APN Newsletter

VOLUME 16, ISSUE 1 *Winter Edition (February 2010)*

IN THIS ISSUE:

Message from the Director

Happy New Year!

We owe the success of APN in 2009 and the past years to your continued involvement in our activities and programmes. I am grateful to all of you who participated in APN activities and are currently involved in APN research, capacity development, and other related activities at the international, regional, sub-regional and domestic levels. My sincere gratitude goes to our financial sponsors: Hyogo Prefectural Government, Japan; Ministry of the Environment Japan; Ministry of Environment, Republic of Korea; Ministry for the Environment, New Zealand; and National Science Foundation (NSF) – US Global Change Research Program (USGCRP), United States of America, for their generous support.

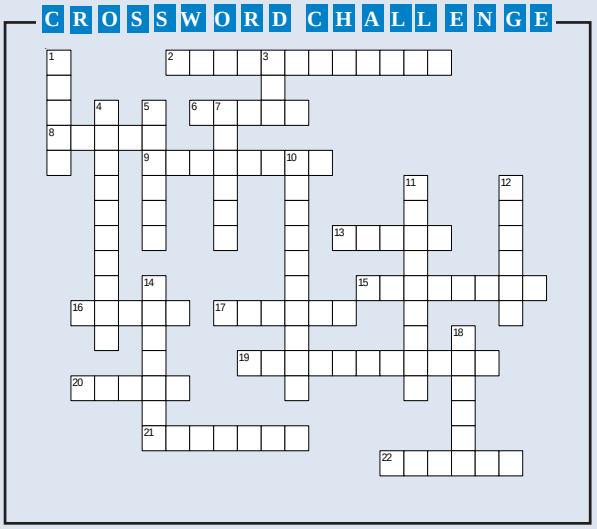
Let me also express my deepest appreciation to all APN member countries for strongly supporting the network with in-kind contributions including providing their time and equipment, supplies and other assistance. Many thanks for your commitment in hosting meetings, sharing expertise and resources, and raising APN awareness in your respective governments/countries. APN relies heavily on the generosity, cooperation and dedication of all its member countries. The APN also appreciates the efforts of the project leaders and collaborators in securing substantial in-kind contributions and fund-matching from other sources for the successful conduct of APN projects/activities.

I am pleased to report selected APN major achievements in 2009. Our network has been continuously supporting and managing projects under the Annual Regional Call for Research Proposals (ARCP) and Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programmes. The 14th Inter-Governmental Meeting/Scientific Planning Group (SPG) Meeting held in March 2009 approved 33 projects under both Programmes for funding in 2009-2010.

New Steering Committee (SC) Members were elected last year and they are actively performing their roles and acting on behalf of the IGM in implementing IGM decisions, with assistance from the Secretariat.

continued on page 8 ...

CROSSWORD CHALLENGE



Across

2 these are designed to have minimal impact on the biosphere, fabricated by methods that preserve and recycle resources
6 new national Focal Point for the Republic of Korea (last name)
8 one of the two identified countries where large-scale urban development is expected to be one of the primary sources of environmental change in Asia over the next decades
9 better quality management of this sector in all streams is crucial in building a disaster resilient city
13 venue of the APN 15th IGM/SPG Meeting
15 the policy research of Carbon Trust suggested that approximately three-fourths of emissions are caused by _____
16 this country is carrying out various policies under the principle of low-carbon green growth as a means to overcome the challenge of climate change and the economic crisis at the same time
17 it is where the Workshop on "Peri-urban Development and Environmental Sustainability: Examples from China and India" was held
19 global and local drivers affecting coasts which should be acknowledged in the coastal management can be divided into two groups 'dimensions', namely ____ and human
20 province in the Philippines which is one of the most vulnerable in the pathway of typhoons and adjacent to the Pacific Ocean
21 celebrated its 20th Anniversary and in commemoration, GEN convened a meeting to address recent development of ecolabels in Asian countries
22 the center of the distribution of dipterocarps with 267 species, 60% of which are endemic

Down

1 APN Project Leader who presented on "APN's Capacity Building Efforts in Global Change Coastal Zone Management for the Asia-Pacific Region" at the EAS Congress (last name)
3 an inter-governmental network that is just about to enter its third strategic phase by April 2010
4 as a mainstream theme, this needs to be incorporated into disaster prevention and economic development plans
5 the Network that conceived the APN project entitled "Scaling-Up Agroforestry Promotion for Climate Change Mitigation in Southeast Asia"
7 HEEP stands for Home _____ Efficiency Programme
10 MODIS stands for Moderate _____ Imaging Spectroradiometer
11 Eco-Home ____ is a Programme that was introduced as an innovative measure for reducing CO_2 emissions in the household sector
12 delivered a presentation on "Global Change Coastal Zone Management Issues for the Asia-Pacific Region: APN's Responses in Addressing These Threats" at the EAS Congress (first name)
14 a network of 85 member institutions in five country networks in Indonesia, Lao PDR Philippines, Thailand and Viet Nam that has been working towards improving agroforestry education, training, research and extension, and contributing to socioeconomic development, empowerment of farming communities and sustainable natural resource and environmental management in the Southeast Asian region
18 _____ Trust is helping businesses in UK to reduce carbon emissions and save money through energy-efficiency programmes

Try the APN Crossword Challenge! All answers can be found throughout the newsletter, so read the newsletter and then test your knowledge on Global Change and APN activities.

Message from the Steering Committee Chair

I am Suho SEONG, and I was appointed as the APN's National Focal Point (nFP) for the Republic of Korea and Chair of the Steering Committee in January 2010. I am glad that I can deliver my message through this Newsletter.

I am well aware that the APN has greatly contributed to strengthening ties between member nations through research projects and other activities related to changes in the Earth such as climate change and improving the environment in the Asia-Pacific region, and so I would like to express my appreciation to such contribution of the APN.

In the Asia-Pacific region, the problem of environmental degradation resulting from rapid development is a very urgent and significant issue. Korea is undergoing serious environmental degradation because policies focus only on rapid development, incurring huge costs to restore the environment. Currently, Korea is making substantial achievements by carrying out various policies under the principle of low carbon green growth as a means to overcome the challenge of climate change and the economic crisis at the same time.

By sharing such experience with other countries in Asia and the Pacific, Korea is willing to cooperate with them in order to address environmental challenges in the region such as climate change.

At the Climate Change Conference held in Denmark in December, the Copenhagen Accord, a political agreement, was brought about. It is expected that each nation's efforts to cope with climate change and the transition to low carbon economy will be further promoted in the future both in developed and developing countries.

In this context, I believe that the 15th APN Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting and associated committee meetings to be held from 15 to 19 March in Busan, Republic of Korea, will be a very meaningful event. The Republic of Korea is doing its best to successfully host the meeting, in close collaboration with the APN Secretariat. I ask all member nations' great interest in and support for the Meeting.

I hope I can see you in the beautiful port City of Busan in the warm season of March, when life revives. I wish our members and their families continued health and happiness.

-Suho Seong
National Focal Point for the Republic of Korea

The Asia-Pacific Network for Global Change Research (APN)* is an international network of Governments whose mission is to enable investigation of change in the Earth's life support systems as it occurs in the Asia-Pacific region to:

1. Identify, explain and predict changes in the context of both natural and anthropogenic (human-induced) forcing;
2. Assess potential regional and global vulnerability of natural and human systems; and
3. Contribute, from the science perspective, to the development of policy options for appropriate responses to global change that will also contribute to sustainable development.

The APN defines **Global Change Research as "research regarding global change (the set of natural and human-induced changes in the Earth's physical and biological systems that, when aggregated, are significant at a global scale) and its implications for sustainable development in the Asia-Pacific region."*

News from the Secretariat

APN at Global Ecolabelling Network Annual General Meeting, 17-19 November 2009, Kobe, Japan

Mr. Tetsuro Fujitsuka, APN Secretariat Director at the GEN Annual General Meeting

In commemoration of the 20th Anniversary of EcoMark, Japan's single ecolabel, the Global Ecolabelling Network (GEN) event convened in Japan to address recent development of ecolabels in Asian countries. The Meeting focussed on good practices and lessons learnt from Type I Ecolabelling Activities of respective countries as well as some crosscutting issues. A Proposal Development Training Workshop (PDTW), conducted by the APN for GEN's future fund sourcing activities was also held.

Two days before the PDTW, Mr. Tetsuro Fujitsuka, APN Director briefed the participants about the activities of APN, specifically the ARCP and CAPaBLE Programmes. The participants showed high interest in the two programmes and raised a number of questions particularly on the eligibility of GEN to submit a proposal to APN. As the main funding for GEN comes from contributions/membership fees of its member countries, it needs support from organisations similar to APN.

Mr. Fujitsuka explained that proposals submitted to APN undergo rigorous reviews by its Scientific Planning Group (SPG) members and invited experts. Therefore, it is extremely important for GEN to have well-developed proposals, not only for submission to APN but also to other potential funding institutions. It is still unclear if GEN would be eligible to submit a proposal to APN since GEN and APN have different thrusts. However, Mr. Fujitsuka assured APN's support in assisting GEN to develop a relevant proposal.

In this regard, the PDTW was conducted on 19th November 2009. Ms. Kristine Garcia, APN Coordinator, delivered a presentation on Guidelines for Proposal Writing wherein she noted the basic characteristics of a good proposal and discussed the *do's* and *don'ts* when writing a proposal. The APN has conducted similar workshops in several events and more information about this can be found at this site: http://www.apn-gcr.org/en/activity/PDTW/Index.html

News from the Secretariat

International Symposium on Cities and Carbon Management: Towards Enhancing Science-Policy Linkages, 16 November 2009, Tokyo, Japan

APN Secretariat Director, Mr. Fujitsuka presenting at the International Symposium on Cities and Carbon Management

Hosted by the Global Carbon Project (GCP) and Integrated Research System for Sustainability Science (IR3S), the International Symposium on Cities and Carbon Management: Towards Enhancing Science-Policy Linkages was held on 16 November 2009 at the Tokyo International Forum, Tokyo, Japan. This event aimed at serving as a forum to discuss science-policy linkages and how such linkages can be enhanced. It brought together well-established scientists/researchers, city decision-makers that are actively pursuing carbon management and facilitators that are strengthening science-policy bridging. The ultimate aim of the symposium was to promote a better science-policy dialogue that all three communities can benefit from. As a member of the global change community with a unique structure consisting of both scientists and policy-makers within its membership, the APN was invited to attend this Symposium.

The one-day Symposium was composed of an opening session with a keynote speech and four (4) round table discussions. Roundtables 1 and 2 focussed on *Science Reaching Out to Decision-Makers* chaired by Dr. Shuzo Nishioka of the National Institute for Environmental Studies, and former APN Scientific Planning Group (SPG) member for Japan. As it is recognised that science can be independent of policies and that it is not necessary for scientific knowledge to be translated into policy action due to social, political, cultural, economic and other factors, presenters examined the ongoing urban carbon management approaches from scientific perspectives.

Rountable 3, which focussed on *Decision-Makers Reaching out to Science,* was chaired by Mr. Marcus Lee of The World Bank, and also a former APN project leader. The areas of research/scientific knowledge that decision-makers need are not always available because often more knowledge on the "how to" questions are required. Therefore, presenters in this session outlined with concrete examples their targets and activities in relation to carbon management and how they best utilised research/scientific knowledge in their action. They also identified the limitations they faced while utilising science and key issues for which they want more research/scientific knowledge. Finally, they discussed ways in which policy-science linkages can be enhanced.

The final roundtable session, chaired by Ms. Mika Ohbayashi of Office Ecologist, tackled the question *How Can Facilitators Assist in Creating Better Science Policy Linkage?* As a facilitator for enhancing science-policy linkages, the APN presented at this roundtable. The APN Secretariat Director, Mr. Tetsuro Fujitsuka, spoke on APN experiences and views on how it has assisted in enhancing these linkages and identifying the science/research-policy gaps from the APN perspective.

Mr. Fujitsuka stressed that there is an ongoing challenge to bridge science and policy and noted that this is a difficult process and one that is either under-developed or functions poorly. He emphasised that the APN is continuously committed to *strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy and decision-making and scientific knowledge to the public*. One of its efforts in doing so is by effectively bringing its national Focal Points and Scientists together at its Annual Meetings. By bringing together policy-makers and the research community, the APN improves communications and understanding among the different countries in the region, and also among policy-makers and scientists.

He also cited some previous and current efforts of some of APN's member countries in addressing and answering the needs of decision-makers on climate and global-change issues in particular. These include:

- Informed decision-making based on international assessment, convention reports;
- Established climate change research centres;
- Established centres, task forces, units within governments, with a mix of scientists, planners and decision-makers;
- Promoting initiatives at the national/local level: low carbon society, use of biofuel, energy efficiency and green technology.

