



PROCEEDINGS of the 15th Inter-Governmental Meeting (IGM)/ Scientific Planning Group (SPG) Meeting



Busan, Republic of Korea
17-19 March 2010

The APN Secretariat
4th Floor, East Building
1-5-2 Wakinohama Kaigan Dori
Chuo-ku, Kobe 651-0073
JAPAN
Tel: (+81) 078-230-8017
Fax: (+81) 078-230-8018
Email: info@apn-gcr.org
Website: <http://www.apn-gcr.org>

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Message from the Director

The APN 2nd Strategic Phase (2005-2010) officially closed with the successful conduct of the 15th Joint Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting in Busan, Republic of Korea (ROK), from 17-19 March 2010. This Meeting and the associated committee meetings that were held prior to the main joint IGM/SPG Meeting were hosted by the Ministry of Environment, ROK. The meetings convened at the APEC Climate Center (APCC), ROK with around 60 participants: delegations from the APN member countries, invited experts in the field of global change, and representatives from key partner organisations.

The endorsement of the APN's 3rd Strategic Plan (3SP) and the Evaluation Report (ER) of the APN's second strategic phase was one of the major highlights of this year's IGM. To ensure that the activities and strategies outlined under the 3SP's two main agendas (Science Agenda and Institutional Agenda) are effectively implemented, Operating Plans will be devised.

Bhutan was approved as a new member country bringing the number of APN member countries to 22 – another major outcome of the 15th IGM/SPG Meeting. The members invited a representative from the National Environment Commission, Bhutan to give a presentation on global change issues that the country is currently working on and other major environment-related activities in Bhutan. This presentation was well received by all the members.

Another highlight of the IGM was the approval of 36 projects for funding (continuing projects and new proposals) under the Annual Regional Call for Research Proposals (ARCP) and Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programmes. At the time of writing, the APN has issued all award letters to project leaders, noting the project reference numbers and the awarded amounts.

The IGM endorsed new activities under Scientific Research Themes 2 (Key Focus Areas: Forestry and REDD-Plus) and 4 (Key Focus Areas: global change implications of efficient resource utilisation and action to establish international sound material cycle society) of the APN's 3SP. A Special Call for Proposals for the said focussed activities was officially launched. Please visit the APN website for more information about these new activities in focussed key areas, eligibility criteria to receive funding, and details on proposal submission and review process.

A number of activities to strengthen APN's collaboration with the Hyogo Prefectural Government, Japan, were endorsed: 1) International Symposium and Public Dialogue on Biodiversity Issues synthesised over three (3) years of APN/Hyogo International Symposia; 2) Side Event at the Convention on Biological Diversity 10th Meeting of the Conference of the Parties (CBD COP10); and 3) Exhibit at CBD COP10. The Hyogo Prefectural Government recognises that taking an appropriate approach toward global environmental issues is crucial in achieving sustainable world development in the 21st century and is confident that APN has an important role to play in this regard.

A Resources Development Strategy was adopted at the IGM which is another major step forward in the APN's institutional development. The IGM also approved the Final Financial Report for 2008-2009 and the Budget Plan for 2010-2011. With Japan's confirmation of a 50% increased contributions and ROK announcement of a tripled increase in contributions, the APN perceives progressive growth in the year ahead. This increase in APN's budget will open many opportunities and challenges to advance in science and institutional aspects.

A Parallel Session was organised to give the South Asia (SA) and Southeast (SEA) Asia Sub-Regional Committees the opportunity to discuss relevant issues at the sub-regional level and their future plans and activities. Representatives of both sub-regional committees reported the results of their respective discussions to the IGM. The Meeting decided to continue its efforts in Sub-Regional Cooperation (SRC) and it was agreed to hold the succeeding SRC Meetings back-to-back with the Proposal Development Training Workshops (PDTW).

The IGM announced the new members of the SPG Sub-Committee (SPG-SC), Capacity Development Committee (CDC) and Steering Committee (SC) who were welcomed by all the members. Their guidance, expertise, input, and support are seen vital in implementing the strategies outlined in the 3SP and the Secretariat will continue to count on their cooperation.

Following the presentation on 'Communications and Outreach', the Meeting announced the imminent launch of the 'new face' of the APN website in April 2010 (completed), which is continuously being improved with advanced and dynamic features, enhanced interface and quick navigation. A Strategic Information Plan is being devised to help

implement the APN's Communications Strategy. This system will consist of four (4) major components: Web content management system; automated electronic mailing list; online library; and online collaboration and networking. The members acknowledged the relevance of this plan which is targeted to be implemented in the period covered by the 3rd Strategic Phase (2010-2015).

