the pace of change. He argued that unrestrained

growth would undermine development efforts. He noted, however, that climate change would also bring opportunities; citing examples from Bangladesh to Samoa. He further reflected that:

“Asia Pacific countries are generators of adaptation solutions. This Asia Pacific Adaptation Forum is a place to showcase these solutions. It is also the place to learn from others generating and implementing innovative ideas and practices to reduce the vulnerability of our region and its people from the all too evident impacts of a changing climate.”

Events such as the APAN Forum, he emphasised, demonstrate that there is momentum for change and that the solutions are out there. He referred to the APAN Forum as the “Solutions Forum”, and encouraged participants to gain new insights and grasp opportunities.

Youssef Nassef echoed the earlier remarks made by Zakri Abdul Hamid and Kaveh Zahedi on the need for scaling up action to match the scale of change, and on the presence of an international momentum looking for change, solutions, and new partnerships. He conceded however, that scaling up may suggest incrementality. Nassef emphasised the need for transformative change which he likened to metamorphosis. He encouraged participants to make flexible arrangements and new partnerships at the Forum. In his view, successful adaptation requires 4Is: Integration; Involvement of stakeholders; Information sharing; and Investment of time and resources.

Soichiro Seki outlined the gravity of climate change impacts affecting the Asia-Pacific region. He noted that CCA will be a vital pillar for a post-2015 climate framework, following COP21 in Paris. He also emphasised the need for more active sharing of information between the networks under GAN, including APAN. Significantly, Japan is also helping to implement and support adaptation activities in developing countries; through their new global support program in the field of adaptation, including by contributing directly to APAN.

PANEL 1.1 MAINSTREAMING AND INTEGRATING CLIMATE CHANGE ADAPTATION IN DEVELOPMENT

Mainstreaming adaptation into development requires knowledge sharing, effective coordination and time. The lessons learnt from past efforts at mainstreaming or integration should be shared. Experiences in Japan, for example, suggest that the integration of climate change into spatial planning at national and provincial level, benefits from evaluation of policy from multiple stakeholder and sector perspectives, in order to minimise contradictions. Knowledge sharing is enhanced by effective coordination. Multi-level strategies are needed in order to minimise the mismatch between short and long term policy objectives, and the long term sustainability of investment in CCA. Mainstreaming adaptation into development at the local level is important, and should build on from vulnerability assessments to plan and build community resilience and reduce sources of vulnerability. By the same token, assessments and plans need to be place specific. Finally, a high level of commitment is crucial for mainstreaming CCA into development. At the same time, inclusive approaches to engaging stakeholders are critical as politics can disrupt CCA strategies. Inequality and injustice can make some social groups vulnerable and prevent people from benefitting from mainstreaming initiatives.

PANEL 1.2 CLIMATE-SENSITIVITIES OF THE WATER, FOOD AND ENERGY SYSTEM

Water, food, and energy systems are linked and face rising constraints as development proceeds. Green development can help to relieve some of those constraints, but can also increase others. Analysis of water management options for thermal power plants, for example, underline that the water footprint is also an important component of the overall ecological footprint. Climate change can have an impact upon several of the links in the water-food-energy nexus. Current climate variability and extremes causes major economic costs. The direct costs of impacts from current climate variability and extremes were estimated to be about 2% of GDP per year in normal years, and as much as 5% or more in extreme years. Indirect costs are likely to be much higher. Much of the costs arise from impacts on water, food and energy systems. It stands to reason therefore, that future climate change is likely to increase impacts and, in turn, lead to additional future costs. The ASEAN Technical Working Group on Agricultural Research and Development recognises that climate change threatens food production, food security, and sustainable development. Key recommendations for policy from group work are: to promote CCA information sharing and technology transfer; facilitate climate-proofing of other production systems related to crops – such as livestock, aquaculture and agroforestry; implement capacity building programs; and, support research and development on adaptation. The most important priority for policy now is to scale-up implementation of early low- and no-regret adaptation options. The water, food, and energy nexus is climate-sensitive. Green development can be an adaptation strategy, but it is likely that further adaptive measures will be necessary.

PANEL 1.3 LONG-TERM RECOVERY FOLLOWING DISASTERS

DRR provides immense opportunities for mainstreaming CCA in development, but in general, insufficient attention has been given to long-term recovery following disasters; and experiences in long-term risk reduction are not well documented. Speakers in this session noted that for successful recovery of communities, it is important to recognise that help comes in many forms; from self-help through to public-help. Education, which drives action, is very critical for long term recovery as well as adaptation. Insurance can play an important role in long-term, post-disaster recovery, but there are barriers; for example, politicians see more political points gained if the money is given as compensation than as an insurance pay off. As the capacity of local governments to understand and implement DRR and CCA in an integrated way is often limited, partnerships and direct engagement with community stakeholders is also needed. Approaches which put people at the centre of recovery programs, like that in Myanmar following cyclone Nargis, should be promoted more widely. Resource centres are required at the local level for developing local capacities; and, legal frameworks are critical at the national level to support efforts to ‘build back better’, for instance, the addition of more stringent building codes.

PANEL 1.4 ECOSYSTEM-BASED ADAPTATION: PRINCIPLES AND LIMITS

Ecosystems have developed resilience to climate variability in the past, and therefore, are potentially useful tools to help us adapt to on-going, present and future climate change. Mangroves, for example, are important to coastal protection, buffering against tsunamis, and thus can play a critical role in adaptation; insofar as their distribution can keep up with the rise in sea-level and changes in distribution of sediments. While there are many good and promising EBA projects, institutional and financial barriers are common. EBA is not mainstreamed yet in development planning by governments. Financing for EBA projects has traditionally relied on funding from GEF and related international funds. There is a need therefore, to consider other sources; including the private

sector, which currently is only engaged for environmental regulations or CSR purposes. The general consensus from the panel was that the time scale for EBA projects remained an underlying issue; i.e. projects run for 3-5 years, but adaptation projects require more time to provide actual benefits to the communities.

PANEL 1.5 CLIMATE RESILIENT INFRASTRUCTURE AND COASTAL DEVELOPMENT

Building climate resilient infrastructure requires technical guidance, sharing of data, and sufficient financing. In Bangladesh, for instance, coastal polders need to be reengineered, and systems for early warning of storm surges need to be improved for coastal communities. In Vietnam, coastal areas are also vulnerable to climate change impacts; particularly from floods, storm surges and cyclones. Common barriers to making infrastructure more climate resilient include: governance (limited community engagement); technical (lack of data); inequality (in delivery of interventions); financial (international adaptation financing cumbersome to administer, difficult to implement); cognitive (how beliefs and values influence adaptation decisions); and cultural (respects for rights and dignity). More attention, it was argued, should be given to green infrastructure as opposed to only focusing on protective infrastructure, which can potentially increase risks. Solutions should be safe-to-fail, not assumed to be fail-safe. Recognizing wide uncertainties, adaptation pathways need to be flexible. Pathways also need to be place-specific; drawing on science and local data to understand local vulnerabilities. Coastal land-use planning that considers climate risks, should take into account vulnerabilities of communities and women. At the same time, vulnerable social groups should be viewed as active agents and not passive victims.

PANEL 2.1 GENDER SENSITIVE ADAPTATION

Gender sensitive adaptation implies identifying barriers to access, including women in the political process, and reducing gender inequalities in adaptation actions. Considerations of gender in vulnerability assessments, for example, can help identify gender differences in their access to critical resources. Building the capacity of woman's organisations and increasing their representation in key organisations and events, should help improve political influence and representation. Acknowledging the roles of women in managing climate-related risks, for instance as farmers, is important as it influences perceptions of ownership and decision-making roles. Several speakers advocated for mainstreaming gender into CCA and DRR policies. At the same time, arguments were made for gender specific action plans and adaptive responses. In Cambodia, for example, there is a specific CCA program in the Ministry of Women. Empowerment of women is important for successful adaptation, and might be done through a rights-based approach, as promoted in Bangladesh, rather than conventional humanitarian-style responses. As gender relations are important for equality and rights, gender sensitive adaptation must also engage men.

PANEL 2.2 IMPLICATIONS OF HYDROPOWER FOR FOOD SECURITY IN A CHANGING CLIMATE

Hydropower's potential is great in Asia compared to other regions. The speakers in this session were largely positive about the implications of hydropower for food security in the countries and locations they worked in, while noting concerns about adverse social justice and environmental impacts. One speaker argued that large scale hydropower plants are needed, not just to produce

electricity, but also to increase water availability for food production. Another speaker ideated that from Bhutan's perspective, hydropower seems like a clean, reliable and lucrative source of energy, while conceding that environmental and social impacts need to be considered more seriously. Addressing impacts on natural environment and conflicting interests of different stakeholders, requires adequate public consultation procedures and well-informed deliberations. Internationally accepted guidelines that include environmental safeguards should be followed.