In addition, APN itself is also addressing the issue in-house by conducting activities such as:

- Engaging the public/science/policy communities in dialogue for sharing information and raising awareness;
- APN and Hyogo International Symposium on Low Carbon Society "Challenge 25 Beyond Borders?: Promoting a Low Carbon Society" which successfully convened on 23 January 2010 in Kobe Japan; and
- APN Climate Synthesis which undertakes a synthesis and review of all APN-supported projects in which climate is featured as a major theme.

On the following day, 17 November, a Brainstorming Meeting on *"Emerging Research Questions in Urban Carbon Management"* was held and moderated by Prof. Keisuke Hanaki and Dr. Shobhakar Dhakal. On behalf of the APN, Ms. Kristine Garcia, APN Coordinator attended this closed meeting. The objectives of this meeting were to: a) share the participant's institution's work in more details with other researchers; b) discuss the emerging research questions in this field; and c) explore possibilities for collaboration. In this session, Ms. Garcia informed the participants of the APN's two funding mechanisms in promoting global change research and developing capacity in the region which are the ARCP and CAPaBLE Programmes. She also shared that the APN had undergone a review of its Second Strategic Phase and currently finalising its Third Strategic Plan in which new priority areas and scientific gaps were identified, some of which cross-cut with urban carbon management. Finally, she emphasised that the APN is certainly enthusiastic on further strengthening the interest generated from this Meeting and exploring future synergies.

News from the Secretariat

The East Asian Seas Congress 2009, 25-26 November 2009, Manila, Philippines

The APN demonstrated the relevance of its activities while participating at the East Asian Seas Congress 2009 held in Manila, Philippines on 25-26 November 2009. The International Conference gathered various stakeholders (policy-makers, resource and economic managers, business professionals, scientists, members of academia, local and international non-governmental organisations [NGOs], youth and community representatives and other members of civil society from within and outside the East Asian Seas [EAS] region) to engage in knowledge-sharing and partnership-building.

The International Conference featured six (6) major Conference Themes that covered essential aspects of sustainable coastal and ocean development. A series of workshops, seminars and interactive sessions were organised under each theme, providing close to 1,500 participants from the region and other parts of the world with access to a wealth of experience and expertise in improved governance and management of the regional ocean and its resources.

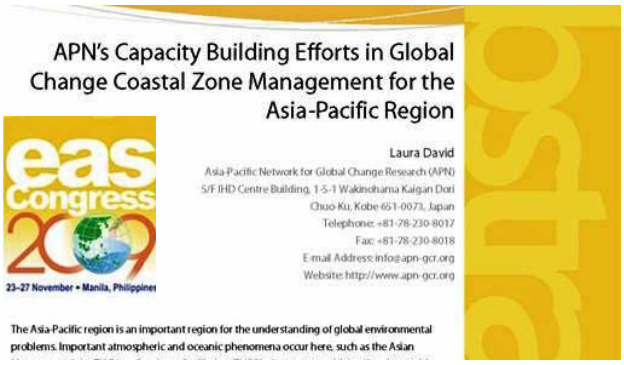
The six major themes included: a) Coastal and Ocean Governance; b) Natural and Man-made Hazards Prevention and Management; c) Habitat Protection, Restoration and Management; d) Water Use and Supply Management; e) Food Security and Livelihood Management; and f) Pollution Reduction and Waste Management.

On behalf of the APN, Mr. Samuel Peñafiel, national Focal Point (nFP) for the Philippines attended the conference and delivered a presentation on *Global Change Coastal Zone Management Issues for the Asia-Pacific Region: APN's Responses in Addressing These Threats* under Theme 2: Natural and Man-made Hazards Prevention and Management with a focus on impacts of climate change in the coastal and ocean areas of the region. This workshop articulated climate change adaptation and resilience strategies within the context of sustainable development in coastal and marine environments. In particular, the workshop provided participants with an understanding of the types, level and severity of adverse social and economic impacts of climate change, and outlined actions, initiatives or response measures within and outside the EAS region related to climate change adaptation and resilience strategies.

Below is the abstract of Mr. Peñafiel's presentation.

A number of important global change issues have been identified for the Asia-Pacific coastal zone. The most significant of these is the need to adapt to the potential impact of global warming and accelerated sea-level rise. There are both physical and human dimensions to global change and regional/local changes which will have impacts on coasts in the future.

There are three main global change drivers affecting coasts which should be acknowledged in coastal management. First, there are phenomena, such as climate change and variability including global warming and sea-level rise, and major regional influences with global climate change linkages such as the El Niño Southern Oscillation (ENSO) and the Asian Monsoon. Second, there are globally-driven socio-economic changes as evidenced by globalisation of economic activity and the dominance of international corporations, many of which are more powerful than smaller countries. The effect of global demand and international trade can have an impact on the Asia-Pacific coast, such as mangrove clearance for shrimp farming even though the major driver/demand may be external to the region. Third, there are global influences on management of various natural coastal environments such as world heritage or marine protected areas. There are also local influences, such as the natural dynamic coastal processes, and population pressure on coasts, such as coastal resource use, waste disposal, mining and coastal development and pollution.



Both global and local drivers can be divided into two groups 'dimensions' namely biophysical and human. Most of these will show increases in the future, such as sea-level rise, economic activity and population, which will inevitably result in a declining supply of coastal resources. As a result of these trends, the 'coastal condition' will decline. In order to improve conditions, appropriate adaptation must be put in place, the earlier this is done, the better the outcome. If adaptation measures are delayed, there will be poorer outcomes.

The potential impacts from global change issues are compounded by current issues. Methods for tackling these issues, such as 'integrated coastal management' have few examples of best practice. There is a need to recognise the diversity of coastal management practices in the Asia-Pacific region and to develop appropriate national and local policies. Similarly, there is a need for this to be accompanied by appropriate education placing less reliance on English language-based material and western concepts.

The scope of the APN coastal zone research is much broader than the APN member countries and can be considered to cover the whole of the Asia-Pacific region, including the East Asian region and Small Islands States in the central Pacific.

Workshop on Meeting Human Resource Requirements in Coastal and Ocean Governance: Formal & Informal Training

Dr. Laura David, APN Project Leader also participated in the conference particularly on the mentioned workshop that provided a venue to present the human resource requirements or capacity needs of the East Asian countries as well as offered opportunity to explore linkages between the science community and policy-makers. The APN was *created to address these needs.*

The workshop also focussed on recent initiatives undertaken related to capacity development in the region, including: (i) efforts to maximise regional intellectual capital towards coastal and ocean development; (ii) formal and informal training initiatives; and (iii) contribution of regional and international initiatives in promoting capacity development.

Dr. David's presentation focussed on *APN's Capacity Building Efforts in Global Change Coastal Zone Management for the Asia-Pacific Region*.

Below is Dr. David's abstract.

The Asia-Pacific region is an important region for the understanding of global environmental problems. Important atmospheric and oceanic phenomena occur here, such as the Asian Monsoon and the ENSO phenomena, which affect the world climate. The region also has tropical forests, deserts, diverse marine and terrestrial ecosystems, and mountains. It is home to the world's largest bio-geographical region of coral reefs and mangroves.

continued on page 8 ...

News from the Secretariat

APN at the 5th GEOSS/AWCI International Coordination Group (ICG) Meeting, 15-18 December 2009, Tokyo, Japan

The 5th Meeting of the Global Earth Observation System of Systems (GEOSS)/Asian Water Cycle Initiative (AWCI) International Coordination Group (ICG) was held on 15-18 December 2009 in University of Tokyo, Japan and focussed on: (i) the AWCI Capacity Building Implementation Plan; and (ii) actual collaboration among climate, water cycle and disasters socio-benefit areas through the three target topics including drought, typhoon and cyclone; and snow and glaciers. The Meeting was divided into three parts: (i) General Session; (ii) International Symposium co-organised by the Indiana Water Resources Association (IWRA) and GEOSS/AWCI; and (iii) Joint Training Workshop on the Application of Remote Sensing Products on Drought Monitoring in Asia. A total of 154 participants from 23 countries attended the Meeting.

APN was invited to give some opening remarks and a presentation at the General Session. Ms. Kristine Garcia, APN Secretariat Coordinator provided the opening remarks on behalf of the APN Secretariat Director, and presented on the APN's Capacity Development Programme, CAPaBLE. In her presentation, she noted that the APN is currently supporting the flood demonstration projects, drought group activities and data management activities of the AWCI through three (3) separately funded projects under both the ARCP and CAPaBLE programmes of the APN. These are: (i) *Capacity Building for Drought Monitoring and Studying in Monsoon Asia under the Framework of Asian Water Cycle Initiative (CBA2009-01CMY-Ailikun)* led by Dr. Ailikun; (ii) *The Global Earth Observation System of Systems Asian Water Cycle Initiative Observation Convergence and Data Integration (CBA2009-02CMY-Ishida)* led by Mr. Chu Ishida; and (iii) Flood Risk Management Demonstration Project under the Asian Water Cycle Initiative for the GEOSS (ARCP2009-01CMY-Fukami) led by Prof. Kazuhiko Fukami.

Furthermore, Ms. Garcia emphasised the APN's commitment to developing capacity for global change research towards sustainable development. She noted that the APN will continue to reinforce the needs for continuous capacity development in member states and, in so doing, highlight the needs and commitments of the APN as well as the global change programmes, under the umbrella of International Council for Science (ICSU), particularly in providing underpinning scientific research results for policy decisions and for the many common and integrated tasks of the GEOSS workplan. She also mentioned specific areas where APN might provide assistance; these are funding support for research and capacity building activities; establishing a channel for data exchange; encouraging all individuals from data-providers to end-users to become involved in the work of GEOSS; facilitate individual and institutional capacity building though training activities and technology transfer; facilitate science and policy-linkages and further link and organise activities with partner programmes and institutions to strengthen regional collaboration.

The strong partnership APN has developed with AWCI in this aspect is an excellent example of what might be achieved. After the presentation, Prof. Toshio Koike, former APN project leader and main organiser of the meeting, acknowledged the APN's strong support to the work of GEOSS/AWCI.

The Meeting also provided an excellent opportunity for Ms. Garcia to meet some of the APN project leaders and collaborators and discuss project updates and possible future collaboration. More information on the GEOSS/AWCI activities funded by the APN can be found on the APN website. All presentations during the Meeting are uploaded on this site: http://www.editoria.u-tokyo.ac.jp/awci/5th/presentation.html.

9th International Conference on Ecomaterials (ICEM9): Break-down and Re-building of Ecomaterials for Sustainable Society

The APN Secretariat Director, Mr. Tetsuro Fujitsuka, was invited to give a presentation at the 9th International Conference on Ecomaterials (ICEM9): Break-down and Re-building of Ecomaterials for Sustainable Society held on 23-26 November 2009, in Kyoto, Japan. His presentation is entitled "*The Role of Eco-labelling Scheme for Sustainability in Asian Countries Case*." He emphasised the importance of networking activities on reducing environmental impacts in the region. Mr. Fujitsuka also briefed the participants on APN's ongoing and future activities and used the opportunity to liaise with other potential partners to help expand APN's network of experts, scientists, researchers and academics.

Ecomaterials are designed to have minimal impact on the biosphere, fabricated by methods that preserve and recycle resources, and that are implemented for the betterment of society. By holding the ICEM9, interdisciplinary approaches that integrate advanced materials science and engineering methods with environmental awareness to yield energy and material efficient technologies were emphasised. This Conference was organised by the Ecomaterials Forum and the Society of Non-Traditional Technology.

News from the Secretariat

International Symposium on Climate Change / Global Environment and Natural Disaster, 15 January 2010, Kobe, Japan

Panel discussion: (from left) Mr. Hironori Hamanaka, Governor Toshizo Ido, Dr. Masataka Watanabe, Dr. Nobuo Mimura and Mr. Yoshiaki Kawata

The Climate Change/Global Environment and Natural Disaster (CC/GEND) International Symposium was organised by the Institute for Global Environmental Strategies (IGES) Kansai Research Center and held in Kobe, Japan on 15 January 2010. A group of APN Secretariat members and its Director participated in the event.

Opening remarks were addressed by Yutaka Suzuki, Director, Kansai Research Center, IGES and Kazuhiko Takemoto, Vice-Minister for Global Environmental Affairs, Ministry of the Environment, Japan. The event was organised as part of a stream of events memoria for the 15th Great Hanshin-Awaji Earthquake and therefore centered on a theme of "transmission" and "reduction" sending messages to the next generation, as IGES notes. Hence, the keynote speeches were scheduled to raise awareness of great connection between climate change/global environment and natural disasters.

Keynote speeches. Two keynote speeches were delivered and followed with a panel discussion.

(1) *3R (Rescue, Rehabilitation and Reconstruction) in Ache Province, Indonesia caused by Asian Tsunami, Indian Ocean* by Mrs. Masnellyarti Hilman, Deputy Minister for Nature Conservation Enhancement and Environmental Degradation Control, State Ministry of the Environment, Republic of Indonesia.