A session was organised to provide the APN Membership, the global change community and the local science and policy communities in the host country a networking and informal dialogue opportunity. Eighteen (18) young scientists from ROK had the opportunity to display and present their research work via poster presentation to invited esteemed representatives of the scientific and policy communities from within and outside the Asia-Pacific region. APCC and the global change community also highlighted their work to the APN Membership and local ROK young scientists through exhibits that displayed posters and relevant information materials. Of the 18 posters, the APN members selected the best one based on a set of criteria. The IGM Chair presented the winning scientist, Mr. Woo-Seop Lee, the *Mitra Award for Global Change Research* and Mr. Lee provided a 20-minute plenary presentation at the IGM. The winning poster and presentation is available in Section IV.

On behalf of the Climate Synthesis Working Group, the Climate Synthesis Chair reported to the IGM the activities conducted to date and the timeline for synthesis completion, highlighting that two (2) key products were expected: 1) A Synthesis Report targeted for decision-and policy-makers; and 2) an Academic Book largely consisting of peer-reviewed research papers. The synthesis will cover 55 projects funded by the APN under both its ARCP and CAPaBLE Programmes. Maintaining the current timeframe of the Climate Synthesis is deemed crucial to ensure alignment with the timeframe of the Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC AR5). Timelines for workplans will be drawn for the preparation of the two (2) main publications.

Through the Low Carbon Green Growth and Development Session, the Meeting provided a platform to introduce the concept of low carbon green growth and development policies in selected APN member countries and increase the dialogue and information sharing among the APN member countries and the global change community in implementing low carbon green growth policies. Delegates from Indonesia, Japan and ROK delivered presentations and shared the various related development policies in their respective countries, which was followed by active discussion among the IGM participants. The presentations are included in Section IV.

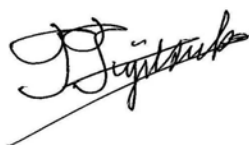
The Meeting host invited the delegates for a half-day study tour around Busan Metropolitan City which started from a traditional Korean dining experience and visit to Haedong Yong Kung Sa "East Ocean Dragon Temple," overlooking the ocean and coastal City of Busan. The Busan Environmental Corporation (BECO) also toured the delegates to BECO's Haeundae Comprehensive (sewage and incinerator) Processing Plants and to Haeundae Resource Energy Center.

Noteworthy is the confirmation of the Government of Sri Lanka of its willingness to host the 16th IGM/SPG Meeting, which was accepted by acclamation.

Indeed, the Meeting indicated the strategic way forward and outlined the priorities that must be achieved over the next year and beyond.

Let me take this opportunity to express my heartfelt thanks for the active participation of the delegates and representatives from various Global Change Programmes and partner organisations of the 15th IGM/SPG Meeting. Your input will contribute to the success of the APN in the years ahead and with that I ask you to continually cooperate and help in promoting APN and its activities at the national, sub-regional, international, regional and global level when the right opportunity comes. Let me also solicit your valuable suggestions on how we can further improve our efforts.

Your feedback on our progress in implementing the strategies outlined in the 3SP are very much welcome. I look forward, with pride and optimism, to APN's fruitful years counting on your collaboration. For those who were involved in making this IGM/SPG Meeting a success, my sincere gratitude goes to you all!



Tetsuro Fujitsuka
Director
APN Secretariat



National Focal Points

Bangladesh – TALUKDER* (15)
 Cambodia – SEM (24)
 Indonesia – BRATASIDA (14)
 Japan – SEINO * (39)
 Lao PDR – BOUNVILAY (21)
 Malaysia – ISMAIL* (32)
 Mongolia – DASHZEVEG (48)
 Nepal – PANT* (54)
 New Zealand – MATTHEWS (8)
 Philippines – PEÑAFIEL (6)
 Rep. of Korea – SEONG (18)
 Russian Federation – LUTAENKO* (38)
 Sri Lanka – BATUWITAGE* (17)
 USA – BROWN (1)
 Viet Nam – NGUYEN (40)