PANEL 2.3 KNOWLEDGE FOUNDATIONS OF LOSS AND DAMAGE SYSTEMS

Loss and damages (L&D) from climate change has emerged as a new critical concern. There are urgent needs to share knowledge, as well as for new research to fill in knowledge gaps. Understanding of the causes and extent of L&D in many sectors and locations remains limited. In these situations, an appropriate next step is to organise capacity building workshops. Learning outcomes of national and regional consultations should be shared. Community-level assessments using a mix of participatory and scientific methodologies should also be useful. Knowledge and information about L&D needs to be shared with all stakeholders. Research is also needed to improve scientific understanding about many issues including: risk pooling; local community engagement; early warning and response systems; improved detection and attribution related to extreme events; identification of susceptible areas and the spatial distribution of exposed and vulnerable communities therein; evaluation of non-economic losses; and, improved data collection and management for assessment. Further efforts are also needed to link L&D work with DRR and CCA networks and experiences.

PANEL 2.4 COMMUNITY AND ECOSYSTEM-BASED ADAPTATION

Local governments potentially have important roles in both EBA and CBA initiatives. Review of many cases, however, suggests that engagement with communities is usually modest; with many activities still done on 'behalf of' residents, even in higher income countries. Attention to both ecosystems and communities in projects involving local government was not common. Community forestry can be considered as one particular approach in which CBA and EBA perspectives are usefully combined. Community forestry is multipurpose with many co-benefits. Swidden cultivation, as it maintains high plant diversity, can help increase resilience to climate-related disturbances. Local knowledge about high diversity land-use systems, however, is being eroded, and its usefulness for CCA is therefore often missed. Participants agreed that, in most situations, it is vitally important that residents (the local community) be involved from the beginning to end; so that they can understand and carry on the measures learnt. There was also a debate about the merits and risks of private sector involvement in EBA or CBA.

PANEL 2.5 WATER SUPPLY AND SANITATION UNDER INCREASED CLIMATE VARIABILITY

This session focused on the challenges of managing water supply, water quality, and investment in water infrastructure or sanitation facilities. Urbanisation causes huge shifts in demand of water, and alters risks of flooding that disrupt delivery of water and sanitation services in city areas. Uncertainties in climate change make planning and management of water supply and sanitation more difficult. The growth of water supply in Baguio, Philippine, for instance, has been much lower than the growth rate of population. Abundant natural water resources in the surrounding region are

not accessible in the city during the summer months. Likewise, in Madurai, India, slum areas are most vulnerable from water scarcity as well as flooding. Within the city, water bodies are blocked by garbage and water quality is low. In rapidly urbanizing Udon Thani, Northeastern Thailand, increasing water demand implies need to manage key reservoirs more carefully. Other options discussed included: diverting water from the Mekong; expanding other reservoirs; and providing incentives to farmers to use less irrigation water. Water supply and sanitation in coastal towns is particularly vulnerable to climate change. Apart from reducing physical vulnerabilities, non-physical measures such as building codes, land-use planning, strengthened municipal financial management, and improved municipal planning and service delivery, can all help deal with climate impacts on water systems.

PLENARY 2: REFLECTIONS ON THE 5AR

The latest IPCC reports underline that climate change is already having an impact on ecosystems and humans; and that adaptation is essential to deal with the risks of climate change. Early action on mitigation and adaptation will allow more time to adapt to impacts. Knowledge and finance however, remain important barriers to adaptation action. Stakeholders find it hard to relate theory and findings to decisions they must make, and uncertainties make them wait and see rather than act. Most stakeholders are primarily concerned with current climate variability. Moreover, it is crucial to take into consideration the specifics of place and context when taking adaptation measures; there are many drivers of hazards, exposure and vulnerability. Adaptation, therefore, should be people-based, comprehensive, context specific, and prevention-oriented. Increasing the ability to move could reduce vulnerability; but this implies the need to better link migration, human security and adaptation.

PLENARY 3: INTERACTIONS BETWEEN PUBLIC AND PRIVATE SECTOR ACTORS IN ADAPTATION

Among the most important new partnerships needed for successful adaptation, are those involving the private sector. Recent extreme events in a globalized economy, suggest that governments need to take into consideration long supply chains in their adaptation plans. Actions to initiate adaptation finance, and the development of tools or technology that can better evaluate climatic risks, will help the private sector to take the necessary precautions. Evidence was presented that there is no shortage of money, even for climate change, but there is a lack of capacity; especially in government, to design attractive projects and implement funded projects successfully. To date, most climate change financing by the private sector has been for mitigation, with perhaps only 6% allocated for adaptation. Mobilising the private sector is a great way of obtaining sources of financing for CCA. Many financing instruments are available, but under-utilised, including: tax penalties, carbon tax, green procurement, insurance of public assets, and creation of climate change index in stock market. The private sector should also be involved in the implementation of adaptation measures, and can be encouraged to do so with the right incentives and subsidies. It is important to understand how the private sector interacted with the public sector, in order to promote effective collaboration among stakeholders. To ensure innovation for business continuity it is important to promote long-term competitiveness within the private sector. Leaders of national governments should create better and supportive policies for promoting and supporting partnership between private and public sectors in funding and implementing adaptation.

PANEL 3.1 ROLE OF NAP IN MAINSTREAMING CLIMATE CHANGE ADAPTATION

To be effective, a National Adaptation Plan (NAP) should be integrated into medium and long-term national development plans. Special emphasis, it was argued, should be on making sustainable development adaptive and prioritizing vulnerable sectors. Key issues in mainstreaming are budgetary priorities, capacity building and assignment of roles. Sustained investment is needed for NAP implementation. Capacity building is often essential too, particularly in agencies less familiar with CCA issues that hold critical roles in planning and financing. Very often it was found, the role of various stakeholders as adaptation actors, was not clearly defined. Unclear roles with respect to who should respond, when and how, multiply coordination challenges. Multi-stakeholder, transparent and consultative processes will often need to be initiated to negotiate and refine roles and responsibilities, as well agree on problem definitions and priorities.

PANEL 3.2 REDUCING VULNERABILITY TO DROUGHTS AND FLOODS

Vulnerability to droughts and floods may be reduced by providing information, for example, about likely extreme events and measures to take. Community-based, early warning systems for floods in India are people-centred, understandable to those at risk, and low cost to implement and maintain. To be effective, however, there was need to provide guidance on how to set up and act on warnings. Partnerships are important to reducing vulnerability through community-based early warning systems. Some evidence suggests that the Mekong Delta will get hotter and wetter, while acknowledging that there may also be changes in dry season precipitation; meaning increased agricultural drought in some areas of Cambodia. Drought in Cambodia has major impacts on rice cultivation. It is important to detect the onset of drought conditions as early as possible. A standardised precipitation index can be used for this purpose. The index should be made simple enough that local communities could be taught to use it for monitoring. Dealing with longer-term changes in climate beyond individual extreme events also benefits from information sharing. In an apple-growing region near Batu, Indonesia, long-term changes in climate have been observed in the instrumental records, and were reflected in the farmer's perceptions of change. Alongside lower production from drier conditions, farmers found they must compete against lower-priced imports. Farmers are looking for information on how to adapt and make their businesses more resilient to climate change, and there were indications that local government is responding. Degradation of permafrosts in Mongolia leads to soil damage and water deficits, which in turn, reduce the carrying capacity of grasslands. Important adaptation measures include lowering livestock numbers and, increasing number of wells and watering holes using renewable energy..

PANEL 3.3 ENGAGING THE PRIVATE SECTOR IN ADAPTATION

The relationship between the government and private sector evolves. For many years now, the government has acknowledged the role of the private sector as an important partner in nation building and rebuilding (in disaster affected areas). Examples were given of how firms participated in disaster relief and rehabilitation programs following cyclone Yolanda. More and more private businesses have become involved in Corporate Social Responsibility (CSR) programs; these relief programs is one way in which firms can engage with local communities in the rehabilitation efforts following extreme events. To engage the private sector in other roles, communication must be made through the use of simple language and moreover, demonstrate that risks are relevant to their businesses. Speakers and discussants in the panel encouraged engaging the private sector in

identifying climate change risks, response measures, and argued that adaptation needs to be a much higher priority than is currently placed. A climate change risk assessment tool developed for use with the business sector was demonstrated in the session. The key principles are to provide appropriate information in a format that is user friendly and can be applied by any company. The tool considers five risks (heat wave, cold wave, heavy rain, flood, and heavy snow) and considers a set of 9 types of damages. Training programs for private sectors should include information about risk management and CCA.