Ms. Hilman presented a comprehensive talk on natural disasters in the face of climate change. Focussing on Indonesia, her presentation was rich in resources containing various data, images, policy analyses and a detailed case study of Lombok. She spoke about natural disasters citing environmental impacts/risk analyses of floods, droughts, land forest fires, and municipal waste and clean water crisis. Further, she introduced Indonesian regulations and policy programmes which attempt to countermeasure the impacts.

Among a series of policy, the National Action Plan Addressing Climate Change was taken into further discussion for importance of mitigation and adaptation agendas. According to her presentation, Indonesia takes preventive action through peatland management, integrated coastal management, integrated watershed management and biodiversity park management. After explaining about curative action in the Lombok case and confronting challenges, she concluded that "[investing in] protection [measures against climate change impacts] is better than cure [mitigation action after the damage]".

(2) *Infection from Climate Change and the Risk of Natural Disaster in Asia and Pacific countries* by Dr. Nobuo Mimura, Professor and Director, Institute for Global Change Adaptation Science, Ibaraki University.

Prof. Mimura's presentation begun with the Intergovernmental Panel on Climate Change (IPCC) prediction of climate change scenarios followed by country case analyses (Philippines, Bangladesh, Tuvalu, and Fiji). His examples highlighted projects that help countries cope with climate impacts such a mega-flood dyke in Manila and typhoon shelter centres in Bangladesh. He also touched on disaster-related social issues such as poverty which make communities more vulnerable to natural disasters and hampers the maintenance of disaster prevention facilities. He stressed the connection between economic empowerment and resilience against natural disaster. Prof. Mimura stated that "[through a mix of policies], the low carbon society needs to be there in order to introduce and maintain higher prevention [against natural disaster]".

Panel Discussion. Following the two keynote speeches, a panel discussion took place and answered to questions raised from audience. The discussion was coordinated by Dr. Hironori Hamanaka, Chair, IGES Board of Directors. Dr. Hamanaka facilitated two questions for panellists: 1) How to respond to disaster risk in the face of climate change?; 2)How should measures be implemented? For responses of panellists, main points are summarised as below:

Dr. Masataka Watanabe, Professor, Faculty of Environment and Information Studies, Keio University, Chairman of the Science and Policy Committee, International Environmental Management of Enclosed Coastal Seas (EMECS) Center. Dr. Watanabe noted that the ever growing population of coastal zones is the biggest challenge in Asia, risking economic loss and victims alike. He stressed that information is not utilised properly in developing countries. Many people do not have access to information or tend to misuse the information as cited in Dr. Mimura's presentation. Economic growth, Dr. Watanabe says, needs to be in place to utilise available technologies.

Dr. Nobuo Mimura highlighted that adaptation as a mainstream theme needs to be incorporated into disaster prevention and economic development plans. Following the 'no regret' policy, current responses to climate change impacts, should seriously start considering future needs. It is important that adaptation measures are taken up at the local level.

Mr. Yoshiaki Kawata, Executive Director of Disaster Reduction and Human Renovation Institution (DRI), provided background information of DRI and its founding reason from the Great Hanshin Earthquake. He highlighted that climate change impacts need long-term vision and mitigation measures. Because mitigation measures are hard to implement, efficient policy and organisation are needed to support action responding to natural disaster. Many environmental issues are leading to food issues/food supplies. To respond efficiently in Asia's context, coastal issues and coastal management are the most important.

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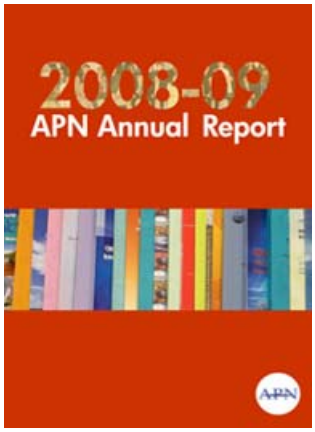
News from the Secretariat

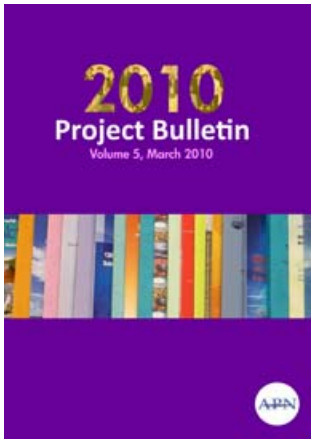
APN New Publications

Annual Report 2008/2009



The *Annual Report 2008/2009* is now available in electronic version and can be downloaded from the APN website: www.apn-gcr.org. This Report presents a summary of APN's efforts in promoting global change research, highlighting the major scientific, capacity development, communications and outreach activities undertaken by the APN in 2008/2009; results and outputs of its completed projects, and other updates. Printed copies will be available for distribution in March and please feel free to contact the Secretariat (info@apn-gcr.org) if you are interested in receiving a printed copy.

Project Bulletin, Volume 5

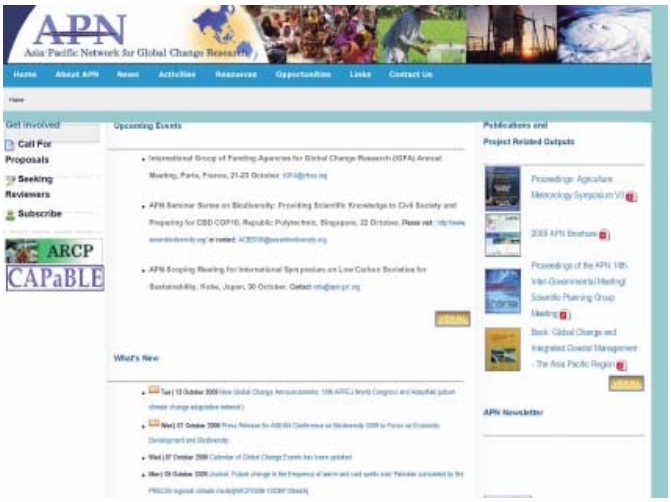


The *Project Bulletin, Volume 5* contains the abstracts of research and capacity building projects funded by APN under the Annual Regional Call for Research Proposals (ARCP) and Capacity Building/ Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programmes. There are 19 projects under the ARCP and 13 under CAPaBLE. The complete contact details of all project leaders are provided in this publication should interestedindividuals like to learn more about the project or seek future collaboration with the project leaders.

APN Promotional Brochure (in 9 languages)

Since 2007, APN has been producing annual promotional flyers and brochures translated into local languages of its member countries. The recent General APN Brochure is available in eight (9) languages: Bahasa Malaysia, Chinese, English, Japanese, Khmer, Laotian, Sinhala, Thai, and Urdu. This publication highlights and summarises major activities undertaken by the APN and provides information on the funded projects as well. The APN members share in the printing expenses and disseminate the brochure to scientists and policy-makers in various organisations and government institutions, thus making considerable difference to the visibility of the APN at the national and sub-regional levels. All versions are downloadable from the APN website 'products' section.

New Face of the APN Website to be Launched Soon



As part of implementing the APN Communications Strategy that was devised and endorsed at the 14th Inter-Governmental Meeting (IGM)/ Scientific Planning Group (SPG) Meeting in March 2009, the APN website is being developed with a new face and dynamic features, and will be timely launched as the APN enters its Third Strategic Phase, from April 2010.

With this website development, we are inviting you all to share images and photos. We will select appropriate photos for the website and APN's future publications such as Annual Report, posters, flyers, etc. All photographs will be credited by name. Please submit photos that feature or illustrate subjects that are related to the APN Science Agenda: 1) Climate; 2) Ecosystems, Biodiversity and Land Use; 3) Changes in the Atmospheric, Terrestrial and Marine Domains; 4) Use of Resources (such as food, water, energy, materials) and Pathways for Sustainable Development; 5) Cross-cutting Issues and Science-policy Linkages (covering both the physical and human dimensions of global change).

If your photo is selected, the APN will contact you again to request permission to use the images for a specific purpose. Images should be a minimum of 300 dpi (dots per inch) resolution. Please send the images by email to Ms. Lizhier Coralde lcoralde@apn-gcr.org.

APN Call for Poster Presentation Abstracts in Global Change Reseach

The APN is inviting submission of poster presentation abstracts for the *Networking Poster Session* that will be held on 17 March 2010, on the occasion of the APN 15th Inter-Governmental Meeting (IGM) and Scientific Planning Group (SPG) Meeting, which is officially being hosted by the Ministry of Environment, Government of the Republic of Korea, at the Asia-Pacific Economic Cooperation (APEC) Centre for Climate Change, Busan, Republic of Korea. The Session will provide up to 20 young scientists with an opportunity to display and present their research work to invited esteemed members of the scientific and policy communities from within and outside the Asia-Pacific region. The winning poster will have an opportunity to present a 20-minute PowerPoint presentation to the 15th IGM/SPG Meeting on Friday, 19 March 2010.

Kindly note that abstracts must be received by Saturday, 20 February 2010, midnight (Japanese Standard Time) to be considered. For more information, please download the announcement on the APN website: http://www.apn-gcr.org/en/indexe.html.

APN Welcomes New nFP for the Republic of Korea

Please join the APN Secretariat in welcoming our new national Focal Point (nFP) for the Republic of Korea, Mr. Suho SEONG. Mr. Seong is the Director of Global Environmental Division, Ministry of Environment, Republic of Korea. He is the successor of Mr. Won-tae KIM.

Likewise, we extend our sincere gratitude and appreciation to Mr. Kim, the outgoing nFP, who has been very supportive of the APN's activities. Mr. Kim was involved in the APN since July 2009.

We look forward to the continued support of the Government of the Republic of Korea in APN's activities under the leadership of Mr. Seong. For official correspondence, you may reach him by email at seongsh@korea.kr.

from page 6 - International Symposium on Climate Change...

Mr. Toshizo Ido, Governor, Hyogo Prefectural Government, shared his lessons learned from Typhoon 23 which caused disaster from flooding to numerous damage. The disaster helped the government realise important lessons: 1) Mismanagement of forests result in weak trees (and flooding branches); 2) Mud flow: debris, drifting woods. In response, dams and sand control areas are constructed as measures for restoration; and 3) Rehabilitation of upper/middle/down streams is necessary. Better quality forestry management in all streams is crucial in building a disaster resilient city!

One of the participants requested Ms. Hilman to briefly explain Indonesia's efforts in tracking illegal logging and traditional ways of handling wild fires. She responded that illegal logging is being tracked with a team of experts, police, army, and tree importers such as Japan to stop using illegal timber. Additionally, local poverty reduction projects to improve the livelihood of timber-producing communities are encouraged and are being tested with international organisations. Ms. Hilman also explained that rotational cultivation of forestry use fires to create fertilizers and destroy harmful pests.

The panel discussion concluded by highlighting adaptation as the major agenda for both local and global levels alike. The coordinator thanked all experts for sharing their experience and extended sincere gratitude to Kobe for hosting the event and all international organisations under its umbrella.

from page 4 - East Asian Seas Congress...

The population of the Asia-Pacific region is more than one-half of the world's total population. In addition, its economic growth rate is the highest of any region in the world. The population growth rate and economic activity of this region means that it contributes to global climate change in a major way. Degradation of the environment resulting from deforestation, desertification, and over harvesting is becoming a matter of great concern, as are natural disasters which occur as a result of this degradation, such as cyclones/typhoons, floods and droughts.

Thus, observation, monitoring, and research on global change in the Asia-Pacific region are indispensable to understanding environment changes taking place on a global scale and its socio-economic implications. In addition, stronger links are needed between the science community and policy-makers. The APN was created to address these needs.

The APN has funded a number of important projects in the Asia-Pacific region devoted to global change coastal zone research. Moreover, many of the projects have established and strengthened networks of regional scientists, coastal managers and policy-makers and developed and enhanced their capacity and interactions. APN projects have also harnessed global change programmes and their projects with new sources of support. Through its broader agenda, the APN has made it possible to engage Asia-Pacific scientists in the larger international community of global change scientists in a proactive manner. The aforementioned APN-funded project achievements, have, for example, been facilitated by activities that include: a) capacity building and training workshops; b) practical field work studies; c) participation at international fora; d) publication of proceedings and journals; and e) networking and awareness-raising.

from page 1 - Message from the Director

The APN Climate Synthesis Activity, endorsed at the 14th IGM/SPG Meeting, officially kicked off in a Scoping Meeting in November 2009. A Special Call for Proposals for a Focussed Activity (Scientific Capacity Building for Climate Impact and Vulnerability Assessments) was launched last year and seven (7) projects are being implemented. The APN also launched Phase III of the comprehensive research element of CAPaBLE, focussing on Climate Change Impacts, Adaptation and Vulnerability and three (3) projects are being implemented.

The publication of the *CAPaBLE Phase 1: In Review* marked the culmination of the evaluation of the activities conducted under Phase I of CAPaBLE. This publication was distributed throughout the global change community and showcased at various international fora.