Scientific Planning Group Members

Bangladesh – MIAH (27)
 Cambodia – HOURT (47)
 China – DONG (23)
 India – GOSWAMI (31)
 Indonesia – ADININGSIH (36)
 Japan – FUKUSHI (29)
 Lao PDR – ONGKEO (30)
 Malaysia – MOTEN (4)
 Nepal – SHRESTHA (28)
 New Zealand – MATTHEWS (8)
 Pakistan – MUHAMMED (26)
 Philippines – AMARO JR (5)
 Rep. of Korea – SONG (22)
 Russian Federation – STERIN (46)

Sri Lanka – SAMARASINGHE (43)
 Thailand – BOONJAWAT (19)
 USA – TUPAS (20)

Invited Experts to SPG

CGSS – KOSHY (3)
 East-West Center – FUCHS (42)
 Monash Univ. – MANTON (50)
 TEACOM – AILIKUN (51)
 UNU – HERATH (55)

Guests, Global Change Partners and Other Delegates

ANUCCI – HEATH (53)
 Bhutan – CHHOPEL (49)
 Hyogo Pref. Gov. – FUKUI (12)
 Rep. of Korea – JEONG (11)
 Rep. of Korea – Chan-woo KIM (7)
 Rep. of Korea – Joon-ki KIM (37)
 Rep. of Korea – Gyung-Wook LEE (9)
 Rep. of Korea – Il-soo LEE (16)
 Rep. of Korea – Jae-hyun LEE (13)
 UNEP NOWPAP – TKALIN (45)
 USGCRP – ALLEN (2)
 USM – FIZRI (33)

APN Secretariat

FUJITSUKA (10)
 GARCIA (34)
 IMANARI (41)
 PULHIN (56)
 STEVENSON (25)
 CORALDE (35)
 NYAMJAV (44)

**nFP or SPG alternate*

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SECTION I

Chairperson's Summary and Attachments



**15th Inter-Governmental Meeting/
Scientific Planning Group Meeting**

**Busan, Republic of Korea
17-19 March 2010**

Chairperson's Summary

Delegates from Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Lao P.D.R., Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Russian Federation, Sri Lanka, Thailand, United States of America (U.S.A.) and Viet Nam attended the Meeting. Invited experts and representatives from the following Global Change Programmes and partners were also represented at the Meeting: Centre for Global Sustainability Studies, East-West Center, Monash University, Global Change SysTem for Analysis, Research and Training - Temperate East Asia Regional Committee (START-TEACOM) and Monsoon Asia Integrated Regional Study (MAIRS), United Nations University, Australian National University Climate Change Institute, Hyogo Prefectural Government, Korea Meteorological Administration, United Nations Environment Programme, Northwest Pacific Action Plan and Universiti Sains Malaysia. The list of participants is provided as **Attachment I**.

Session One

Opening Address

The Vice Minister, Ministry of Environment, ROK, HE Mr. Byung-Wook Lee began his opening address by expressing his sincere gratitude to all participants for coming to the 15th Joint IGM/SPG Meeting.

Over the last 15 years, APN has significantly contributed to improving the Earth's environment, particularly the environment in the Asia-Pacific region, by leading various joint research projects related to global change and by establishing close ties between policy-makers and scientists.

Vice Minister Lee underscored the vulnerability of the Asia-Pacific region to global change, particularly climate change, due to rapid economic growth and urbanisation; rapid increase in natural disasters, decreasing biodiversity and other important issues, all of which are occurring simultaneously.

Sustainable development in the Asia-Pacific region will depend on how wisely the region addresses environmental problems, stressing sustainable economic growth by shifting the existing growth paradigm to low-carbon green growth as the most effective strategy. Currently, ROK is proactively implementing diverse policies based on this principle of low-carbon green growth.

Vice Minister Lee noted that ROK wishes to constructively contribute to the discussions by playing a bridging role between developed and developing countries and, in view of this, ROK hopes to host the 18th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) in 2012.

He closed by expressing his gratitude to the APN Secretariat and the Busan City Government, who have spared no effort in organising the 15th IGM/SPG Meeting (Opening Address is provided in Section II of the Proceedings).

Welcome Remarks

The Deputy Mayor, Busan City, ROK, Mr. Lakhyeong Jeong welcomed the participants to Busan City and expressed his great pleasure to see the 15th IGM/SPG Meeting being held in Busan.