PANEL 3.4 SYNERGIES BETWEEN ADAPTATION AND MITIGATION: OPPORTUNITIES FOR CO-BENEFITS

By incorporating adaptation knowledge in project activities, mitigation will become more people-centred and therefore create a better outcome. Ideally, both adaptation and mitigation should be incorporated into low carbon development plans. In some sectors, like agriculture and forestry, integration seems relatively more straightforward than in other sectors like energy and urban planning. But even in forestry there are gaps arising from different stakeholder interests. In the case of mangroves in Vietnam, synergies were easier to pursue when the community had a central role. Agroforestry examples in the Pacific Island countries, underlined the importance of taking into account food security issues as part of adaptation and mitigation strategies. The final discussion debated an intriguing question: when should synergy be an objective before launching adaptation and mitigation projects, and when is it just a side product?

PANEL 3.5 COASTAL TOURISM

Tourism is an economically important sector, and much of it is centred on coastal areas vulnerable to climate change. Moreover, there are often large existing environmental and social challenges associated with large-scale tourism development. In response, solutions need to build awareness of multiple stakeholders of both risks and values of marine and coastal ecosystems. Sustainability is critical to adaptation, but to be successful, sustainable tourism needs inter-sectoral coordination and a more holistic approach.

PANEL 4.1 ADAPTATION FINANCING

Adaptation financing is multi-level, increasingly multi-source, and often not tracked very well. The GEF has historically had a prominent role in international financing for adaptation; especially in the agriculture and water sectors. The new GCF is emphasizing synergies with national environmental priorities, and promoting a balance between mitigation and adaptation. One special feature is the 'fast track approach'; wherein if certain accreditations have already been obtained by the organisation, then these will count for the GCF fund. The Indian public organization NABARD, for instance, applied and received the NIE accreditation. The biggest challenges it faces are related to project documentation; as the process can take very long. In general, money is available for CCA, and we need to look further than bilateral and multilateral development banks or adaptation funds. Countries in the region did not really know how much money was going into CCA, as no mechanism was setup to track adaptation finances.

PANEL 4.2 ADAPTATION, AQUACULTURE AND FISHERIES

CCA in fisheries and aquaculture is still in the nascent stages throughout the region. Most of the initial focus has been on capacity building of stakeholders, understanding the potential impacts of climate change impacts and identifying sources of vulnerability. In Thailand, for instance, commercial Tilapia production has already been significantly impacted by extreme floods and drought in past years. Several speakers argued, based on their experiences, that participatory approaches were important for communication and adaptation planning. At the same time, there was a need for more research, data and assessment tools. Natural resource management deserves special attention, as there are opportunities for incorporating ecosystem services, and the resilience they provide, in CCA implementation. Cultural values, for instance, in fishing or fish farming communities, were also identified as important element to be considered in adaptation interventions. Finally, limited budget, leadership and national policy priority are constraints in making progress in this sector.

PANEL 4.3 CLIMATE, HEALTH AND RESILIENCE

Climate change has many potential effects on public health. Some early experiences in responding come from dealing with heat waves. Heat waves in Seoul, for example, are an important health problem made worse by climatic change. A surveillance system needs to be developed to ensure emergency services can quickly come to assistance. In the longer-term, the heat wave adaptation action plan needs to include public awareness, early warning systems for inter-agency emergency communication, and building capacity. Similarly, the Ahmedabad Heat Action Plan refers to: public awareness and community outreach; early warning and inter-agency emergency response; and, building capacity health workers. Climate change could also compromise public health service delivery. Investment is needed for enrichment of the public health data, health infrastructure, and health programs such as sanitation, water supply, food security, and human resources development. In many countries surveillance and monitoring of climate-sensitive diseases needs to be improved. Cooperation, commitment and partnership are likely to be critical to successful adaptation.

PANEL 4.4 ADAPTATION IN THE MOUNTAINS: ADDRESSING CHALLENGES AND HARNESSING OPPORTUNITIES EXPLORING SOLUTIONS ACROSS BOUNDARIES

Adaptation in the mountains is, as in most situations, a multi-stakeholder issue requiring understanding of different roles, and forming partnerships. Relationships need to be built among mountain communities to share knowledge, experiences and solutions; relationships are also needed with other sectors and downstream communities. CCA in the mountains can benefit from integrating indigenous knowledge with scientific knowledge. Inclusiveness is very important in making plans, policies, and procedures, as well as in governance. China, it should be noted however, has a top-down strategy on adaptation, which is very different from other countries; as it places high importance for the central government to be involved at the local level. Assisting the most vulnerable people should be the priority for on-the-ground adaptation work.

PANEL 4.5 URBAN RESILIENCE

Building urban resilience to climate change is vitally important as rapid population growth and economic development create multiple interlinked risks to residents. To build long term urban resilience to climate change and other stresses requires incremental as well as more transformative changes. Capacities to deal with uncertainty and for learning are clearly important; so are processes that ensure the risks and needs of the most vulnerable are fairly taken into account. The fragility of key urban systems, infrastructure and services need to be understood. More funding for climate resilient infrastructure is typically needed. Migration from rural to urban areas needs to be addressed in the efforts to increase urban resilience. This includes situations where it may be desirable to attract potential migrants to a less populated city. Governance and knowledge capacities are important, as urban areas evolve as a result of multiple individual and collective decisions, some of which impact climate resilience. Planning therefore, must involve the interaction of private sector and residents.

PLENARY 4: ADAPTATION AS A MULTI-STAKEHOLDER PROCESS

Adaptation can be describe as: (1) cross sectoral; (2) long-term future oriented; (3) knowledge intensive; (4) cross border; and (5) requiring additional action and resources. Key stakeholders are governments, development partners, private sector and communities. Climate change adaptation can be managed sustainably through involvement and commitment at all levels of decision-making, and should involve all stakeholders' participation. Through a multi-stakeholder consultative process, adaptation will be identified and prioritised in various sectors based on country's development goals, vulnerabilities and opportunities. Engaging stakeholders is a process involving multiple interests, agendas and levels of power. There is a need for doing things differently: *"If you always do what you've always done, you'll always get what you always got"* (James P. Lewis). For instance, the possibilities of a new climate economy; reminding us that there will be a lot of new infrastructure spending, and how it is spent is central to adaptation.

PLENARY 5: MAINSTREAMING CLIMATE CHANGE ADAPTATION IN ASEAN – MULTIPLE ACTORS AND ROLES

The ASEAN Road map contains responding to climate change as an aspect of sustainable development. Economic growth, it is reasoned, can be achieved while increasing climate resilience. Adaptation is a necessary action in which international cooperation plays a vital role. Climate change, it was noted, effects the dynamics of many human systems, including: water, economic, food, energy, political, health and migration. Moreover, extreme weather events in one country can cause economic impacts in another. The development and implementation of NAP is important for CCA in the individual ASEAN countries, but also will support the ASEAN wide sustainable development framework. Commonality between CCA and DRR – including decentralisation, multi- stakeholder approaches, and similar technologies used in implementation – provide entry points for mainstreaming. Governance, higher education and innovative technologies were likely to be key variables to successful mainstreaming. Media coverage on climate change issues in the region, on the other hand, remains low. Raising public awareness continues to be a huge challenge.

PANEL 5.1 DRIVERS OF TRANSFORMATIONS

Technology, communities and communication are important drivers of transformation in how CCA is approached. Technological innovation is an opportunity for private sector adaptation actors to drive transformations. Accessible financing could be provided for the private sector in order for it to invest in green technologies like renewable energy. The construction industry has a largely unacknowledged role to play through making infrastructure more sustainable. Finding new materials for the timber industry is a key for transformation; the main task for the timber industry now, is to generate higher value using fewer resources. Communities are also agents of transformation, because they contribute to knowledge generation, alliance building, behavioural change, as well as creating climate-resilient technology. Collective transformation is possible if it is built on the common interests of the community. Poor communication is a significant barrier to the kinds of engagement needed for transformation. The majority of business executives are not aware of the IPCC reports or climate change. We are not communicating effectively with them because the framing of the CCA issue is fundamentally different from how the private sector thinks about business; there's a mismatch in timescales and perceptions. For business to be effectively involved in climate change issues, we need endorsements directly from top management levels. One way might be in foresight techniques; thinking of the future requires a systematic process with multiple stakeholders, as well as the need to understand future needs and the drivers of change – processes which executive managers can relate.