Every opportunity to raise APN visibility was used including active participation in many international policy and scientific activities such as the 30th Session of the Subsidiary Body for Scientific and Technological Advice (SBSTA 30), Group on Earth Observations (GEO) VI Plenary Session, United Nations Framework Convention on Climate Change 15th Conference of the Parties (UNFCCC COP15), and the Asia-Pacific Forum of Environmental Journalists (APFEJ) World Congress of Environmental Journalists. The latter is especially useful in strengthening the network's link with media.

The APN also initiated and organised the following activities: International Seminar on *Biodiversity and Human Dimensions: Promoting Harmonious Coexistence*; Scoping Meeting for International Symposium on Low Carbon Societies; Proposal Development Training Workshop at the Partnerships Fair of the United Nations Commission on Sustainable Development (UNCSD); Side Event and Exhibition Booth at the ASEAN Conference on Biodiversity and International Programme of Biodiversity Science (DIVERSITAS) Open Science Conference; 1st South Asia Sub-Regional Cooperation Meeting; and the 2nd Southeast Asia Sub-Regional Committee Meeting.

A Communications Strategy was devised and endorsed at the 14th IGM/SPG Meeting. As part of implementing this strategy, the APN website has improved its webpage and a new interactive website is being developed and will be launched when the APN enters its Thirds Strategic Phase, from April 2010.

The preparation of the Evaluation Report of the APN's Second Strategic Phase (2005-2010) and the 3rd Strategic Plan (3SP) is in progress and will be endorsed at the next IGM/SPG Meeting to be held in Busan, Republic of Korea next month.

This year, there are more challenges and opportunities and I invite you all to join us in playing an important role in shaping the future of global change research and capacity development and responding to the needs, particularly of the Asia-Pacific region. It would be impossible to realise this without the support and cooperation of the APN member countries, key partner organisations in the region, the global change community and members of the Secretariat.

I wish all of you the best in 2010 and I look forward to strengthening our collaboration this year and in the years to come.

News from the Secretariat

International Symposium for the Significant Reduction of CO_2 in Household Sector: Learning from Good Practices for Realising Low-Carbon Household

Panel discussion at the International Symposium for the Signifant Reduction of CO_2 in Household Sector

The Institute for Global Environmental Strategies (IGES) Kansai Research Center held an International Symposium on Low-Carbon Households in Kobe, Japan on 19 November 2009. In this symposium, the latest approaches implemented in the UK and other European countries for realising a low carbon society were presented. IGES also made a presentation to introduce its "Eco-Home Diagnosis" Programme as an innovative measure to reduce CO_2 emissions in the household sector. Panellists actively discussed the challenges and perspectives for low carbon households. APN Secretariat Director, Mr. Tetsuro Fujitsuka and other staff participated in the Symposium to advance their knowledge on low carbon economy and also to use the opportunity to further raise APN visibility.

Among the invited keynote lecturers was Robin Dickinson, from Carbon Trust, London who presented on *Challenges in the UK of Building a Low Carbon Society.* He stressed that investor and business assumptions are not yet aligned to a low carbon economy and Carbon Trust, which was established eight years ago, aims to decarbonise the UK economy. In the past two to three years, it looked into the importance of supply chains and a year ago grew internationally to USA and China.

Carbon Trust is helping businesses in UK to: 1) reduce carbon emissions and save money through energy-efficiency programmes; 2) bring forward new and emerging clean energy technologies; 3) support early stage low carbon businesses; and 4) provide a clear long-term policy and regulatory framework which encourages low carbon and sustainable growth.

The policy research of Carbon Trust suggested that approximately three-fourths of emissions are caused by consumption which is known by the term 'Product Carbon Footprint'. A graph was presented showing that the total UK emissions have risen by 19% since 1990. He introduced the Carbon Reduction Label from a Carbon Trust subsidiary which can help drive the change to a low carbon economy.

Mr. Dickinson also suggested some ways to lower the individual carbon footprint. Direct means include: 1) saving money by using low energy light bulbs and not leaving television, computer, etc. on stand-by; 2) insulating homes so less heat is needed in winter and less cooling in summer; and 3) using more public transport and bicycles. The indirect means he suggested are, buying/renting energy-efficient houses and cars and choosing lower carbon footprint products and services when shopping.

The presentation that was given by Andrew Long, from Ten Lifestyle Management Ltd./G-Ten is on *Low Carbon Living Starts at Home.* He believes that disruptive service innovation will have a large part in finding a solution to climate change and his presentation centered on cities as: 1) 50% of the world's population lives in cities; 2) 75% of the world's energy is consumed by cities; and 3) 80% of the world's greenhouse gas emissions are emitted by cities. Housing contributes 38% to the total CO_2 emitted attributable to London and 75% of that is from heating.

Mr. Long talked about the G-Ten Service Portfolio composed of: 1) Green Homes Concierge Service; 2) Technical Trial of the 10 Easy Measures; 3) Home Energy Efficiency Programme (HEEP) Demonstration Projects; and 4) White Labelled Web/Phone-Based Support. The Green Homes Concierge Service has been exhaustively researched. It is an innovative new service to support Londoners who want to make their properties more energy-efficient. This is a first service of its kind in the world, being monitored closely by central governments and global cities/countries. With this kind of service, there is a great way for communities to create a lower carbon London and individuals to make energy/cost savings.

He further elaborated on the Easy Measures: 1) a local area-based initiative intended to support carbon reducing activities of local authorities; 2) a common approach across London but tailored and delivered at a local level; 3) the initial activity aims to 'get the customer on the journey' and then support their ongoing efforts; 4) the initial home visit provides opportunity to influence behaviour as well as provide immediate CO_2 reduction; 5) identification of higher carbon saving measures; and 6) totally free to the customer.

Mr. Yusuke Matsuo, Researcher at IGES Kansai Research Centre talked about specific calculation of carbon in major daily activities like taking a shower and going shopping. This is the main part of IGES low carbon research. The presentation also mentioned the Hyogo's "Eco-Home Diagnosis" Programme. Eco-Home Diagnosis is a software-based advice service that visualises carbon intensity in homes and calculates carbon in daily activities. Main steps of diagnosis are the following: 1) recognition of one's position; 2) confirmation of current position and setting of target; 3) CO_2 Emission Analysis "where from, and how much was emitted?"; and 4) instruction in reliable ways to reduce CO_2.

Following the main steps, one needs to consult with the programme to install new energy-efficient equipment and better insulation, then actual cost calculation of the process comes in. The Programme has been tested in the Kansai region and generated high interest among residents. However, a survey showed that the cost of installing equipment steered above affordability and, in turn, households remain hesitant to implement low carbon action. To address this concern, discussions on finance issues, including bank loans for carbon specific instalments, etc., are underway.

During the panel discussion, Mili Madjumdar from The Energy and Resources Institute (TERI), India shared recent developments on low carbon initiatives in developing nations. She mentioned that there are millions of homes in developing countries without access to basic electricity. Such energy equity is not a reason for the developing world to attempt to learn lessons from developed nations. For instance, India is practicing an '*equal mix*' of regulatory (financial and policy), technological, and

continued on page 11 ...

News from the Secretariat

APN International Symposium on "Challenge 25 Beyond Borders?: Promoting a Low Carbon Society", 23 January 2010, Kobe, Japan

The APN and Hyogo Prefectural Government organised the International Symposium "Challenge 25 Beyond Borders?: Promoting a Low Carbon Society" that was held on 23 January 2010, at the Hyogo Prefectural Museum of Art in Kobe, Japan.

Environmental issues such as global warming have been threatening all sectors of society including civil society as it greatly affects lives. Since the Kyoto Protocol was brought into effect in 2005, a number of concrete measures to reduce the impacts of global warming have been devised and implemented including efforts to reduce greenhouse gases. One of the most recent initiatives to reduce greenhouse gas emissions is by realising a low carbon society. But what exactly does this mean? How can this be achieved? How does it operate?

In the APN International Symposium, Asia-Pacific scientists, policy-makers and stakeholders discussed general issues and recent developments surrounding the topic of low carbon society and how it can contribute to the global effort to reduce greenhouse gases in the atmosphere and reverse the impacts of global warming. Specific measures and activities that will help promote a low carbon society were tackled.

The following also provided support in the successful conduct of the Symposium: Ministry of the Environment, Japan; Institute for Global Environmental Strategies- Kansai Research Centre (IGES-KRC) and Hyogo Centre for Climate Change Actions (Hyogo Environmental Advancement Association)

A detailed report of this International Symposium will be provided in the next edition of the Newsletter and the APN Secretariat will prepare the proceedings of the Symposium in due course. In the meantime, the APN would like to extend its gratitude to the co-organisers for their support, to the invited resource persons from Japan and abroad, and to the participants for their interest in the Symposium. It could not have been successful without everyone's full cooperation. Thank you very much! You may now download the Symposium Programme and the lecturers' abstracts and presentations through this link: http://www.apn-gcr.org/en/activity/hyogo/Jan2010InternationalSeminar.html.

APN at the UNFCCC COP15

With the goal of expanding more substantive APN activity to and supportive of policy-making to contribute in raising the APN's profile, the APN participated in the United Nations Framework Convention on Climate Change 15th Conference of the Parties (UNFCCC COP15) that convened from 7-18 December 2009, in Copenhagen, Denmark. APN's participation was successful and strategic in terms of promoting its activities in the region.

Some members of the APN Secretariat, namely Mr. Tetsuro Fujitsuka, Secretariat Director and Dr. Linda Anne Stevenson, Scientific Officer attended selected side-events and had the opportunity to network with a number of scientists and policy-makers who also participated in COP15. The UNFCCC Secretariat also approved an exhibit which showcased APN publications and displayed opportunities available for least developed countries to be involved in regional-based policy-relevant climate change research and scientific capacity building activities with institutions covering the regions of Asia-Pacific (APN) and the Americas (Inter-American Institute for Global Change Research - IAI).

APN's activities were also highlighted at the iSeeT@theClimateChangeKiosk. The presentation prepared by the APN Secretariat was displayed in one-hour loop all day on 9 and 10 December 2009, with other screen presentations. More information will be provided in the next edition of the APN Newsletter.

APN at GEO VI

The APN, represented by the Secretariat Executive Manager, Mr. Yukihiro Imanari, participated at the Sixth Plenary Session of the Group on Earth Observations (GEO-VI) that convened on 17-18 November 2009 in Washington D.C., USA. An exhibit space was provided at the International Trade Center Atrium Hall and APN materials/publications including brochures, posters, CD-ROMs, reports and brochures were showcased and disseminated at the APN Exhibition Booth.This opportunity was maximised to network with representatives of various organisations in order to establish new links, reinforce current partnerships and collaboration and raise APN's visibility. For more information, please visit: http://www.earthobservations.org/meetings/geo6.html.

Guest Article

COMPACT FLUORESCENT LAMP AS ALTERNATIVE LIGHTING SYSTEM: An Effective Climate Change Mitigation Measure to Reduce CO_2 Emissions

By: LAL EMMANUEL

President, Nagenahiru Foundation (a non-profit , non-governmental organisation operating for the environment conservation including climate change mitigation and poverty reduction), SRI LANKA

Traditional use of kerosene lamps for night fishing in Sri Lanka

In Sri Lanka, the local population is highly dependent on fishing as a source of income and food. There are more than 45,000 lake and lagoon fishermen engaged in night fishing using kerosene lamps to attract and catch fish. Every night, around 45,000 canoe-fishermen are burning more than 54,000 (liters) of kerosene at the rate of 1.2 liter (L) of kerosene per fishing vessel amounting to an annual consumption of 20 million liters of kerosene for night fishing.

Statistics show that burning 1.2 L of kerosene emits about 3.14 kilogram (kg) of carbon dioxide (CO_2). Sri Lanka emits more than 60 million kg of CO_2 to the atmosphere only from 45,000 fishing vessels. This is contributing extensively to global climate change.

Together with partner organisations, environmentally friendly Global Nature Fund in Germany, Nagenahiru Foundation launched a pilot project for the distribution of lamps in four (4) lakes and wetlands in Sri Lanka. These lakes are Maduganga and Madampa Lakes in the Galle District, and Malla Lagoon and Lunugamwehera Tank in the Hambantota District. The Nagenahiru Foundation has so far successfully introduced this innovative technology to nearly 210 night fishermen in five (5) lakes in an attempt to replace fossil fuel use in the fisheries sector of Sri Lanka. This innovation is proving effective in reducing CO_2 emissions using alternative lighting systems.

The technology was launched to replace the use of kerosene for lighting lamps in freshwater fishing vessels that operate during the night in rivers, tanks and lagoons. Fishermen light traditional kerosene lamps to illuminate and attract fish to fishing vessels. The burning of kerosene then results in emissions of CO_2, the main greenhouse gas. There are also health-related issues caused by long-term exposure to kerosene fumes and other disadvantages such as: 1) difficulty in using kerosene lamps during rainy and windy weather; 2) accidental spill of kerosene which causes pollution of the ecosystem and can contaminate the fish catch; and 3) the considerable amount of money spent on kerosene.