Stressing that response to the challenge of climate change is no longer optional, but a necessity, the issue is also inseparable from each nation's economic growth plans. Many countries are already competing and conflicting with each other regarding the benefits and losses which will be incurred as a result of our response to the climate change issue. Deputy Mayor Jeong mentioned that in dealing with climate change issues, the central government of ROK has presented a national vision of 'Low Carbon, Green Growth'

while Busan City government is playing an important part in the nation's efforts by opening the APEC Climate Center (APCC) and planning to host the 32nd Session of the Intergovernmental Panel on Climate Change (IPCC).

In this regard, Deputy Mayor Jeong noted that hosting the important 15th IGM/SPG Meeting was timely and meaningful in terms of calling for global cooperation to address climate change and environmental damage.

He ended by expressing his hope that the Meeting will serve as a good opportunity to focus more global attention on environmental issues, to share ideas and information and to strengthen cooperation among Asia-Pacific countries (Welcome Remarks are provided in Section II the Proceedings).

Message

The Director General, Environmental Development Bureau, Hyogo Prefectural Government, Japan, Mr. Shigeki Fukui, conveyed warm greetings on behalf of Governor Toshizo Ido of the Hyogo Prefectural Government. In reading Governor Ido's address, he expressed his sincere congratulations for the grand opening of the 15th IGM/SPG Meeting.

Recognising the critical need to appropriately approach the issue of Global Environmental Change (GEC) to achieve sustainable development in the Asia-Pacific region, Governor Ido highlighted the international common understanding under the UNFCCC stressing the recent UNFCCC COP15 Meeting and the Copenhagen Accord. Further, Governor Ido underscored the need for cooperative action to maintain the increase of global temperatures under 2 degrees above pre-industrial levels.

On the occasion of the 2010 United Nations Convention on Biodiversity COP10 Meeting, being held in Nagoya, Japan in October 2010, Governor Ido noted Hyogo Prefecture's commitment to tackle environmental issues through the Hyogo Biodiversity Strategy and taking an eco-friendly approach to cutting CO₂ emissions.

Governor Ido noted that he is greatly encouraged by APN's approach to balancing the environment and economic growth. As APN enters into its 3rd Strategic Phase, he stressed his hope that APN will continue to pave the way for further development of scientific and political approach towards global environmental issues (Welcome Remarks are provided in Section II of the Proceedings).

Opening Remarks

The Secretariat Director, Mr. Tetsuro Fujitsuka, welcomed all participants to the 15th IGM and SPG Meetings, particularly those new national Focal Points (nFPs) and SPG Members attending for the first time. He expressed his sincere gratitude to the Government of the Republic of Korea and to the City of Busan for hosting the Meetings and for extending a warm welcome to the APN. He also noted his sincere appreciation to the APCC for accommodating the meeting over the next three (3) days.

Following a brief history of the APN, Mr. Fujitsuka noted the Network's unique characteristics in that both scientists and government officials work together for global environmental change research in the Asia-Pacific region. He highlighted the dedicated support of the APN member countries allowing scientists in the region to develop collaborative regional research projects under the Annual Regional Call for Research Proposals (ARCP), and capacity building projects under the capacity development programme, CAPaBLE.

Mr. Fujitsuka underscored the importance of the 15th IGM/SPG Meeting particularly as the APN will soon enter into its 3rd strategic phase from 2010 to 2015 and sought cooperation from the Members for a fruitful and memorable meeting. He closed by highlighting the similarities between Busan City in ROK and Kobe City in Hyogo Prefecture, host of the APN Secretariat in Japan, noting his feeling that he had come back to his hometown (Welcome Remarks are provided in Section II of the Proceedings).

Welcome Remarks

The Director of the APCC, Dr. Woo-Jin Lee, thanked the participants for visiting APCC in Busan City, in particular to the APN Secretariat and Ministry of Environment Korea for arranging the important Meeting to be held at the APCC. He congratulated the APN for its many accomplishments since its founding in 1996.

Dr. Lee noted that APCC has been striving to provide high-quality climate information and application tools to the APEC region by facilitating its science and technology partners. He noted that this was a good opportunity for APN and APCC to develop its partnership for collaborative efforts in the future, highlighting their common goals of bridging the science and policy communities for a better understanding and response to GEC.

He ended by expressing his hope for a productive Meeting that will provide insights to the activities of the APN and inspire more discussion on its future directions. (Welcome Remarks are provided in Section II of the Proceedings).

Group Photograph

All Members, experts, guests and staff gathered for a group photograph.