PANEL 5.2 EXPERIENCING THE WATER-FOOD-ENERGY NEXUS

This session was organised as a role-playing, participatory process. The goal was to conduct dynamic projections of water, food and energy security, assess sector specific impacts, and then make decisions. Extreme weather events disrupt links in the nexus it was found, for example, impacting water supply, which in turn reduces hydropower energy production. The general consensus from participants was that both soft and hard adaptation measures were needed.

PANEL 5.3 CROSS-REGIONAL KNOWLEDGE SHARING

The Regional Gateway for Technology Transfer and Climate Change Action in Latin America and the Caribbean's (REGATTA) covers both mitigation and adaptation. It is an initiative under the Global Adaptation Network (GAN). The key for sustainably managing a network that is attractive to stakeholders is operations, partnerships, and direct financing to the network. This means being country-oriented in pursuing the goal of mainstreaming both CCA and mitigation in development planning. Other important lessons learnt from various initiatives on how to improve cross regional knowledge sharing include: consolidating thematic approaches; keeping focus on international dialogues and context; deepening support on pilot projects and financing; systematic tracking of on-line CCA knowledge; and strengthening synergies between complementary initiatives. An institutional proposal was made to support centres of excellence to capture learning on adaptation.

PANEL 5.4 BIODIVERSITY CONSERVATION, ECOSYSTEM RESILIENCE AND ADAPTATION

Ecosystem-based DRR or pursuing disaster risk management while conserving biodiversity is one approach for adapting to climate change. Apart from contributing to biodiversity conservation it also supports use of various ecosystem services. One example is 'The Partners for Resilience initiative' which focuses on integrating DRR, CCA and EBA; placing special emphasis on ecosystem management restoration actions. Long-term CCA goals may also be served through sustainable

conservation and effective use of tree genetic resources. Germplasm supply and exchange can be used to maintain biodiversity and strengthen adaptive capacity, especially where an *in situ* approach might not be able to reduce vulnerability. Involvement of communities and local knowledge was usually important to biodiversity-based approaches to CCA and DRR.

PANEL 5.5 COASTAL ADAPTATION AND SEA-LEVEL RISES

Adapting infrastructure to rising sea levels is one of the core adaptation challenges for coastal areas. For example, flood assessments indicated that as many as 10,000 properties on the shores of Lake Macquarie would become flood prone, and half of these permanently inundated. Key road and drainage assets owned and maintained by the council were assessed to be at an even higher risk. In response, the council has introduced controls on residential development and design standards for new infrastructure, which take into account asset life of either 50 or 100 years. Partnerships are important to building resilience. Thus, the council responsible for Lake Macquarie believes it is important to work with other local governments, so that it can learn from each other and help advocate for higher levels of government to provide more planning instruments so that it can respond to the climate of the future, not the climate of the past. Similarly, a key strategy of the ACCCRN program in Indonesia has been the promotion of multi-stakeholder partnerships among government, non-state actors and universities. Such approaches, it was argued, improve understanding of climate change in the community, and help city governments learn to replicate successful projects and coordinate their actions better with other stakeholders. According to experiences of SPREP in coastal communities in the Pacific, participatory approaches are important in providing a sense of ownership and the sustainability of adaptation measures.

PANEL 6.1 CLIMATE EXTREMES AND DISASTER RISK REDUCTION

Disaster risk emerges from interaction of weather and climate events with development processes. Exposure and vulnerability depend on geographic, demographic, cultural, institutional, governance, and environmental factors. The most affected are also the most socially vulnerable, including the poor. Therefore, improving their local coping and adaptive capacity, as well as removing underlying causes of inequality and vulnerability, should all be priorities. In response to various potential impacts of climate change in Cambodia, for example, the needs to prioritise access to and control over livelihood resources was emphasised. In the case of Bangladesh, it was noted, that involuntary migration is not an adaptation option, but rather a last resort. In discussions on DRR and CCA, it has become clear that more attention needs to be given to non-economic L&D. Non-economic losses are those that are *not* commonly traded in markets, such as losses of: inter alia, life, health, displacement and human mobility, territory, cultural heritage, indigenous/local knowledge, biodiversity and ecosystem services, and so on. Non-economic L&D have not been sufficiently reported in the most post-disaster reports and databases.

PANEL 6.2 MOVING FROM PLANNING TO IMPLEMENTATION OF SUB-NATIONAL ADAPTATION

To move CCA from planning to implementation at the sub-national level requires good understanding of the challenges, insights into potential solutions, and partnerships. Assessments, it was brought up, are important to understanding hazards, vulnerability, and levels of preparedness at local and sub-national levels. Local government constraints related to limited funding, short-time planning horizons and capacity and political commitment, should be acknowledged. Once these key parameters are understood, it becomes easier to explore, plan and implement plausible solutions.

The lessons learned from successful implementation of adaptation measures need to be shared. The communication of success stories encourage replication and inspire novel ways to tackle the challenges of implementing adaptation measures. One recurrent feature of success is partnerships among government departments and civil society; even in cases where a strong role for community self-management is encouraged as a way to strengthen local institutional resilience.

PANEL 6.3 TRANSFORMATIVE CHANGE AND ADAPTATION READINESS

Transformative change in how development is approached appears necessary to address the longer-term, and potentially large magnitude impacts of climate change in a sustainable way. Many different adaptation actors will need to be involved. To engage the private sector, for instance, this will require negotiating a shared value proposition with powerful sectors; particularly large investment groups. In turn, this implies the need for public and private partnerships and institutional changes that support CCA. Adaptation readiness may be an indicator of progress and what is needed at the start; adaptation readiness refers to the presence of key governance factors that will increase the likelihood of achieving successful adaptation. Transformative change, in particular towards more inclusive and transparent governance, is also relevant at local scales; such as in the management of watersheds and other community-based adaptation initiatives.

PANEL 6.4 LOW-CARBON, CLIMATE-RESILIENT SOCIETY: INTEGRATION OF MITIGATION AND ADAPTATION POLICIES

The integration of mitigation and adaptation policies is still in its infancy. The concept of a low-carbon, climate-resilient, society implies win-win development strategies are possible. It was argued, for instance, that effective land use planning is important for integration of mitigation and adaptation concerns; citing the increasing vulnerability of Jakarta to floods and sea-level rise as it expands and its land subsides as an example. Nationally Appropriate Mitigation Actions (NAMA) in different sectors – heating system, forestry, building and green growth strategies – have potential co-benefits for adaptation, such as: erosion prevention, flood control, soil protection, and bio-diversity conservation.

PANEL 6.5 ENGAGING THE PUBLIC AND MULTIPLE STAKEHOLDERS IN ADAPTATION

Engaging the public and other stakeholders in adaptation often initially requires building capacity and good communication; but ultimately, it is about joint ownership of adaptation plans and actions. While it is widely recognised that there is a requirement to build capacities within the community to engage with climate change issues, this is also, in part, true for other stakeholders such as civil society, parliamentarians, government authorities, and the media. Providing information resources and engaging in dialogue are important tools. More effective ways to reach people on the importance of adaptation are needed. Across the region, there's still a lack of capacity to communicate effectively about climate change issues. The mass media can be a very effective medium to introduce adaptation measures to local communities and other stakeholders. There is also need for more feedback, in order to understand what works well and what doesn't in communicating with these different groups. Making an adaptation plan is, in itself, a powerful way to coordinate and engage with different stakeholders. The incentives are high for communities if they understand and own the adaptation plan. One challenge is that people in different sectors tend to think on different levels

(local, national) and hence talk about climate change in different ways. This implies the need for multi-stakeholder dialogue.

CLOSING PLENARY

Adaptation needs to be transformed from an environmental issue into a development issue. Pursuing climate resilient development requires scientific knowledge and practical experience. Society and business need to be fully engaged in the process of adaptation; their interests and insights are critical to evidence-based planning and successful implementation. Mainstreaming adaptation into key policies and decision making processes of government remains crucial.

APAN itself needs to link more with global partners, promote the integration of adaptation and mitigation, and share knowledge and lessons more with others. To do this APAN needs to become more inclusive.