With the introduction of an alternative lighting system, the above-mentioned issues are hoped to be addressed. This alternative uses a unique Compact Fluorescent Lamp (CFL) lighting system, powered by a rechargeable 12 Volt 4-6 Ampere seal lead acid battery, which has a three-year lifespan. The lamps consume low energy and provide improved lighting that could last for up to 30 hours. These affordable lanterns can be charged from the main electric grid or by using solar panels, which makes the system cheaper than kerosene lanterns. The lights are easy to maintain, light in weight and less labour-intensive.

Besides the bright and clean light that the lamps could provide, fishermen can withstand windy and rainy weather conditions thus improving efficiency in fishing. The new lighting system minimises the risk of fish catch contamination and threat to pollution and has lower fire risk than traditional kerosene lamps. The smoke and fume-free condition also reduces health risks to users. Since CFL provides better and longer lighting than kerosene lamps, fishermen could save considerable money spent on kerosene. Fishermen could save 30% of their income being spent on purchasing kerosene oil for lighting those traditional lamps.

This cost-saving advantage of CFL strongly appeals to the fishing community resulting in cutting household costs. The savings could be used for other essential expenditure such as children's welfare and education – an added advantage for these poverty-stricken rural families.

With the rapid increase in the demand for this new lighting system, Nagenahiru Foundation has established a service centre for environmental education, to provide technical support, spare parts and other requirements for fishermen using this new system. The goal is to replace about 10,000 kerosene lanterns with the new CFL light system in the next five (5) years. The expansion of the alternative lighting system through the efforts of the Nagenahiru Foundation will become more effective climate change mitigation to reduce CO_2 emissions.

from page 9 - International Symposium for the Significant...

conceptual measures to reasonably and successfully realise a low carbon society, but there is still a long way to carbon reduction.

Dr. Yoshinori Shimoda, Osaka University, Japan, raised concerns regarding consumer's anxiety on tedious payback time for low carbon instalment as well as on lack of brand and design power of such devices in market place. This issue and all the other questions that were asked by the participants were addressed by the panellists before Hironori Hamanaka, IGES Chair of Board of Directors, closed the session. For more information, please visit this site: http://www.iges.or.jp/en/be/activity091119.html.

Introduction of alternative solar lamp system to the Prawn trapping chambers in Maduhanga, Sri Lanka

ARCP-Funded Project

Integrated Prediction of Dipterocarp Species Distribution in Borneo for Supporting Sustainable Use and Conservation Policy Adaptation

(Reference #: ARCP2009-14NMY; Project Leader: Dr. Mui-How PHUA)

The APN-funded project kicked off in July 2009 to address a crucial issue related to conservation of key species in the tropics. Malaysian, Indonesian and Japanese researchers have come together to tackle the uncertain status of dipterocarp species conservation in Borneo, the third largest island in the world.

Borneo is the center of the distribution of dipterocarp with 267 species, 60% of which are endemic. However, the dipterocarp, mainly found in lowland rain forest, have been subject to exploitation under different policy regimes leading to degradation and deforestation. Nevertheless, crucial information on the species distribution density in both regimes are seriously lacking for sustainable management and conservation efforts.

This project aims to address the gap of missing information regarding dipterocarp species distribution and conservation gap at a landscape scale through an integrated approach that combines remote sensing, Geographic Information System (GIS) and field data. The results will support policy adaptation in both Malaysian and Indonesian parts of Borneo in identifying conservation gaps and exploring the possibility of introducing Reducing Emission from Deforestation and Degradation (REDD) mechanism. REDD is a relatively new mechanism which needs to be tested in terms of implementation at the local level.

The project embarks on an integrated approach in deriving critical information on the losses, threats and conservation gaps on the major commercial timber species of dipterocarps in Borneo (Sarawak and East Kalimantan). West Kutai and Batang Ai were chosen as study areas of East Kalimantan and Sarawak, respectively. To address such a vast land area, the most technically sound methodology is based on the use of GIS and satellite remote sensing coupling with ancillary data. The free Landsat data are used to examine the land cover change between 1990 and recent years in the two study areas.

Figure 1 shows the land cover types at West Kutai in 1990 and 2000. Percentage of natural forest (Dark green) in the study area has decreased from 50% to 28%. The land cover map is being updated to examine the loss of forest and associated carbon.

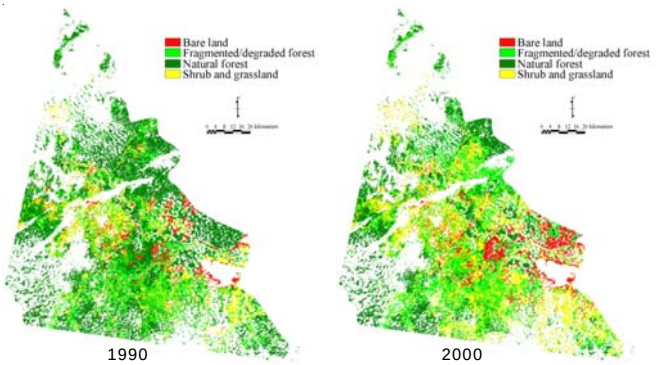


Figure 1. Land cover maps of West Kutai, East Kalimantan

Along with GIS data such as dipterocarp species occurrence, protected area, road and river, the land cover maps will be used to assess the distribution and disappearance of the dipterocarp. Ground truth data for land cover classification in Sarawak were collected during a recent field trip in December 2009.

The fieldwork also targeted to acquire essential information for supporting policy adaptation to REDD in Borneo. It is imperative to learn about the perception of local people on REDD because its implementation will affect their livelihood. The questionnaire survey focussed on the livelihood and forest dependency of the local people in the surrounding Batang Ai National Park.

Slash-and-burn cultivation in the nearby area of a local long-house village

Researchers of University of Malaysia Sabah and Sarawak Forest Research Center getting ready for the questionnaire survey and ground-truthing

While slash-and-burn cultivation is commonly practiced among the local people, many are involved in tourism-related work. Providing boat transportation to visitors going to Batang Ai National Park has become an important source of income for the local people. Researchers from the Universiti Malaysia Sabah and Sarawak's Forest Research Center also used boats as a means to get to the long-house villages.

A total of six long-houses were surveyed on their income-earning activities, forest resources collected, used and traded, as well as their willingness to accept REDD. The villages are still heavily dependent on forest for their livelihoods. However, most of the local people were willing to accept compensation for not conducting slash-and-burn cultivation. The local people agreed on compensation by way of development activities such as agroforestry plantation. The results of this fieldwork will be presented at the International Union of Forest Research Organisation (IUFRO) World Congress in August 2010.

continued on page 13 ...

ARCP-Funded Project

Workshop on Peri-urban Development and Environmental Sustainability: Examples from China and India

(Reference #: ARCP2009-05CMY; Project Leader: Dr. Jefferey SELLERS)

Participants of the Peri-urban Development and Environmental Sustainability Workshop

Large-scale urban development will be one of the primary sources of environmental change in Asia over the next decades. More of this development will take place in India and China than in any other two countries. Understanding the dynamics and the ecological consequences of urban expansion is critical to crafting policies and institutions to manage it properly.

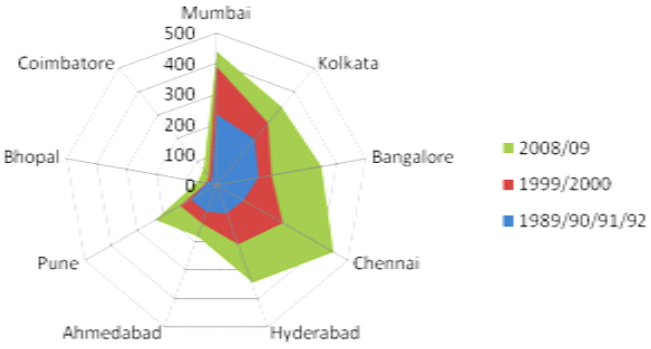
This study has undertaken one of the first systematic comparative analyses of development on the urban fringe and its environmental consequences in the two urbanising giants of Asia. The collaborative project has brought together participants from five (5) countries to analyse remote sensing, demographic, environmental and other data over a period of 25-30 years in 20 selected Chinese and Indian cities. A workshop held at the Centre for Infrastructure, Sustainable Transportation and Urban Planning (CISTUP) at the Indian Institute of Science in Bangalore, India on 10-11 May 2009 combined intensive data presentations and discussions among the project team members with a brainstorming session that included stakeholders in urban development policy. Participants included Dr. Sun Shen Han (University of Melbourne, Australia), Dr. Huang Jingnan (Wuhan University, China). Dr. T. V. Ramachandra (Indian Institute of Science, Bangalore), Dr. Jefferey Sellers (University of Southern California, USA), and Dr. H.S. Sudhira (Indian Institute of Science, Bangalore).

The Bangalore workshop rounded out the first year of work on the project. Initial project organisation and selection of the cases and data were carried out in an earlier workshop and subsequent discussions. Cases selected in each country included all urban regions with populations over ten million, most of the next largest urban regions, and a controlled selection of urban regions with populations down to one million. Remote sensing data (Landsat, supplemented by Indian Remote Sensing [IRS] and Moderate Resolution Imaging Spectroradiometer [MODIS] for four time intervals between the late 1970s and 2008 for the 20 selected regions was obtained and processed for analysis.

The workshop focussed on coordination of protocols for image processing and analysis between research teams in China and in India, on comparison of trajectories of urban development, and on the subsequent plans for the follow-up analysis. The data analysis revealed striking contrasts in the transformations of urban from among Chinese and Indian urban regions. In China, peri-urban expansion has proceeded consistently regardless of city size in coastal regions with strong external investment, but less systematically in some inland regions and little in others. In India, dramatic peri-urban expansion in Chennai and most recently in Bangalore contrasts with more limited spread of settlement in other large regions with high external investment, such as Mumbai and Hyderabad. Indian patterns of peri-urban expansion are also more irregular than corresponding Chinese patterns.

The brainstorming sessions consisted of results presented by the project team to an audience of scientists and stakeholders at CISTUP, followed by a series of intensive group and individual meetings with stakeholders. Along with the project team, participants included representatives from the Bangalore City Corporation, the Karnataka state government, the Bangalore Development Corporation and numerous non-governmental organisations working on urban development issues. Discussions centered on how to address peri-urban development, environmental preservation and service provision in Bangalore and other cities more effectively.

Two papers growing out of the workshop have outlined the main patterns of development in Indian and Chinese urban regions. Two (2) further papers are analysing the sources of the contrasting patterns of development in the two countries. A series of paired, focussed comparative case studies is also underway. The next phase of the project aims to develop a more systematic understanding of the consequences from urban and environmental policies in distinct national and regional contexts. The resulting knowledge will aid stakeholders in planning for future peri-urban expansion in a diverse range of urban settings.



Extent of built-up area, Indian urban regions, 1989-2009

from page 12 -Integrated Prediction of Dipterocarp...

The APN project has not only funded the collection of scientific knowledge but also regional networking among Malaysia, Indonesia and Japan. The strengthening of networking between Universiti Malaysia Sabah and Mulawarman University has been facilitated by The University of Tokyo. Prof. Agung and Dr. Samaryono of Mulawarman University will contribute hand-in-hand with Japanese researchers for the Kalimantan site. Towards the second half of the project-first year, database construction and satellite data analysis as well as policy analysis will be intensified to prepare for the predictive assessment and gap analysis of dipterocarp conservation in the project's second year.

ARCP-Funded Project

The Impact of Climate Change on Pests and Diseases of Key Crops in the Asia-Pacific Region *(Reference #:ARCP2009-17NMY; Project Leader: Dr. Jo LUCK)*

Participants of the project's first workshop

This project successfully convened its first workshop at Bidhan Chandra Krishi Viswavidyalaya University (BCKV), a state agricultural university in Kalyani in the Nadia district of West Bengal State, 62 km north of Kolkata, on 15-16 December 2009. The workshop preceded a national symposium on "Climate Change, Plant Protection and Food Security" held at BCKV, 17-19 December 2009.

The main objectives of the workshop were to: 1) Assess the research being done on climate change and pests and diseases of important crops in the Asia-Pacific Region; 2) Agree and focus on a common crop and disease as a project case study; and 3) Review the agrometeorology and pest modelling tools and historical data sets from India, Bangladesh and Australia as a baseline information for this project.

Dr. S.K. Samanta,Joint Director of Research, BCKV gave the welcome address and the inaugural programme was presided over by Prof. S.K. Sanyal, Director of Research and acting Vice Chancellor, BCKV. In his presidential address, Prof. Sanyal asked delegates to consider examining the historical data for evidence of climate change and explained that this could be done with relative ease among India, Bangladesh and Australia. This was followed by a vote of thanks and warm welcome from the local organiser, Dr Indrabrata Bhattacharya (BCKV, Kalyani). Principal investigator, Dr. Jo Luck, introduced the project, its objectives and emphasised the need to focus on a single crop and disease for the network to be successful. Prof. G. Miah, APN Scientific Planning Group (SPG) Member for Bangladesh explained the structure and function of the APN and how the project fits into the APN portfolio. Agrometerologists, Dr. G.C. Debnath and Prof. S. A. Khan, discussed the climatic variables already affecting Bangladesh, such as severe cyclones in the Bay of Bengal, increasing temperatures (maximum and minimum), increasing precipitation and increasing sea levels with rising salinity in soil which is a major concern for Bangladesh. In India, the rising temperature was considered more limiting and expected to negate the CO_2 fertilisation effect despite the higher transpiration efficiencies. The general approach adopted by the workshop was to identify the climatic risks and then determine how current practices and policies can be adapted to reduce these risks.