Election of Officers

Mr. Chan-woo Kim, Director General of the International Cooperation Office of the Ministry of Environment, ROK, was nominated as Chair of the Meeting. This was accepted by acclamation.

Mr. Chan-woo Kim asked the participants to elect a Vice-Chair. The nFP alternate for Japan, Mr. Tatsuo Seino, nominated the nFP for Mongolia, Mr. Bayarbat Dashzeveg, to be Vice-Chair, which was accepted by acclamation.

Item 1: Adoption of the Agenda

Turning attention to Item 1 of the Meeting, the Chair sought adoption of the agenda noting that items of Any Other Business (AOB) may be raised.

The IGM/SPG adopted the agenda without change.

Session Two

Item 2: Major Activities in 2009/2010

The Secretariat Scientific Officer, Dr. Linda Anne Stevenson, reported on the major activities of the APN from April 2009 to March 2010 including the research and capacity development projects funded under the ARCP and CAPaBLE programmes as well as the comprehensive research projects of the CAPaBLE Phase III comprehensive research programme.

In addition to the APN annual Calls for Proposals, the Scientific Officer highlighted the Special Call for Proposals for a focussed activity in Scientific Capacity Building for Climate Impact and Vulnerability Assessments (SCBCIA). Of the eighty-two (82) letters of intent received in response to this call, seven (7) projects were selected for funding according to the funds available.

The Scientific Officer indicated that the APN had been represented at numerous project-related and other global change (GC)-related conferences, seminars and workshops at the national, regional and international levels. In addition, the APN focussed significant time on the evaluation of the APN in its second strategic phase, the formulation of the 3rd Strategic Plan (3SP) and the APN Climate Synthesis.

In terms of Communications and Outreach, it was emphasised that the APN is attempting to further raise its profile by producing relevant publications which are designed in-house and by communicating regularly with APN Members and subscribers on the APN Electronic Mailing List (EML).

On ending, she noted issues beyond the 15th IGM, including the implementation of: 1) APN's 3SP; 2) new activities following an increased budget from the Ministry of the Environment, Japan (refer to Item 14); and 3) Membership and resources development strategies (refer to Items 4 and 6, respectively).

The Chair opened the floor for discussion.

The nFP for Cambodia, Mr. Sundara Sem, commended the APN Secretariat for its excellent activities and increasing the number of publications in the past year. He noted that **more opportunities had become available for APN Members to collaborate with project leaders and APN activities in their respective countries and sub-regions and asked the Secretariat for its continued cooperation in this regard.**

Action: Secretariat and Members

In addition to a number of comments from the Members from Japan, ROK, New Zealand and Indonesia, the APN confirmed its continued commitment to aligning with the work of the IPCC, particularly for the IPCC 5th Assessment Report (AR5), by maximising opportunities and further encouraging project leaders and collaborators of APN-funded activities to publish their work and contribute to the IPCC reports; and by highlighting the work and subsequent outputs of the present 2-year Climate Synthesis of APN climate activities.

It was suggested and agreed that **the Climate Synthesis Working Group (WG) follows a strict timeline for the Climate Synthesis** so that the outputs will contribute to IPCC (AR5) through citations. In addition, it was noted that while the current report on major activities is useful, APN should also **think of how the activities and APN's contributions/input at high-level dialogues and related fora can be presented more effectively in a manner that maximises the visibility of what the network is achieving.** The list presented to Members under this item is not an appropriate basis for this.

Action: Secretariat, Climate Synthesis WG, Members

The nFP for Indonesia, Ms. Liana Bratasida, suggested that Members compile **a list of experts and submit this to the APN Secretariat in order to maximise the expertise of the reviewers in the APN database.** This was agreed. It was also agreed that the APN Secretariat will **provide the Members with information on relevant outcomes from APN activities that can be used strategically by the Members in appropriate events to further increase the network's visibility.**

Action: Members and Secretariat

Item 3: Financial Reporting

The Secretariat Executive Manager, Mr. Yukihiro Imanari, presented a Final Financial Report for 2008/09 for approval by the IGM and a draft financial report for 2009/10.

In his presentation, Mr. Imanari noted that in order to provide a detailed explanation for the figures in the spreadsheets provided, he added some explanatory notes attached to the Final Financial Report for 2008/09 and Draft Financial Report 2009/10. He further explained that the Final Financial Report was reviewed by the Steering Committee (SC) the previous day.