Other key messages from the Forum include:

- The key to just or fair adaptation – given diverse interests and values and unequal power relations – is the empowerment of marginalised and vulnerable people.
- Long-term recovery following disasters remains a challenge. A key reason is that interventions often do not address underlying drivers of vulnerability; such as political marginalisation and insecure rights.
- Infrastructure solutions are about getting the right technology in the right place. Solutions should be safe-to-fail, not assumed to be fail-safe.
- The potential private finance available for adaptation is huge and uncounted. While governments should enable these flows, so can individual investors and shareholders.
- Businesses face increasing risks of loss and damages. Adaptation can be a business opportunity. Businesses will need to work together. New partnerships are therefore needed, and that demands attention to communication, incentives, and roles.
- Adaptation is one of many agendas and not the immediate priority for countries. For many, climate change is still just an environment issue, and not a development one.

4th Asia-Pacific Climate Change Adaptation Forum 1 -3 October 2014, Kuala Lumpur, Malaysia

Detailed Agenda

1 OCT 2014	DAY 1 PROGRAM
07.30-08.30	Registration
08.30-10.10 Room Dewan Tun Dr. Ismail 1A-1B	<p>Opening Plenary</p> <p>Zakri Abdul Hamid Science Advisor to the Prime Minister of Malaysia</p> <p>Kaveh Zahedi Regional Director and Representative for Asia and the Pacific, United Nations Environment Programme (UNEP)</p> <p>Soichiro Seki Vice-Minister for Global Environment, Ministry of the Environment, Japan</p> <p>Youssef Nassef Adaptation Programme Coordinator United Nations Framework Convention on Climate Change (UNFCCC)</p>
10.10-10.40 Foyer	Coffee break
10.40-12.20 Room Dewan Tun Dr. Ismail 1A	<p>Panel 1.1 Mainstreaming and integrating climate change adaptation in development</p> <p>moderated by Saleemul Huq, International Centre for Climate Change and Development (ICCCAD)</p> <ul style="list-style-type: none"> ● Richard Klein, Stockholm Environment Institute (SEI) ● Jenna Jadin, United States Agency for International Development (USAID) ● Masato Kawanishi, Japan International Cooperation Agency (JICA) ● Nguyen Khanh Toan, Ministry of Natural Resources and Environment Vietnam ● Harjeet Singh, Action Aid
Room Dewan Tun Dr. Ismail 1B	<p>Panel 1.2 Climate sensitivities and interactions of the water, food and energy systems</p> <p>moderated by Young-il Song, Korea Environment Institute (KEI)</p> <ul style="list-style-type: none"> ● Dinesh C. Devkota, Integrated Development Society (IDS) Nepal ● Margaret Yoovatana, Ministry of Agriculture and Cooperatives, Thailand

Johor Kedah Room 3	<ul style="list-style-type: none"> • Nayanananda Nilwala, Ministry of Agriculture, Agrarian Development, Minor Irrigation, Industries and Environment, Western Province, Sri Lanka • Eric Kempt-Benedict, Stockholm Environment Institute • Ahmad Rosly Abbas, Tenaga Nasional Berhad, Malaysia
Room Dewan Tun Hussein Onn 2A	<p>Panel 1.3 Long-term recovery following disasters</p> <p>moderated by Mihir Joshi, Asian Disaster Reduction and Response Network (ADRRN), SEEDS India,</p> <ul style="list-style-type: none"> • Rajib Shaw, Kyoto University, and SEEDS Asia • SVRK Prabhakar, Institute for Global Environmental Strategies (IGES) • Maria Fellizar-Cagay, Center for Disaster Preparedness Philippines • Liam Fee, UN Habitat
Room Dewan Tun Hussein Onn 2B	<p>Panel 1.4 Ecosystem-based adaptation: principles and limits</p> <p>moderated by Keith Alverson, United Nations Environment Programme (UNEP)</p> <ul style="list-style-type: none"> • Raji Dhital, United States Agency for International Development (USAID) • Charles Rodgers, Stockholm Environment Institute (SEI) • Erustus Kanga, Kenya Wildlife Services • Poh Poh Wong, University of Adelaide • Roland Treitler, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
	<p>Panel 1.5 Climate resilient infrastructure and coastal development</p> <p>moderated by Cinzia Losenno, Asian Development Bank (ADB)</p> <ul style="list-style-type: none"> • Richard Friend, Institute for Social and Environmental Transition (ISET-International) • Cuong Duc Luu, Institute for Urban-Rural Planning, Ministry of Construction, Vietnam • Md. Habibur Rahman, Bangladesh Water Development Board • Steven Wade, UK Met Office • Reenate Willie, Ministry of Public Works and Utilities, Kiribati
12.20-13.20 Mawar Room	Lunch
13.20-15.00 Johor Kedah Room 3	<p>Panel 2.1 Gender sensitive adaptation</p> <p>moderated by Bernadette Resurreccion, Stockholm Environment Institute (SEI)</p> <ul style="list-style-type: none"> • Dilruba Haider, UN Women Bangladesh Country Office • Navirak Ngini, United Nations Development Programme • Eron Mark Vano, Department of Women's Affairs, Ministry of Justice and Community Services, Vanuatu • Aditi Kapoor, Alternative Futures • Hina Lotia, Leadership for Environment and Development (LEAD) Pakistan

<p>Room Dewan Tun Dr. Ismail 1A</p>	<p>Panel 2.2 Implications of hydropower for food security in a changing climate</p> <p>moderated by Priyanka Dissanayake and Angela Klauschen, Global Water Partnership South Asia (GWP SAS)</p> <ul style="list-style-type: none"> ● Naseer Ahmad Gillani, Pakistan Water Partnership (PWP) ● Chhimi Dorji, Department of Renewable Energy, Bhutan ● Amit Gupta, Punatsangchhu-I Hydroelectric Project ● Xiaotao Cheng, Institute of Water Research and Hydropower Research, China
<p>Room Dewan Tun Dr. Ismail 1B</p>	<p>Panel 2.3 Knowledge foundations of loss and damage systems</p> <p>moderated by Linda Anne Stevenson, Asia-Pacific Network for Global Change Research (APN)</p> <ul style="list-style-type: none"> ● Hiroshi Tsujihara, Asia-Pacific Network for Global Change Research (APN) ● Saleemul Huq, International Centre for Climate Change and Development (ICCCAD) ● Joy Jacqueline Pereira, Southeast Asia Disaster Prevention Research Initiative (SEADPRI), Universiti Kebangsaan Malaysia (UKM) ● Sanjay Vashist, Climate Action Network South Asia (CANSAs) ● Harjeet Singh, ActionAid ● Yeora Chae, Korea Environment Institute (KEI)
<p>Room Dewan Tun Hussein Onn 2A</p>	<p>Panel 2.4 Community and ecosystem-based adaptation</p> <p>moderated by Doris Capistrano, ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC)</p> <ul style="list-style-type: none"> ● Regan Suzuki Pairojmahakij, RECOFTC - The Center for People and Forests ● Prasit Wangpakapattanawong, ICRAF Country Representative for Thailand ● Louis Lebel, Chiang Mai University ● Dhruvad Choudhury, International Centre for Integrated Mountain Development (ICIMOD)
<p>Room Dewan Tun Hussein Onn 2B</p>	<p>Panel 2.5 Water supply and sanitation under increased climate risks</p> <p>moderated by Jenna Jadin, United States Agency for International Development (USAID)</p> <ul style="list-style-type: none"> ● Watcharapong Noimunwai, Chulalongkorn University ● Ron Slangen, Asian Development Bank (ADB) ● Justin Henceroth, Institute for Social and Environmental Transition (ISET-International) ● Leticia Clemente, City Government of Baguio, Philippines ● A. Madhan Kumar, DHAN Foundation