After the presentations from each country on areas of interest and expertise, a break-out session was held to determine which crop and disease could be the common focus for the project, using criteria such as the economic significance of crop, severity of the disease or pest, evidence of changes to distribution or severity, project team capability and level of background data. A consensus was reached after some dis-cussion that the network would focus on Potato Late Blight for the common disease, with Potato Virus Y and Potato Leaf-roll Virus as secondary priorities. A work programme was then developed with responsibilities assigned to members. Six (6) short presentations were made by the Kalyani Agro-meterology and plant pathology PhD students. These gave the project members the opportunity to interact with young scientists and be trained in a field very relevant to this project.

A team of scientists from the project visited the Farmer's Co-operative Service Centre in a nearby village in Kalyani. This Centre provides one-stop extension services to farmers in a "single window system" where the growers can receive technical advice, financial assistance and marketing support. Dr. Robert Spooner-Hart from the University of Western Sydney made some valuable suggestions which were well received by the Co-operative members.

An inspirational cultural programme arranged by Dr. Bhattacharya concluded the workshop. It included a dance drama "Chandilika" performed by tribal dancers from a village that is 125 km from Kalyani. Many of the performers were from the "Binapani" Ashram which supports the education of poor village girls.

The workshop exceeded expectations in terms of consensus on a single case study and the willingness to cooperate towards a common goal. A strong case study will be developed over the next 12 months to demonstrate the effects of a serious disease of a food staple, Potato Late Blight, and how increasing temperature and the increasing intensity of droughts and floods may alter the severity and distribution of this disease in the three member countries.

Project team members: Prof. R. Jagannathan, Dean, Tamil Nadu Agricultural University and Dr. Kep Coughlan, University of Western Sydney Visiting Fellow

CAPaBLE Programme Updates

Cities at Risk: Developing Adaptive Capacity for Climate Change in Asia's Coastal Mega-cities *(Reference #: CBA2008-06NSY; Project Leader: Prof. Roland FUCHS)*

Unprecedented, rapid urban growth is occurring in the coastal regions of Asia's mega-deltas. Severe flooding regularly devastates the region, particularly when high tides are combined with storm surges and high river flows. Large coastal cities are particularly at risk from rising sea levels, storms and storm surges, heat stress and other aspects of climate change. Indeed, the region's densely populated deltas and other low-lying coastal urban areas are identified in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report as "key societal hotspots of coastal vulnerability" with many millions of people potentially affected.

Increased population in coastal areas is subject to increased potential for loss of life and property. Often, physical risks and vulnerabilities are exacerbated by a deficit of adaptive capacity. Cities generally lack financial, human and institutional resources as well as access to relevant scientific information that would enable them to cope effectively with current climate hazards and adapt to threats posed by future climate change.

Only recently have local governments and the international development community seriously begun to consider the implications of climate change on rapidly growing coastal populations and infrastructure. Through the *Cities at Risk* initiative, Global Change SysTem for Analysis, Research, and Training (START) and the East-West Center, in collaboration with other partners, are helping to facilitate coordinated action among scientists, policy-makers and the public to support impact and vulnerability assessments, awareness-raising about climate change risks and integration of scientific information about impacts, vulnerabilities and adaptation into planning and policy for the affected areas.

The first major activity of the *Cities at Risk* initiative was the *Cities at Risk* Workshop, held 26-28 February 2009 in Bangkok, Thailand. The workshop brought together nearly 80 scientists, urban planners and officials, and representatives of disaster management and development agencies to review the most recent scientific findings and projections regarding climate-related risks for Asia's coastal megacities. Participants examined potential vulnerabilities and current coping mechanisms in the cities and then discussed actions, in both the short and long term, that would enhance the capacity of cities to manage the risks and vulnerabilities posed by climate change.

Workshop discussion investigated possible planning and governance mechanisms that would better integrate science information, planning, development, and disaster management. Participants also considered means for improving networking and communication among urban planners/officials and the scientific community in order to enhance urban resilience and adaptive capacity.

Major recommendations from the *Cities at Risk* workshop are as follows:

1. There is urgent need to bridge the 'information disconnect' between the climate science and planning communities. Scientists tend to provide climate information at long-term timescales – often several decades into the future – that pertains to a large geographic region. Relatively shorter-term decisions that benefit from city-scale information tend to demand priority from city managers. To help reconcile these differences, scientists should aim to provide information that is more suitable to higher resolutions and shorter time scales; planners and policy-makers should work to lengthen their time horizons.
2. The urban planning community needs to adopt a comprehensive view of climate risks. Within urban planning, there is often uncertainty in understanding climate change versus shorter-term climate variability. Approaching risk management by first considering cities' practical experiences in addressing current climate variability can be an entry point for longer-term planning and adaptation. Lessons learned from managing the stresses that currently affect cities can inform adaptation to longer-term climate impacts and changes.
3. It is important to identify and encourage an 'entrepreneur' in urban government to help make climate change a priority. Past experiences show that a catalyst for the integration of climate change concerns into city planning is the presence of a climate change 'entrepreneur' within city management. Such a person recognises the importance of climate change and adaptation, has a strong knowledge base to draw upon and is positioned in the government with substantial influence to permit him or her to make climate change a priority in planning and development.
4. There is a need to acknowledge that there are gaps in our knowledge and then invest in strategies to bridge those gaps. Both the science and urban planning communities need to examine and better understand how cities develop, how climate change and associated sea level rise will impact development and potential response options and strategies.
5. Assessments of likely climate change impacts should begin with an analysis of current climate stresses and then investigate how changes or shifts in the climate will magnify current vulnerabilities and/or create new ones. This method is recommended over the traditional top-down approach of using downscaled general circulation models to project smaller-scale changes. Instead, the proposed approach would aid in assessing critical thresholds for the city and factors that result in those thresholds being crossed. Precautionary actions to manage risk could then be taken.
6. Climate change science – and information about impacts and vulnerability, in particular – needs to be communicated more effectively. The communication barrier between those who produce scientific knowledge that can inform adaptation and those who need that knowledge hinders action. Improved, multi-directional communication and information exchange will promote more effective integration of climate change into planning and development. Additionally, stakeholders should be involved in risk and vulnerability assessments so that they can provide perspective on and learn about related decision-making processes.
7. There is urgent need to build capacity among individuals and institutions to respond to climate change in Asia's megacities. Enhancing local expertise in climate risk management for cities should be a priority. Innovative activities and initiatives are needed that enable the participation of a variety of stakeholders in an informed urban planning and development process. This will require institutional strengthening, networking and cooperation amongst megacities, improved knowledge sharing and additional financial resources.

continued on page 17...

CAPaBLE Programme Updates

Scaling-Up Agroforestry Promotion Towards Mitigating Climate Change in Southeast Asia

(Reference #: CBA2009-08NSY; Project Leader: Dr. Orlando ALMOITE)

Philippine Agroforestry Education and Research Network (PAFERN) Staff

Recognising the potential of agroforestry in climate change mitigation and adaptation, the Philippine Agroforestry Education and Research Network (PAFERN) conceived the project entitled "Scaling-Up Agroforestry Promotion for Climate Change Mitigation in Southeast Asia". This one-year project (June 2009-June 2010) is a regional collaboration of the five member countries of the Southeast Asian Network for Agroforestry Education (SEANAFE), namely: Indonesia, Thailand, Lao PDR, Viet Nam and the Philippines, with the overall goal of fostering closer collaboration among the five country networks.

This project aims to: a) provide capability-building programmes about the roles of agroforestry in mitigating climate change, among the junior agroforestry lecturers in the five participating universities; b) develop relevant teaching materials about the multifunctional uses of agroforestry in climate change mitigation; and, c) create awareness among the different stakeholders, including the policy-making bodies about the relevance of agroforestry for sustainable development.

The major components of the project include the following: a) Consultative Meeting; b) Formation of Multi-Sectoral Taskforces; c) Collection and Packaging of Instructional Materials; d) Regional Training on Agroforestry and Climate Change; e) National Agroforestry Roadshows; and e) Formulation of a Policy Brief. Embedded in these component activities is the monitoring and evaluation, particularly in the planning and implementation of National Agroforestry Roadshows. The monitoring and evaluation will be conducted by the project staff based in the Philippines.

This project is very timely as many development organisations in various countries aim to mitigate climate change. Results of this study can serve as a basis for policy-making bodies of different government institutions in coming up with a good set of decisions regarding implementation and adoption of public policies towards mitigating climate change, particularly in line with the integration of climate change concepts in the education curricula at all levels, integrating climate change in the policy processes of the environmental and agricultural sectors at the national and local governments level, and supporting agroforestry in various public policies of the forestry, agricultural and environmental sectors. Overall, this project is geared towards promoting sustainable development, as agroforestry is considered as a system that addresses environmental conservation and stability, and socio-economic productivity.

The project serves as a learning experience among the five participating countries as regards the potential implications of agroforestry technology adoption towards mitigating climate change. Climate change has been a global issue in the past and in the present, but there are still limited undertakings that provide empirical evidence that agroforestry is indeed one of the strategies that could mitigate climate change. Hence, this project will address that gap and also provide capacity development among the junior lecturers and member-universities in general.

Since June 2009, the project has been conducting activities to achieve its goal and the following have been successfully undertaken: a) Conducted the Consultative Meeting-Workshop of the five country representatives comprising the Project Facilitating Team; b) Organised the multi-sectoral taskforces in each of the five participating countries; c) Conducted the Regional Training-Workshop on Scaling-Up Agroforestry Promotion for Climate Change Mitigation and Adaptation in Southeast Asia; d) Produced a brochure/information material about the potential of agroforestry in climate change mitigation and adaptation; e) Organised National Agrofrestry Roadshows in the Philippines; f) Developed plans for the implementation of National Agroforestry Roadshows in the four member-countries; and g) Disseminated information about the project in newsletters and uploaded the same in the PAFERN and SEANAFE websites.

CAPaBLE - SCBCIA

Capacity Development on Integration of Science and Local Knowledge for Climate Change Impacts and Vulnerability Assessment

(Reference #: CIA2009-02; Project Leader: Dr. Juan PULHIN)

This project aims to build the capacity of local government officials and researchers, and the provincial government of Albay, in the Philippines, as a whole, in assessing the impacts of and their vulnerability to climate change with the use of computer model systems and complimented by local knowledge of the people in the province. It serves as a pilot site in the Philippines for the assessment of climate impacts and vulnerability on water resources, the agricultural sector and coastal zones using the SimCLIM modelling system. SimCLIM is a software package for examining the effects of climate variability and change over time and space and is designed to support decision-making and climate proofing.

Dr. Juan Pulhin, APN Project Leader, presenting the overview of the project to the participants of the meeting

A kick-off meeting was held on 15 January 2010, at the Albay Provincial Capitol in Legazpi City, Albay, Philippines, which aimed to introduce the project and the SimClim system to key project partners; level off expectations among project partners regarding project implementation, expected outputs and institutional roles; and finalise the project work plan. The meeting was attended by 49 participants representing relevant sectors and government agencies in Albay province, which include those from the Department of Environment and Natural Resources, Philippine Institute of Volcanology and Seismology, Municipal Planning Offices, academia, among others. Dr. Peter Urich, Adjunct Professor of the University of Sunshine Coast and Managing Director of CLIM Systems, was also present to give an overview of the SimCLIM Systems and its data requirements.

The project, particularly the use of the SimCLIM system, received very positive feedback from the meeting participants. Everyone was enthusiastic to take part in and contribute to the upcoming activities. The results of the project are particularly seen to be very useful in the comprehensive land use planning that the province is currently undertaking, which seeks, among others, to climate proof the province of Albay. Potential case study sites were suggested during the work plan preparation, and data requirements for running the model were identified together with the person assigned to collect such. Among the agreements in the meeting was scheduling the "Training in the Concepts of Climate Change Impacts and Vulnerability and the Use of SimCLIM Modelling System" on 26-30 April 2010. However, due to the strong interest among the partners from the province of Albay to learn about the said modelling system, the originally planned 20-participant training was expanded to 50 participants, with the provincial government committing to co-support the activity.

INQUIRER Southern Luzon

Albay: Model for study of climate change adaptation

The project was featured in one of the Philippines' leading newspaper (a national daily - Inquirer)

from page 15 - Cities at Risk...