The Executive Manager thanked the donor countries for their continued support. He also stressed that in-kind contributions of member governments, including Hyogo Prefecture Government and co-funding/fund matching as well as in-kind contributions from APN-funded projects and activities are crucial for the APN to fully implement and manage its activities.

The Chair opened the floor for discussion.

It was noted that the **APN Secretariat will provide the Japanese delegation with the trends in financial resources over the past five (5) years (action completed). This will be made available in future IGM/SPG Meetings.**

Action: Secretariat

The IGM approved the Final Financial Report for 2008/2009.

The Chair sought comments from the Meeting on the Draft Financial Report for 2009/10. The nFP alternate for Thailand, Ms. Wilailak Suraphruk stressed that **the term "draft" be changed to "interim" report.** This was agreed.

Action: Secretariat

Item 4: Membership Development

The Secretariat Director introduced the new Members of the APN, including nFPs and SPG Members. He reported that four (4) new nFPs and three (3) new SPG Members had been appointed since the 14th IGM/SPG Meeting. Their full details are provided in the main paper in **Section III.**

In his presentation, the Secretariat Director emphasised his deep appreciation to the delegate from Bhutan, Mr. G. Karma Chhopel, Head, Water Resources, National Environment Commission, Bhutan for coming to the 15th IGM/SPG Meeting.

In 2007, the Government of Bhutan expressed its interest to become an APN member. As directed by the IGM to pursue country membership of interested parties in the Asia-Pacific region, the Secretariat continued to follow up through email correspondence. In September 2009, the Deputy Minister of the National Environment Commission of Bhutan sent an official letter to the APN signifying its interest to become an APN member.

The Secretariat Director explained the procedure stipulated in the APN Framework Document that APN Membership is open to all countries in the Asia-Pacific region and, following an official governmental written request from a country in the region, this country may become a member subject to the approval of the IGM.

He asked the Members to approve Bhutan as a new member.

Action: Members

The IGM approved Bhutan's membership to APN by acclamation, bringing the number of member countries in the APN to twenty-two (22).

As a new member country of the APN, Bhutan will be incorporated in the present and subsequent APN records, including a revised Framework Document.

Action: Secretariat

The Secretariat Director highlighted that a nFP from the Russian Federation had been appointed for the first time. Dr. Konstantin Lutaenko, nFP alternate for the Russian Federation, spoke on behalf of the new nFP, Prof. Andrey Adrianov, Director of the Institute of Marine Biology, Far East Branch of the Russian Academy of Sciences, and expressed his deep appreciation to the APN for welcoming the new nFP for the Russian Federation.

All other new Members subsequently introduced themselves.

The nFP/SPG Member for New Zealand, Dr. Andrew Matthews, requested that, for reasons of sensitivity, **documentation provided on membership development, with the exception of the first page, not be included in the formal proceedings of the 15th IGM/SPG Meeting. The Members agreed.** He further stressed that the **APN must continue to remember that the Pacific Island States are associated Members of the APN.**

Action: Members and Secretariat

Session Three

Item 5: Evaluation Report (ER) of the Review of the APN 2nd Strategic Phase

The nFP/SPG Member for New Zealand and the 2nd Augmented Steering Committee Meeting (ASCM) Chair and SPG Member for U.S.A., Dr. Luis Tupas, reported on the institutional and scientific evaluation of the APN's 2nd Strategic Phase and presented the draft Evaluation Report (ER) to members.

Having been directly involved in the APN's Second Strategic Phase Evaluation and in the formulation of the 3SP, which are for IGM approval on Day 3, the nFP/SPG Member for New Zealand provided the main outcomes of the institutional evaluation of the APN. The major outcomes of the APN Network Review where presented as follows:

- Areas under the Institutional Agenda that were evaluated
- Significant Achievements and Strengths
- Key Challenges

On discussing finances, he highlighted that although it was seen in the institutional evaluation that the APN budget had marginally increased over the last five (5) years, the in-kind contributions from the member states were not included in monetary value in the evaluation report itself. However, he stressed that these in-kind contributions are seen as crucial for implementing APN activities. He also stressed that the work of the Secretariat was seen as a professional service and not an administrative one.

Highlighting the continued success of the APN as a network, he further noted some of the challenges that the APN is facing, including, among others:

- Sustaining the active involvement of member countries in the APN
- Engaging and/or re-engaging member countries' participation
- Securing and increasing financial and in-kind contributions.