15.00-15.30 Foyer	Coffee break
15.30-17.00 Room Dewan Tun Dr. Ismail 1A-1B	<p>Plenary 2: Reflections on the 5AR</p> <p>moderated by Zakri Abdul Hamid, Science Advisor to the Prime Minister of Malaysia</p> <p>This second plenary will reflect on the key findings of the fifth IPCC assessment from the perspective of the Asia-Pacific region.</p> <ul style="list-style-type: none"> • Rachmat Witoelar, Executive Chair of the Indonesian National Council on Climate Change, Indonesia President's Special Envoy for Climate Change • Richard Klein, Stockholm Environment Institute (SEI) • Taikan Oki, University of Tokyo • Juan Pulhin, University of the Philippines Los Banos
17.00-17.30 Room Dewan Tun Dr. Ismail 1A-1B	<p><u>Officiating Ceremony</u></p> <p>Zakri Abdul Hamid Science Advisor to the Prime Minister of Malaysia</p> <p>Kaveh Zahedi Regional Director and Representative for Asia and the Pacific, United Nations Environment Programme (UNEP)</p> <p>Michelle Gyles-McDonnough UN Resident Coordinator of Malaysia</p> <p>Mah Siew Keong Minister of the Prime Minister's Department</p>
17:30-19:30 Foyer	Networking Reception
2 OCT 2014	DAY 2 PROGRAM
09.00-10.10 Room Dewan Tun Dr. Ismail 1A-1B	<p>Plenary 3: Interactions between public and private sector actors in adaptation</p> <p>This third plenary will focus on the private sector and how it has interacted with governments in adaptation actions.</p> <p>moderated by Jonathan Shaw, Regional Resource Centre for Asia and the Pacific (RRCAP) - Asian Institute of Technology (AIT)</p> <p>This third plenary will focus on the private sector and how it has interacted with governments in adaptation actions.</p> <ul style="list-style-type: none"> • Takashi Hongo, Mitsui Global Strategic Studies Institute • Peter King, Institute for Global Environmental Strategies (IGES) • Ashvin Dayal, Rockefeller Foundation
10.10-10.40 Foyer	Coffee break

<p>10.40-12.20 Room Dewan Tun Dr. Ismail 1A</p>	<p>Panel 3.1 Role of NAP in Mainstreaming Climate Change Adaptation</p> <p>moderated by Youssef Nassef, United Nations Framework Convention on Climate Change (UNFCCC)</p> <ul style="list-style-type: none"> ● Chea Chan Thou, Climate Change Department, Ministry of Environment, Cambodia ● Tri Dewi Virgiyanti, Ministry of National Development Planning / BAPPENAS, Indonesia ● Gary W. Thesiera, Ministry of Natural Resources and Environment, Malaysia (NRE) ● Buddhi Marambe, National Expert Committee on Climate Change Adaptation, Sri Lanka ● Mozaharul Alam, United Nations Environment Programme (UNEP)
<p>Room Dewan Tun Dr. Ismail 1B</p>	<p>Panel 3.2 Reducing vulnerability to droughts and floods</p> <p>moderated by Mariliza V. Ticsay, Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)</p> <ul style="list-style-type: none"> ● Neera Pradhan, International Centre for Integrated Mountain Development (ICIMOD) ● Syarifah Dalimunthe, Indonesian Institute of Sciences ● Nyda Chhinh, Royal University of Phnom Penh ● Qinxue Wang, National Institute for Environmental Studies (NIES) ● Paul Hartman, DAI/USAID Mekong ARCC
<p>Johor Kedah Room 3</p>	<p>Panel 3.3 Engaging the private sector in adaptation</p> <p>moderated by Saliha Dobardzic, Global Environment Facility (GEF)</p> <ul style="list-style-type: none"> ● Anthony Watanabe, Asia Clean Innovations ● Perlyn Pulhin, the Oscar M. Lopez for Climate Change Adaptation and Disaster Risk Management Foundation ● Jeongho Lee, Korea Environment Institute (KEI) ● Emilia Solomon Visco, University of the Philippines Los Banos
<p>Room Dewan Tun Hussein Onn 2A</p>	<p>Panel 3.4 Synergies between Adaptation and Mitigation: Opportunities for Co-Benefits</p> <p>moderated by Regan Suzuki Pairojmahakij, RECOFTC – The Center for People and Forests</p> <ul style="list-style-type: none"> ● Rebecca Nadin, Intasave ● Nirmal BK Kumar, Forest Action Nepal ● Minh Anh Nguyen, CARE Vietnam ● Cenon Padolina, Secretariat of the Pacific Community
<p>Room Dewan Tun Hussein Onn 2B</p>	<p>Panel 3.5 Coastal tourism</p> <p>moderated by Murray Simpson, Oxford University and Caribsave</p> <ul style="list-style-type: none"> ● Michelle Gyles-McDonnough, United Nations Development Programme ● Justin Henceroth, Institute for Social and Environmental Transition ● Er Ah-Choy, Universiti Kebangsaan Malaysia (UKM) ● Trinh Thi Long, Southern Institute of Water Resources Research, Vietnam
<p>12.20-13.20</p>	<p>Lunch</p>

Mawar Room	
13.20-15.00	Panel 4.1 Adaptation financing
Room Dewan Tun Dr. Ismail 1A	<p>moderated by Preety Bhandari, Asian Development Bank (ADB)</p> <ul style="list-style-type: none"> • Kong Chanthan Ministry of Interior, Cambodia • Tao Wang, Green Climate Fund (GCF) • Saliha Dobardzic, Global Environment Facility (GEF) • Peter King, USAID Adapt-Asia • Patrick Jasper, National Bank for Agriculture and Rural Development (NABARD)
Room Dewan Tun Dr. Ismail 1B	Panel 4.2 Adaptation, aquaculture and fisheries
	<p>moderated by Louis Lebel, Chiang Mai University</p> <ul style="list-style-type: none"> • Jennifer Amparo, Australian National University / University of the Philippines Los Banos • Kao Sochivi, Ministry of Agriculture Forestry and Fisheries, Cambodia • Chinh Cong Ngo, Asian Management and Development Institute, Hanoi • Rowena Andrea Valmonte Santos, International Food Policy Research Institute (IFPRI) • Chanagun Chitmanat, Maejo University, Thailand
Johor Kedah Room 3	Panel 4.3 Climate, health and resilience
	<p>moderated by Ho Kim, Seoul National University</p> <ul style="list-style-type: none"> • Jongsik Ha, Korea Environment Institute (KEI) • Daud Bin Abdul Rahim, Ministry of Health, Malaysia • Tshering Tashi, Public Health Engineering Division, Bhutan • Abhiyant Tiwari, Indian Institute of Public Health • Gajananda Prakash Bhandari, Nepal Public Health Foundation
Room Dewan Tun Hussein Onn 2A	Panel 4.4 Adaptation in the Mountains: Addressing Challenges and Harnessing Opportunities <i>Exploring Solutions across Boundaries</i>
	<p>moderated by Neera Shrestha Pradhan, International Centre for Integrated Mountain Development (ICIMOD)</p> <ul style="list-style-type: none"> • Naseer Ahmad Gillani, Pakistan Water Partnership (PWP) • Su Yufang, Centre for Mountain Ecosystem Studies, ICRAF-China • Priyanka Dissanayake, Global Water Partnership (GWP) • Izhar Hunzai, Gilgit, Pakistan • Dhruvad Choudhury, International Centre for Integrated Mountain Development (ICIMOD)
Room Dewan Tun Hussein Onn 2B	Panel 4.5 Urban resilience
	<p>moderated by Anna Brown, the Rockefeller Foundation</p> <ul style="list-style-type: none"> • Richard Friend Institute for Social and Environmental Transition (ISET-International) • Saleemul Huq, International Centre for Climate Change and Development (ICCCAD) • Aniessa Sari, Mercy Corps Indonesia

	<ul style="list-style-type: none"> Victorino Aquitania, International Council for Local Environmental Initiatives (ICLEI)
15.00-15.30 Foyer	Coffee break
15.30-17.00 Room Dewan Tun Dr. Ismail 1A-1B	<p>Plenary 4: Adaptation as a multi-stakeholder process</p> <p>moderated by Kaveh Zahedi, United Nations Environment Programme (UNEP)</p> <p>The fourth plenary session will reflect on what governments, public and private organizations and communities should do together for successful adaptation. This will give special attention to the roles of deliberation and coordination in multi-stakeholder adaptation processes.</p> <ul style="list-style-type: none"> Farah Kabir, Action Aid, Bangladesh Ali Tauqeer Sheikh, Climate and Development Knowledge Network (CDKN) Johan Kuylenstierna, Stockholm Environment Institute (SEI)
3 OCT 2014	DAY 3 PROGRAM
09.00-10.10 Room Dewan Tun Dr. Ismail 1A-1B	<p>Plenary 5: Mainstreaming climate change adaptation in ASEAN – Multiple actors and roles</p> <p>co-moderated by Raman Letchumanan, ASEAN Secretariat, and Abdul Rahim bin Haji Nik, Ministry of Natural Resources & Environment, Malaysia</p> <p>The fifth plenary session will focus on ASEAN experiences and challenges on mainstreaming climate change adaptation. The focus will be on distilling what contributions regional cooperation have made and what more needs to be done to move adaptation efforts above and beyond what can be done by a country on its own.</p> <p><u>Human Dynamics of Climate Change - Highlights on ASEAN</u></p> <ul style="list-style-type: none"> Rob Harrison, Met Office Singapore <p><u>Viewpoints: Mainstreaming Climate Change Adaptation</u></p> <ul style="list-style-type: none"> Role of ASEAN-Japan Cooperation: Soichiro Seiki, Vice-Minister for Global Environment, Ministry of the Environment of Japan Role of ASEAN Economic Community: J. Jayasiri, Ministry of International Trade and Industry Role of Science, Technology and Academia: Rajib Shaw, Kyoto University, Japan Role of the Media: Hilary Chiew, Third World Network
10.10-10.40 Foyer	Coffee break
10.40-12.20 Room Dewan Tun Dr. Ismail 1A	<p>Panel 5.1 Drivers of Transformation</p> <p>moderated by ASEAN Business Advisory Council Malaysia, and Ahmad Fauzi bin Hasan, Energy Commission Malaysia</p> <p><u>Climate Risks in ASEAN: Challenges in Transformation</u></p>