8. Effective governance is needed at all levels to integrate adaptation into development strategies. Governments at all levels must act in timely, proactive and harmonised ways to address climate change issues and adaptation measures. Implementation of adaptation can be prioritised through legislation, where possible, but governments must, in turn, ensure effective implementation of such legislation. Governments at all levels should also strive to enhance the capacity of institutions that implement adaptation strategies, including private sector and civil society institutions.

By bringing together key stakeholders under a common umbrella, the *Cities at Risk* workshop contributed to the sharing of critical knowledge and experience among participants and helped lay a foundation for future communication and collaboration. The workshop was an initial step in what is intended to be a longer term set of activities for developing urban adaptive capacities and integrating science and policy to manage climate risks in Asia's coastal megacities.

The *Cities at Risk* workshop was organised by START, the East-West Center and Ibaraki University/ Integrated Research System for Sustainability Science (IR3S) (Japan). Local workshop host was the Southeast Asia START Regional Research Center (SEA-START) in Bangkok. Additional collaborators included the World Climate Research Program (WCRP), the International Council for Science (ICSU) Regional Office for Asia and the Pacific, the International Human Dimensions Programme on Global Environmental Change (IHDP) Urban Global Environmental Change (UGEC) project, the Monsoon Asia Integrated Regional Study (MAIRS) and the Asian Development Bank (ADB). The *Cities at Risk* Workshop was funded by the APN and ICSU.

For more information about the *Cities at Risk* initiative please contact Clark Seipt (cseipt@start.org) at START or Roland Fuchs (fuchsr@eastwestcenter.org) at the East West Center. Additional information about past and future activities may also be found on the web at: http://start.org/programs/cities-at-risk.

ARCP 2009/10 Projects

APN 2009/10 Projects from the Annual Regional Call for Research Proposals

ARCP2009-01CMY: Flood Risk Management Demonstration Project (phase 1) under the Asian Water Cycle Initiative for the Global Earth Observation System of Systems (FRM/AWCI/GEOSS); **Project Leader**: Mr. Kazuhiko FUKAMI, Leader of Hydrologic Engineering Research Team, ICHARM, Public Works Research Institute (PWRI), JAPAN; Email: k-fukami@pwri.go.jp

ARCP2009-02CMY: Human Impact on Land-cover Changes in the Heart of Asia; **Project Leader**: Dr. Igor OKLADNIKOV , Siberian Center for Environmental Research and Training/Institute for Monitoring of Climatic and Ecological Systems, RUSSIAN FEDERATION; Email: oig@scert.ru

ARCP2009-03CMY: Reducing Water Insecurity through Stakeholder Participation in River Basin Management in the Asia-Pacific; **Project Leader**: Dr. Elena NIKITINA, Director, EcoPolicy Research and Consulting, Moscow, RUSSIAN FEDERATION; Email: elenanikitina@bk.ru

ARCP2009-04CMY: Impacts of Global Change on the Dynamics of Snow, Glaciers and Runoff over the Himalayan Mountains and their Consequences for Highland and Downstream Regions; **Project Leader**: Dr. Kedar Lal SHRESTHA, Institute for Development and Innovation, NEPAL; Email: klshrestha@wlink.com.np

ARCP2009-05CMY: Peri-Urban Development and Environmental Sustainability: Examples from China and India **Project Leader**: Jefferey M. SELLERS, Geography and Public Policy, University of Southern California, USA; Email: sellers@usc.edu

ARCP2009-06CMY: Managing Ecosystems Services in Asia: A Critical Review of Experiences in Montane Upper Tributary Watersheds; **Project Leader**: Dr. Ademola BRAIMOH, Global Land Project, Sapporo Nodal Office, Hokkaido University, JAPAN;
Email: abraimoh@glp.hokudai.ac.jp

ARCP2009-07CMY: Temperature Sensitivity of Soil CO_2 Efflux as Altered by Rubber Tree Plantations in Southeast Asia; **Project Leader**: Drs. Xiaoming ZOU, Fanglin Liu, Min Cao, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, CHINA;
Email: xzou2000@yahoo.com

ARCP2009-08CMY: Assessment of Food and Water Security in South Asia under Changing Climate Scenario Using Crop Simulation and Water Management Models, and Identification of Appropriate Strategies to Meet Future Demands; **Project Leader**: Dr. M. Mohsin IQBAL, Head Agriculture Section, Global Change Impact Studies Centre (GCISC), Islamabad, PAKISTAN;
Email: Mohsin.iqbal@gcisc.org.pk

ARCP2009-09NSY: Developing Smallholder Agroforestry Carbon Offset Protocols for Carbon Financial Markets – Twinning Sustainable Livelihoods and Climate Mitigation; **Project Leader:** Dr. David L. SKOLE, Michigan State University, USA;
Email: skole@msu.edu

ARCP2009-10NSY: Assessment of Role of Community Forests (CFs) in CO_2 Sequestration, Biodiversity and Land Use Change; **Project Leader:** Dr. Chinta Mani GAUTAM, Nepal Development Research Institute (NDRI), NEPAL;
Email: gautamcm@gmail.com info@ndri.org.np

ARCP2009-11NSY: Role of Experiments in Sustainability Transitions in Asia; **Project Leader:** Prof. Joyashree ROY, Global Change Programme, Jadavpur University, INDIA;
Email: jroy@cal2.vsnl.net.in

ARCP2009-12NSY: Biochar for Carbon Reduction, Sustainable Agriculture and Soil Management (BIOCHARM); **Project Leader:** Dr. Stephan M. HAEFELE, Crop and Environmental Science Division, International Rice Research Institute, PHILIPPINES;
Email: s.haefele@cgiar.org

ARCP2009-13NMY: Collaborative Research on Sustainable Urban Water Quality Management in Southeast Asian Countries: Analysis of Current Status (comparative study) and Development of a Strategic Plan for Sustainable Development; **Project Leader:** Dr. Suthipong STHIANNOPKAO, Gwangju Institute of Science and Technology (GIST), REPUBLIC OF KOREA ; Email: suthi@gist.ac.kr; suthisuthi@hotmail.com

ARCP2009-14NMY: Integrated Prediction of Dipterocarp Species Distribution in Borneo for Supporting Sustainable Use and Conservation Policy Adaptation; **Project Leader**: Dr. Mui-How PHUA, School of International Tropical Forestry, Universiti Malaysia, MALAYSIA;
Email: pmh@ums.edu.my

ARCP2009-15NMY: Vulnerability of Home Garden Systems to Climate Change and its Impacts on Food Security in South Asia; **Project Leader**: Prof. Buddhi MARAMBE, Faculty of Agriculture, University of Peradeniya, SRI LANKA; Email: bmarambe@pdn.ac.lk

ARCP2009-16NMY: Building Asian Climate Change Scenarios by Multi-Regional Climate Models Ensemble; **Project Leader:** Dr. Shuyu WANG, Institute of Atmospheric Physics, Chinese Academy of Sciences, CHINA; Email: wsy@tea.ac.cn

ARCP2009-17NMY: The Effects of Climate Change on Pests and Diseases of Major Food Crops in the Asia Pacific Region; **Project Leader:** Dr. Joanne Elizabeth LUCK, Cooperative Research Centre for National Plant Biosecurity, AUSTRALIA; Email: jo.luck@dpi.vic.gov.au

ARCP2009-18NMY: Quantifying the Role of Dead Wood in Carbon Sequestration; **Project Leader**: Dr. Douglas SCHAEFER, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, CHINA;
Email: xiedaoan@xtbg.ac.cn

ARCP2009-19NMY: Asian Coastal Ecosystems: An Integrated Database and Information Management System (DIMS) for Assessing Impact of Climate Change and its Appraisal; **Project Leader:** Dr. V. Ramani BAI, University of Nottingham Malaysia Campus, MALAYSIA; Email: Ramani-Bai.V@nottingham.edu.my

You may check the abstracts of each project at : http://www.apn-gcr.org/en/activity/list2007projects.htm

CAPaBLE 2009/10 Projects

APN 2009/10 Projects under the CAPaBLE Programme

CAPaBLE Comprehensive Research Projects

CRP2009-01NMY: Vulnerability Mapping as a Policy Tool in Developing Countries; **Project Leader:** Dr. Eberhard WEBER, The University of the South Pacific, FIJI; Email: weber_e@usp.ac.fj

CRP2009-02NMY: Strengthening Capacity for Policy Research on Mainstreaming Adaptation to Climate Change in Agriculture and Water Sectors; **Project Leader:** Dr. Joy Jacqueline PEREIRA, Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM), MALAYSIA; Email: joy@ukm.my

CAPaBLE Capacity Building Projects

CBA2009-01CMY: Capacity Building for Drought Monitoring and Studying in Monsoon Asia under the Framework of Asian Water Cycle Initiative (AWCI); **Project Leader:** Dr. AILIKUN, Chinese Academy of Science, CHINA; Email: aili@mairs-essp.org

CBA2009-02CMY: The Global Earth Observation System of Systems Asian Water Cycle Initiative Observation Convergence and Data Integration (GEOSS/AWCI/OCDI); **Project Leader:** Mr. Chu ISHIDA, Japan Aerospace Exploration Agency (JAXA), JAPAN; Email: ishida.chu@jaxa.jp

CBA2009-03NSY: Project Scoping and Training Workshop for Reduced Emissions from Deforestation and Degradation (REDD) in Indonesia, Cambodia, and Lao PDR; **Project Leader:** Dr. Rony BISHRY, BPPT - The Agency for the Assessment and Application of Technology, INDONESIA; Email: rbishry2000@yahoo.com

CBA2009-04NSY: Workshop on Climate and Agricultural Risk Management; **Project Leader:** Dr. Preap VISARTO, Plant Protection Sanitary and Phytosanitary, Department Agricultural Directorate, Ministry of Agriculture Forestry and Fisheries (MAFF), CAMBODIA; Email: visarto09@yahoo.com

CBA2009-05NSY: International Workshop on the Content, Communication and Use of Weather and Climate Products and Services for Sustainable Agriculture; **Project Leader:** Dr. Michael James SALINGER, University of Auckland, NEW ZEALAND; Email: jsalinger@auckland.ac.nz

CBA2009-06NSY: Capacity Building for Mainstreaming Climate Change Issues into Socio-Economic Development Planning in Viet Nam; **Project Leader**: Dr. Vu Van TRIEU and Dr. Luong Quang HUY, IUCN Viet Nam Country Office, VIET NAM; Email: vuvantrieu@iucn.org.vn; huy@iucn.org.vn

CBA2009-07NSY:Second DIVERSITAS Open Science Conference (OSC) – Biodiversity and Society: Understanding Connections, Adapting to Change (Ensuring a Strong Scientific Contribution from the Asia-Pacific Region); **Project Leader:** Dr. Anne LARIGAUDERIE, DIVERSITAS; Email: anne@diversitas-international.org

CBA2009-08NSY: Scaling-Up Agroforestry Promotion towards Mitigating Climate Change in Southeast Asia; **Project Leader:** Dr. Orlando P. ALMOITE, Philippine Agroforestry Education and Research Network, University of the Philippines Los Baños, PHILIPPINES; Email: opalmoite@yahoo.com; dmmmsu_iawm@yahoo.com; ldgavina@yahoo.com

CBA2009-09NSY: Pacific Islands Climate Outlook Forum (PICOF): A Network Approach for Regional Climate Change Assessments; **Project Leader:** Dr. David WALLAND, Bureau of Meteorology, AUSTRALIA; Email: d.walland@bom.gov.au

CBA2009-10NSY: Inter-Agency Collaborative Technologies in Earth Observations (EO) for Global Change Research in the Asia-Pacific Region: Full Proposal submitted following conditions of APN Seed Grant CBA2008-13NSG-Li; **Project Leader**: Dr. Guoqing LI, Centre for Earth Observation and Digital Earth, Chinese CHINA; Email: gqli@ceode.ac.cn

CBA2009-11NMY: Promoting Sustainable Use of Waste Biomass in Cambodia, Lao People's Democratic Republic and Thailand: Combining Food Security, Bio-energy and Climate Protection Benefits; **Project Leader**: Dr. Janya SANG-ARUN, Institute for Global Environmental Strategies, JAPAN; Email: sang-arun@iges.or.jp

CBA2009-12NMY: Dryland Development Paradigm (DDP) Application for the Most Vulnerable to Climate and Land Use Change of Pastoral Systems in the Southern Khangai Mountains of Mongolia (DDPPaS); **Project Leader:** Dr. Chuluun TOGTOHYN, Institute for Dryland Sustainability (IDS), National University of Mongolia, MONGOLIA; Email: chuluun@nrel.colostate.edu

You may check the abstracts of the above projects at :
http://www.apn-gcr.org/en/activity/capable/capableprojects/list2007capableprojects.htm

The APN is seeking **external mail reviewers** to review global change research proposals submitted under its ARCP and capacity development proposals submitted under its CAPaBLE Programme. For more details and to download the Reviewer Background Information Form, please visit: *http://www.apn-gcr.org/en/callforproposals/mailreviewsystem.html*.