On the APN-funded project review (Science), the U.S.A. SPG Member provided a brief overview of the process of the evaluation and highlighted the outcomes of eighty (80) projects sets funded under the annual calls for proposals, particularly the selected outstanding projects for each scientific theme of the Science Agenda.

He summarised that, overall, the performance of the activities was very good. Major outcomes of the science review where highlighted and included:

- Very good success in terms of meeting the five (5) goals of the APN as stated in the second strategic plan
- Six (6) outstanding projects highlighted
- Activities were largely designed to meet the needs for scientific information relevant to the region.

The U.S.A. SPG Member concluded by noting some of the areas that require strengthening, particularly policy linkages and sustainability of activities following the period of APN funding.

The Chair thanked both presenters for their detailed report and stressed his appreciation to all Members and others who had participated in this rigorous process undertaken over two (2) years. The floor was opened for discussion.

The nFP for Indonesia raised the **issue of science and policy interactions**, particularly in terms of the strategy APN might undertake to improve this challenging task. Following some discussions it was noted that **this area would be developed as the APN enters into its 3rd strategic phase with cooperation from all the Members.**

Action: Secretariat and Members

For capacity development, it was further stressed that **relevant criteria need to be established to determine capacity development success indicators for short and long-term outcomes. This issue will be addressed by the Capacity Development Committee (CDC) in the year ahead, noting that identifying smaller stages of capacity development achievement may be an important factor. This will be considered further.**

Action: Secretariat and CDC

Following an active discussion on the topics of capacity development and strengthening science and policy linkages, the Chair closed the item by stressing his hope that the APN can find a workable solution to the ongoing challenges that APN faces utilising pragmatic approaches.

Item 6: Resources Development Strategy

The Secretariat Executive Manager presented a paper on Resources Development Strategy to Members for information and discussion, noting that the item paper would be presented again for endorsement on Day 3, under Item 17.

He stressed three (3) recognised strategic domains that the APN might consider including direct financial contributions from the Governments of Member Countries; in-kind contributions from the Governments of Member Countries; and direct financial support provided by external sources such as foundations, funding agencies, the private sector, etc.

The Chair opened the floor for discussion, which included a reiteration by the nFP alternate for Japan of the need to mobilise resources from the private sector.

Following the discussion, two specific action points were noted:

- **The APN will explore the possibility of expanding resources from a range of donors, including the private sector.**
- **The Secretariat will continue to encourage in-kind contributions and develop metrics that transfer these contributions into monetary value.**

Action: Secretariat and SC

Before closing the item, the Chair reiterated that the strategies would be reviewed and endorsed on Day 3 under Item 17 and asked the Members to read the paper carefully before then and provide additional input.

Item 7: Communications and Outreach (Website Development)

APN Secretariat Programme Officer for Communications and Development, Ms. Perlyn Pulhin, briefly updated the Members on the progress and plans in strengthening the implementation of the APN's Communications Strategy, including an introduction of the 'new face' of the APN website.

In her presentation, she provided some background information on the development of the APN's Communication Strategy, which was endorsed at the 14th IGM/SPG Meeting in Malaysia, and reported on the progress as well as plans to continue and strengthen its implementation.

In addition to the APN regular publications, the APN is scheduled to produce **special publications including a synthesis report and academic book from the current two-year Climate Synthesis; reports of the evaluation of the second strategic phase, 3SP; and policy-relevant documents.** In so doing, she welcomed the input and continued support from the APN Membership.

Action: Secretariat, Climate Synthesis WG, Members

APN will also continue to produce press/news releases and the Programme Officer for Communications and Development requested the Members to assist in this endeavour. **The nFPs and SPG Members are encouraged to provide contact details of editors at the newspapers, magazines, radio stations, television stations and/or television networks in their respective countries so that the Secretariat can**

incorporate in its database/electronic mailing list in order to attract favourable media attention and increase publicity/visibility.

Action: Secretariat and Members

The website is continuously being improved and revamped with a new interface and dynamic features and will be launched in April 2010. A Strategic Information System Plan is also being devised to help in implementing the endorsed Communications Strategy. This system consists of four major components:

- Web content management system;
- Automated electronic mailing list;
- Online library; and
- Online collaboration and networking.