<p>Johor Kedah Room 3</p>	<ul style="list-style-type: none"> • Andreas Schaffer, Earth Observatory of Singapore, Nanyang Technical University <p><u>Viewpoints: Transformation for alternate development pathways</u></p> <ul style="list-style-type: none"> • Role of Green Technology: Nadzri bin Yahaya, Ministry of Energy, Green Technology and Water, Malaysia (KeTTHA) • Role of Construction Custodians: Judin Abdul Karim, Construction Industry Development Board, Malaysia (CIDB) • Role of Commodity Custodians: Jalaluddin Harun, Malaysian Timber Industry Board (MTIB) • Role of Communities: Juan Pulhin, University of The Philippines Los Banos • Role of Foresight and Futures Thinking: Rushdi Abdul Rahim, Malaysian Industry Government Group for High Technology (MIGHT)
<p>Room Dewan Tun Hussein Onn 2A</p>	<p>Panel 5.2 Experiencing the water-food-energy nexus (experimental session)*</p> <p>moderated by Alexander Smajgl and John Ward, Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Mekong Futures</p> <p>*In this session, participants will be invited to partake in a role-playing game to experience and debate Nexus-related trade-offs and the complexities of understanding cross-sectoral links as dynamically changing connections. Participants will be taken through two decision-making situations, each followed by debriefing debates. Both examples will be framed in the climate adaptation context. This format departs from the traditional approach of presenting scientific papers. However, scientific evidence will be brought into the discussion, based on recent Nexus studies to structure the debate and based on historic experiences from the two particular case studies.</p>
<p>Room Dewan Tun Dr. Ismail 1B</p>	<p>Panel 5.3 Cross-regional knowledge sharing</p> <p>moderated by Keith Alverson, United Nations Environment Programme, Global Adaptation Network (GAN)</p> <ul style="list-style-type: none"> • Akio Takemoto, Ministry of the Environment, Japan • Jacinto Buenfil, UNEP Regional Office for Latin America and the Caribbean (UNEP ROLAC) • Masataka Watanabe, Chuo University, Asia Pacific Adaptation Network (APAN) • Aarjan Dixit, CARE International, Nepal
<p>Room Dewan Tun Hussein Onn 2B</p>	<p>Panel 5.4 Biodiversity conservation, ecosystem resilience and adaptation</p> <p>moderated by Angela Klauschen, Global Water Partnership (GWP)</p> <ul style="list-style-type: none"> • Naoki Nakayama, Ministry of the Environment, Japan • Elina Young, Secretariat of the Pacific Community • Naoya Furuta, International Union for Conservation of Nature (IUCN) • Muchrizal Haris, Partners for Resilience (PFR)
	<p>Panel 5.5 Coastal adaptation and sea-level rise</p> <p>moderated by Robert Kay, Adaptive Futures</p> <ul style="list-style-type: none"> • Alice Howe, Lake Macquarie City Council

	<ul style="list-style-type: none"> • Nyoman Prayoga, Mercy Corps Indonesia • Salesa Nihmei, Secretariat of the Pacific Regional Environment Programme (SPREP) • Liam Fee, UN Habitat
12.20-13.20 Mawar Room	Lunch
13.20-15.00 Room Dewan Tun Dr. Ismail 1A	<p>Panel 6.1 Climate extremes and disaster risk reduction</p> <p>co-moderated by Michelle Gyles-McDonnough, United Nations Development Programme (UNDP), and Louis Lebel, Chiang Mai University</p> <p><u>Mainstreaming climate extremes and disaster risk reduction</u></p> <ul style="list-style-type: none"> • Mohamed Thajudeen Abdul Wahab, National Security Council Malaysia <p><u>Emerging Issues and Priorities: Adapting to Climate Extremes and Slow Onset Disasters</u></p> <ul style="list-style-type: none"> • Perspective from Cambodia: Sothun Nop, Royal University of Phnom Penh (RUPP) • Perspective from Vietnam: Tran Dinh Trong, Vietnam Institute of Meteorology, Hydrology and Environment (IMHEN) • Perspective from Malaysia: Saim Suratman, National Hydraulics Research Institute of Malaysia • (NAHRIM) • Challenges in Assessing Loss and Damage of Disasters: SVRK Prabhakar and Yohei Chiba, Institute of Global Environmental Studies (IGES), Japan • Challenges in Assessing Non-economic Loss and Damage: Ainun Nishat, University of BRAC, Bangladesh
Room Dewan Tun Hussein Onn 2A	<p>Panel 6.2 Moving from Planning to Implementation of sub-national adaptation.</p> <p>moderated by Ali Tauqeer Sheikh, Climate and Development Knowledge Network (CDKN)</p> <ul style="list-style-type: none"> • Abhiyant Tiwari, Indian Institute of Public Health • Anil Gupta, National Institute of Disaster Management, India • Merdi Jean D. Arcilla, Partners for Resilience, Indonesia and Philippines • Elizabeth Gogoi, Climate and Development Knowledge Network (CDKN)
Room Dewan Tun Dr. Ismail 1B	<p>Panel 6.3 Transformative change and adaptation readiness</p> <p>moderated by Alfred Rungol, Papua New Guinea Office of Climate Change and Development and Loreta Rufo, Asian Development Bank (ADB)</p> <ul style="list-style-type: none"> • Jim Jarvie, Mercy Corps • Cinzia Losenno, Asian Development Bank (ADB) • Jagannath Joshi, Ministry of Forests and Soil Conservation, Nepal • Arif Faisal, Asian Development Bank (ADB)

<p>Room Dewan Tun Hussein Onn 2B</p> <p>Johor Kedah Room 3</p>	<ul style="list-style-type: none"> Imelda V. Bacudo, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and Albert Salamanca, Stockholm Environment Institute (SEI) <p>Panel 6.4 Low-carbon, climate-resilient society: Integration of mitigation and adaptation policies</p> <p>moderated by Saleemul Huq, International Centre for Climate Change and Development (ICCCAD)</p> <ul style="list-style-type: none"> Isao Endo, Institute for Global Environmental Strategies (IGES) Toshiyuki Iwado, Institute for Global Environmental Strategies (IGES) Nailya Mustaieva, Central Asia Regional Economic Cooperation (CAREC) Masataka Watanabe, Chuo University, Asia Pacific Adaptation Network (APAN) Perdinan, Bogor Agricultural University <p>Panel 6.5 Engaging public and stakeholders in adaptation</p> <p>moderated by Catherine Diomampo, International Council for Local Environmental Initiatives (ICLEI)</p> <ul style="list-style-type: none"> Sanjay Vashist, Climate Action Network South Asia Sharon Pope, Lake Macquarie City Council Socheath Sou, Live & Learn Environmental Education Cambodia Ahfi Wahyu Hidayat and Prakarma Raja Siregar, Indonesia Climate Change Trust Fund
<p>15.00-15.30 Foyer</p>	<p>Coffee break</p>
<p>15.30-17.20 Room Dewan Tun Dr. Ismail 1A-1B</p>	<p>Concluding Plenary moderated by Mozaharul Alam, United Nations Environment Programme (UNEP)</p> <p><u>Summary of Forum Discussions</u> Louis Lebel, Director, Unit for Social and Environmental Research (USER), Chiang Mai University</p> <p><u>Concluding Remarks</u> Hironori Hamanaka, Institute for Global Environmental Strategies (IGES) Johan Kuylenstierna, Stockholm Environment Institute (SEI) Jonathan Shaw, Regional Resource Centre for Asia and the Pacific (RRCAP) - Asian Institute of Technology (AIT)</p> <p>Closing Ceremony</p> <p>Susil Premajayanth Minister for Environment and Renewable Energy, Sri Lanka</p> <p>Keith Alverson Coordinator, Climate Change Adaptation and Terrestrial Ecosystems Branch Division of Environmental Policy Implementation (DEPI) United Nations Environment Programme (UNEP)</p>

<p>Mohamed Thajudeen bin Abdul Wahab Secretary of the National Security Council, Malaysia</p>
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ANNEXE 2 – MARKET PLACE

The 4th Asia-Pacific Climate Change Adaptation Forum Marketplace showcased a dynamic and diverse range of organisations, products, services, information and knowledge specifically on climate change adaptation. It also provided a conducive space for all participants to meet up, network, read publications, and watch videos or awarded photographs from the APAN 2014 photo contest that were on display.