2009/2010 APN-funded Projects Under the CAPaBLE Focussed Activity on Scientific Capacity Building for Climate Impact and Vulnerability Assessments (SCBCIA)

Project Reference Number: CIA2009-01-SNIDVONGS

Project Leader: Dr. Anond Snidvongs, (anond@start.or.th) Southeast Asia (SEA) Global Change System for Analysis, Research, and Training (START) Regional Center, Chulalongkorn University, Thailand

Project Title: Climate Change Vulnerability Assessment and Urban Development Planning for Asian Coastal Cities

Countries Involved: Australia, Canada, Germany, Japan, Philippines, Thailand, USA, Viet Nam

Project Summary: The project plans to strengthen capacity in Asian coastal cities on the part of researchers and representatives from urban planning and development agencies, as well as operational climate and disaster planning agencies, to cope with future climate impacts and urban vulnerabilities to climate change. Such teams would help create urban partnerships in each city, communities of knowledge, in which researchers link their work to user's needs, and in which urban planners are better able to incorporate climate change risks, impacts, and vulnerability into the planning process.

Project Reference Number: CIA2009-02-PULHIN

Project Leader: Dr. Juan Pulhin (jmpulhin@uplb.edu.ph), Department of Forestry and Forest Governance, College of Forestry and Natural Resource, University of the Philippines Los Baños, Philippines

Project Title: Capacity Development on Integration of Science and Local Knowledge for Climate Change Impacts and Vulnerability Assessments

Countries Involved: Australia, Philippines

Project Summary: On the forefront of climate change impacts and vulnerability, the project aims to build the capacity of local government officials and researchers, and the provincial government of Albay (one of the most vulnerable in the pathway of typhoons and adjacent to the Pacific Ocean, in the Philippines), in assessing the impacts of and their vulnerability to climate change with the use of computer model systems complimented by the local knowledge.

Project Reference Number: CIA2009-03-LUN

Project Leader: Dr. Yin Lun (lun.yin@gmail.com), Centre for Tibetan Regional Sustainable Development, China

Project Title: Climate Change in Eastern Himalayas: Advancing Community-Based Scientific Capacity to Support Climate Change Adaptation

Countries Involved: China, India, Japan, Nepal, Thailand

Project Summary: The project aims to develop the scientific capacity for local government officials, scientists, and indigenous people in the Eastern Tibetan Himalayas of North-West Yunnan Province, China, to assist them in effectively and sustainably responding to the impacts of climate change through the participatory, community-based development of a Climate Change Vulnerability and Impact Assessment. This project aims to use the best of 'top-down' scientific, policy-relevant approaches with 'bottom-up' Indigenous Knowledge research to achieve its objectives - seeking to reconcile indigenous knowledge with mainstream science.

Project Reference Number: CIA2009-04-GAOL

Project Leader: Dr. Jonson Lumban Gaol (jonsonrt@yahoo.com), Department of Marine Science and Technology, Bogor Agricultural University, Indonesia

Project Title: Increasing Capacity of Local Scientists for Climate Change Impact and Vulnerability Assessments in Indonesia Archipelagos: Training in In-Situ/Satellite Sea Level Measurements

Countries Involved: Indonesia, USA

2009/2010 APN-funded Projects Under the CAPaBLE Focussed Activity on Scientific Capacity Building for Climate Impact and Vulnerability Assessments (SCBCIA)

Project Summary: Responding to Indonesia's urgent need of scientific capacity enhancement, especially in sea level measurements, project activities will focus on training, field studies and a workshop. This project will conduct field study measurements of sea level in situ collaborating with the National Agency for Surveying and Mapping. Using Satellite Laser Ranging (SLR) derived altimeter satellite and Matrix Laboratory (MATLAB) software, the project will be able to process and analyse the data acquired.

Project Reference Number: CIA2009-05-JITPRAPHAI

Project Leader: Dr. Somrudee Jitpraphai (somdeem@yahoo.com), SEA START Regional Center (SEA START RC), Thailand
Project Title: Building Research Capacity on Assessing Community Livelihood Vulnerability to Climate Change Impacts in Central Viet Nam and the Mekong River Delta
Countries Involved: Thailand, Viet Nam
Project Summary: Responding to climate change vulnerability, the project on building research capacity through training and case studies would help prepare researchers as well as gather information from the case study to support Viet Nam's National Target Programme to Respond to Climate Change. This project proposes to develop research capacity in two research centres of two universities in Viet Nam, based on the experience of SEA START RC on climate change studies in the Southeast Asia region.

Project Reference Number: CIA2009-06-DUC

Project Leader: Dr. Do Minh Duc (ducdm@vnu.edu.vn), Faculty of Geology, Hanoi University of Science, Viet Nam
Project Title: Capacity Development for Adaptation to Climate Change in the Rural Coastal Zone of Viet Nam
Countries Involved: Japan, Viet Nam
Project Summary: The project aims to aid local authorities to understand the new risks of climate change and gain initiatives in adaptation to climate change. Through data collection, reviewing of engineering measures, evaluation of existing approaches for vulnerability assessment in Viet Nam (a case study of haihau coast), capacity building for scientists and experts, and dissemination of project results; this project expects high outcomes such as scientific papers, research proposals, scientific database and model scenario, scientific procedure for vulnerability risk assessment, and higher education teaching materials in a climate change subject.

Project Reference Number: CIA2009-07-LOTIA

Project Leader: Ms. Hina Lotia (hlotia@lead.org.pk), Programme Development Department, Leadership for Environment and Development (LEAD), Islamabad, Pakistan
Project Title: Capacity Development of the Scientific Community for Assessing the Health Impacts of Climate Change
Countries Involved: Malaysia, Pakistan
Project Summary: In Pakistan, as in other developing countries, apart from a dedicated few, health professionals have not come to the climate change debate. This project aims at bringing a change in the status quo by strengthening capacities for research on negative health effects of climate change. It is based on the premise that the educational and scientific base of Pakistan will have a direct bearing in increasing or constraining its capacity to adapt.

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2. Malaysia: Dr. Kok Seng YAP (Vice-Chair)
3. Mongolia: Mr. Bayarbat DASHZEVEG

Ex-officio (SPG Co-Chairs)
4. New Zealand: Dr. Andrew MATTHEWS
5. Indonesia: Dr. Erna Sri ADININGSIH

Co-opted members
6. Sri Lanka: Mr. M.A.R.D. JAYATILAKE
7. Japan: Mr. Hiroshi ONO
8. USA: Mr. Louis BROWN
9. Prof. Roland FUCHS of East-West Center and former START International Secretariat Director

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Newsletter Questionnaire

We want to hear from you! Please help us improve the APN Newsletter by filling out this questionnaire and returning it by fax to the APN Secretariat at: +81-78-230-8017. Alternatively, you can download this form at http://www. apn-gcr.org/en/FeedbackForm.doc and send it as an attachment to ppulhin@apn-gcr.org. Thank you for your cooperation.

1. How do you rate the APN Newsletter overall?
   ___ poor ___ fair ___ good ___ very good

2. How would you describe the APN Newsletter as a source for information?
   ___ not so informative ___ informative ___ very informative

3. Do you still want to continue receiving an electronic copy of the APN Newsletter?
   ___ yes ___ no

4. If you know other people or institutions who are interested in receiving a copy of the APN Newsletter, please provide us with their contact details:
   Name: _____
   Position: _____
   Division: _____
   Organization: _____
   Postal street address: _____
   Postcode and city: _____
   Province/Region: _____ Country: _____
   Phone: _____ Fax: _____
   Email: _____ Website: _____

5. We look forward to receiving any additional remarks or suggestions about what you would like to see in the APN Newsletter.
   _____

Calendar of Worldwide Global Change Events

Events in **bold** are APN or APN co-sponsored events

2010

FEBRUARY

4-6 The 10th Annual Delhi Sustainable Development Summit 'Beyond Copenhagen: New Pathways for Sustainable Development', New Delhi, India. Please visit: http://dsds.teriin.org/2009/

25-26 **Ecosystem Services Management in Asia (ECOSMAG) Synthesis Meeting**. Yokohama, Japan. Contact: elliott@ias.unu.edu

MARCH

2-5 UNFCCC Technical Workshop on Collaboration among Regional Centres and Networks. Apia, Samoa. Contact: secretariat@unfccc.int

10-12 The Fourth GEOSS Asia-Pacific Symposium, Sanur Paradise Plaza, Bali, Indonesia. Contact: secretariat@GEOSEC.ORG

12-15 **The Second GAOTT Workshop for the Project "The Global Earth Observation System of Systems Asian Water Cycle Initiative Observation Convergence and Data Integration (GEOSS/AWCI/OCDI)"**. Bangladesh

15-19 **15th APN Inter-Governmental Meeting/Scientific Planning Group Meeting** and associated committee meetings. Busan, Republic of Korea. Contact: info@apn-gcr.org

15-19 **Joint Regional Workshop on Research Results of the Project "Assessment of Food and Water Security in South-Asia under Changing Climate Scenario Using Crop Simulation and Water Management Models, and Identification of Appropriate Strategies to Meet Future Demands"**. Islamabad, Pakistan. Contact: Mohsin.iqbal@gcisc.org.pk

22-26 Pre-conference of COP10 and the Steering Committee Meeting of DIVERSITAS. Nagoya, Japan

APRIL

10-11 China Low Carbon Economy Forum 2010. Beijing, China. Contact Tracy Liu at tracy.liu@clcef.org

12-13 **International Symposium on Coastal Zones and Climate Change: Assessing the Impact and Developing Adaptation Strategies**, Monash University, Victoria , Australia. Please visit: http://www.monash.edu.au/cemo/czcc2010/ or Contact Irene Thavarajah at oce@adm.monash.edu.au

14-16 **Joint Regional Workshop for the Project "Human Impact on Land-cover Changes in the Heart of Asia"**. SCERT, Tomsk, Russia. Contact: oig@scert.ru

26-30 **Training in the Use of SimClim Modelling System**. Albay, Philippines. Contact: jmpulhin@uplb.edu.ph

MAY

10-13 Earth System Science 2010: Climate, Global Change and People, Edinburgh International Conference Centre, Edinburgh, UK. Please visit: http://quest.bris.ac.uk/workshops/AIMES-OSC/index.html

17-28 2010 Summer Institute on Climate Information for Public Health, New York. Please visit: http://iri.columbia.edu/education/summerinstitute10/apply or contact: si2010@iri.columbia.edu

JUNE

14-16 **Regional Workshop and Dissemination Meeting for the Project "Impacts of Global Change on the Dynamics of Snow, Glaciers and Runoff over the Himalayan Mountains and their Consequences for Highland and Downstream Regions"**. Kathmandu, Nepal. Contact: klshrestha@wlink.com.np

JULY

29-JUNE – 1 JULY 2010 International Climate Change Adaptation Conference – Climate Adaptation Futures: Preparing for the Unavoidable Impacts of Climate Change, Gold Coast, Queensland, Australia. Please visit: www.nccarf.edu.au/conference2010

5-11 International Conference "ENVIROMIS-2010", Tomsk, Russian Federation. Please visit: http://www.scert.ru/en/conferences/

10-11 **Open Meeting of APN Project "Human Impact on Land-cover Changes in the Heart of Asia"**. Tomsk, Russian Federation. Contact: igor.okladnikov@gmail.com

13-15 Environment and Climate Change Conference, EC3o Asia-2010, Prof. K.S. Hegde Auditorium, Anna University, Chennai, India. Contact: centralsecretariat@ecccoasia.org

27-30 International GMBA-DIVERSITAS Conference: Functional Significance of Mountain Biodiversity. Chandolin (Valais), Switzerland. Please visit: http://www.gmba.unibas.ch/2010conference/2010conference.htm

AUGUST

23-28 World Congress 2010 – Forests for the Future: Sustaining Society and the Environment, Seoul, Republic of Korea. Please visit: http://www.iufro.org/events/congresses/world-congress-2010/

23 AUG-01 SEPT **APN Project Workshop on Climate Change Vulnerability Assessment and Urban Development Planning for Asian Coastal Cities**. Bangkok. Contact: anond@start.or.th

SEPTEMBER

1-3 Climate Change: Health and Ecology, Uppsala, Sweden. Please visit: http://tiny.cc/SVA_Climate2010

5-11 2010 World Water Week, Stockholm, Sweden. Please visit: www.worldwaterweek.org

13-17 Storm Surges Congress 2010 – Risk and Management of Current and Future Storm Surges, University of Hamburg, Germany. Please visit: http://meetings.copernicus.org/ssc2010/

OCTOBER

15-17 International Conference on Urbanization and Global Environmental Change, Arizona, USA. Please visit: www.ugec2010.org or www.ihdp.unu.edu/article/920. Contact: ugec2010@asu.edu

17 GLP/UGEC Joint Day: Sustainable Land Systems in the Era of Urbanization and Climate Change. Arizona, USA. Please visit: www.glp2010.org/ or www.ugec2010.org or www.ihdp.unu.edu/article/920. Contact: info@glp.hokudai.ac.jp or ugec2010@asu.edu

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