Exhibitors were:⁷

National Exhibitors

1. Malaysian Industry-Government Group for High Technology - MIGHT
2. National Security Council, Prime Minister's Department - MKN
3. Ministry of Health - MOH
4. Malaysia Civil Defence Department - JPAM
5. Ministry of Natural Resources and Environment Malaysia - NRE
6. Tenaga Nasional Berhad - TNB
7. Construction Industry Development Board Malaysia - CIDB
8. Universiti Kebangsaan Malaysia – UKM
9. Energy Commission - ST
10. Ministry of International Trade and Industry - MITI

International Exhibitors

11. ADRRN - Asian Disaster Reduction and Response Network
12. APAN Photo Contest
13. APAN Photo Contest
14. ICLEI - Local Governments for Sustainability - Southeast Asia Secretariat
15. SEARCA - Southeast Asian Regional Center for Graduate Study and Research in Agriculture
16. CDKN - Climate Development Knowledge Network
17. WOCAN - Women Organizing for Change in Agriculture and NRM
18. GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
19. UNDP - Cambodia Community Based-Adaptation Programme under Small Grant Programme
20. KEI - Korea Environment Institute
21. RRCAP - Regional Resource Center for Asia and the Pacific at AIT
22. SEI - Stockholm Environment Institute-Asia Centre
23. IGES - Institute for Global Environmental Strategies

⁷ <http://www.asiapacificadapt.net/adaptationforum2013/content/market-place-e-registration-form>

24. APAN - Asia Pacific Adaptation Network
25. UNEP - United Nations Environment Programme
26. ADB - Asian Development Bank
27. USAID - Mekong ARCC and M-BRACE
28. Intasave Asia Pacific
29. ASFN - ASEAN Social Forestry Network
30. RECOFTC - The Center for People and Forests
31. GWP - Global Water Partnership South Asia
32. APN - Asia-Pacific Network for Global Change Research
33. ICIMOD - International Centre for Integrated Mountain Development

ANNEXE 3 – SIDE EVENTS

Loss and Damage Workshop

The Loss and Damage Workshop held on 30 September 2014 in Kuala Lumpur, Malaysia, was hosted by the Asia-Pacific Network on Global Change Research (APN) and organized by the international Centre for Climate Change and Development (ICCCAD) and the International Institute for Environment and Development (IIED). It attracted a wide range of participants from practitioners, researchers, government officials, advisors, and academics from all across the region. The workshop not only helped to introduce the large-scale initiative by APN to fund disaster risk reduction, climate change adaptation and loss and damage in the Asia Pacific but also created a platform for participants to discuss their upcoming research projects.

The workshop began with an overview of the APN initiative as given by Linda Anne Stevenson from APN that was then preceded with an overview of loss and damage at the national level as presented by Erin Roberts, researcher at ICCCAD. This was followed by a presentation by Harjeet Singh on two specific projects as funded by APN as well as a presentation by Louis Lebel on the linkages between long-term recovery measures and loss and damage.

In the afternoon session, two breakout groups were formed on 1) Research Gaps/Challenges and Tools/Approaches for Measuring Loss and Damage and 2) Links between Resilient Development and Loss and Damage and Financial Mechanisms for Addressing Loss and Damage. These sessions were chaired by various experts in the field and aimed to draw out similarities between both upcoming and completed research. The major outcome from this session was that individuals were able to find linkages between their projects and thus formed important networks so as to improve capacity building and share knowledge. At the end of the session, groups presented a set of key messages that will be incorporated into a framing paper on loss and damage to be written by a handful of experts present at this workshop and led by Louis Lebel.

Additionally, it was agreed to use other events next year to host additional loss and damage side events and possibly attract other experts working in similar fields. Options for events next year included Sendai, Japan in March; the ninth community based adaptation (CBA) conference in Nairobi, Kenya, in April; the SBSTA Meeting in Bonn, Germany, in June; and, potentially, in Paris, France, in December for COP21.

Workshop on Accessing Climate Change Adaptation Finance and Mainstreaming Ecosystem-Based Approach to Adaptation (EBA)

The GEF-funded Ecosystem-based Adaptation through South-South Cooperation (EBA-SSC) project conducted an inter-regional training workshop on accessing climate change adaptation finance and mainstreaming ecosystem-based approach to adaptation (EBA), under the project's component on inter-regional coordination and capacity building for developing countries to plan and implement EBA.

The workshop was jointly organized by EBA-SSC and APAN, in conjunction with the Asia-Pacific Climate Change Adaptation Forum 2014 and took place in Kuala Lumpur, Malaysia, on 30 September-3 October 2014. The joint organisation of the workshop alongside of the Forum provided workshop participants with high quality learning and knowledge exchange opportunities with a number of policy-makers, practitioners and regional networks from the Asia-Pacific region.

The objective of the workshop was mainstreaming Ecosystem based Adaptation (EBA) into planning and financing processes in developing countries of Africa and Asia-Pacific, by sharing and exchanging knowledge on EBA and lessons learned from planning and implementation. The main target groups of the workshop were national policy-makers and technical staff from developing countries in charge of or engaging in financing and implementing EBA initiatives, especially those involved in the NAP process under the UNFCCC. The workshop has also generated documents that will help increase awareness of the importance of ecosystem-based approach to adaptation and accessing finance, especially a Discussion Paper on EBA finance – providing an overview of financial commitments and landscapes for EBA projects and including a conceptual template for proposal development; and a Policy brief – highlighting the challenges and policy recommendations for accessing and implementing funds for EBA projects and EBA mainstreaming.

The workshop was attended by 30 participants from over 10 countries in Africa, Asia and the Pacific, and several experts and resource persons from international organizations and institutions such as the Asian Development Bank (ADB), the United Nations Environment Programme (UNEP), the Stockholm Environment Institute (SEI), and the Institute for Global Environment Strategies (IGES).

Regional Training on Climate Change Adaptation and Evaluation

The Korea Adaptation Center for Climate Change (KCCCC) / Korea Environment Institute (KEI) held a “Regional Training on Climate Change Adaptation and Evaluation” on 30

September-3 October 2014 in Kuala Lumpur, Malaysia. The training was hosted by Ministry of Environment, Korea, and co-organized by KACCC/KEI and RRC.AP together with other core technical partners of the Asia-Pacific Adaptation Network (APAN), in conjunction with the 4th Asia-Pacific Climate Change Adaptation Forum 2014.

This training aimed to improve the capacity of national and local authorities, practitioners and stakeholders in their adaptation planning for climate change and the evaluation of their current planning and implementing tools. The specific objectives addressed were to:

Provide general concepts on impacts of climate change, vulnerabilities and risk assessment and climate change adaptation.

- Introduce various evaluation tools and case studies.
- Provide guidance on how evaluation can help in mainstreaming and integrating adaptation into national planning processes and risk assessment.
- Provide guidance on the inclusion of evaluation tools into adaptation planning and obtain relevant feedback from practitioners and stakeholders about their local insights on the matter.

This training brought together about 30 participants from several Asia-Pacific countries, mainly coming from national or sub-national government authorities working on enhancing capacity on climate change adaptation, as well as practitioners involved in relevant sectors of the adaptation evaluation process. Sessions were facilitated by experts from the Korea Environment Institute and other organizations such as the International Centre for Climate Change and Development (ICCCAD), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), and the Stockholm Environment Institute (SEI), among others.

ANNEXE 4 – SOURCES AND NOTES