APN continues to organise outreach activities and disseminate APN materials to promote the network in the region and to encourage involvement of more stakeholders in APN activities. In its efforts to establish/strengthen partnerships with the GC programmes and other key organisations, **long-term plans include stronger collaboration with the Core Projects of the GC programmes. Online fora will also be explored through more advanced communication software to promote stronger collaboration among groups comprising the APN Network.**

Action: Secretariat and Members

The Programme Officer for Communications and Development emphasised that APN maximises every opportunity to raise its visibility in the region including the expansion of more substantive APN activity supportive of policy-making. APN also continues to empower its Members using appropriate platforms and encouraging and supporting them to be more actively involved in APN activities.

The Secretariat Programme Fellow for Communications and Development, Ms. Lizhier Coralde, presented the 'new face' of the website. She enumerated the following features that will be incorporated in the revamped website:

- more advanced features,
- database connectivity,
- improved content organisation,
- enhanced interface, and
- quick navigation.

She also explained how the website will be improved from a static to dynamic one.

The changes made on the current website were shown by the Programme Officer for Communications and Development by briefly going through the new website, which was made available for viewing by the Members on a secure site.

The SPG Member for Thailand, Dr. Jariya Boonjawat, noted that linking the revamped website into a database of contact details of scientists and key people from APN member countries is a good way to establish and strengthen communication/collaboration among scientists in the Asia-Pacific region.

The Programme Officer for Communications and Development shared that the APN is **currently maintaining an internal database of experts and this will be linked to the new website in due course. The APN Secretariat will endeavour to collect the complete profile of the contacts but will carefully handle the information obtained for reasons of confidentiality.**

Action: Secretariat

The nFP/SPG Member for New Zealand commended the work of the Secretariat recognising that the APN website has developed dramatically. He noted that it is strategic to employ an intern who is skilled in revamping the website. This is a win-win situation as APN has also provided the Programme Fellow with an opportunity to work in an international organisation and further develop her capacity in global environmental change.

As for the Membership, the nFP/SPG Member for New Zealand advised the Secretariat to carefully think about how to present the Membership apart from using the APN Members' flags. He also suggested finding a mechanism in which the in-kind contributions can be properly acknowledged.

The SPG Member for Japan, Dr. Kensuke Fukushi, suggested that the Secretariat produces, in addition to its regular publications, **a concise brochure of APN activities intended for policy-makers (one or two pages)**. This was agreed.

Action: Secretariat

The Secretariat Director informed the Members that the current APN brochure is available in 10 languages. He expressed gratitude to all who have been supportive in translating the brochure in their local languages and for disseminating the brochure in strategic events. He asked the Members to **continue this effort and encouraged other Members to become more involved in this endeavour**. Following the production of the brochure suggested by the SPG Member for Japan, he thanked in advance the Members for their cooperation in the **translation and dissemination process**.

Action: Members and Secretariat

The Chair requested the Members to **submit new photos for the website and reiterated the task of producing materials for the international community and flagship publication which can attract media attention**.

Action: Secretariat and Members

Item 8: APN 3rd Strategic Plan (3SP)

The nFP/SPG Member for New Zealand provided a brief background on the formulation of the 3SP and presented the draft 3SP to Members for discussion, noting that approval would be sought on Day 3 (Item 17).

He noted the changes in the vision, mission, goals and core strategies of APN compared to APN's Second Strategic Plan. In the presentation, he highlighted the four (4) goals of the APN; core strategies to realize these goals and activities that APN might undertake in the next five (5) years to achieve its mission.

He stressed that the policy agenda was now incorporated under Section 3 of the APN Science Agenda to maximise strategies for science and policy interactions. He also emphasised the four (4) key areas of the scientific research agenda:

1. Climate Change and Climate Variability;
2. Ecosystems, Biodiversity and Land Use;
3. Changes in the Atmospheric, Terrestrial and Marine Domains; and
4. Resources Utilisation and Pathways for Sustainable Development.

The Chair opened the floor for comments.

The delegates from Thailand (nFP alternate), U.S.A. (Mr. David Allen), Pakistan (SPG Member), Japan (nFP alternate), and SC Member, Prof. Fuchs actively engaged in the discussion.

The nFP alternate for Japan expressed sincere appreciation to the Secretariat and the nFP/SPG Member for New Zealand for elaborating the 3SP through the presentation and additional information, which gives APN clear direction for the next five (5) years. He suggested adding, as one of APN's efforts in seeking stronger partnership/collaboration with UN bodies, the United Nations Environment Programme (UNEP), United Nations Commission for Sustainable Development (UNCSD) and the United Nations Education, Scientific and Cultural Organisation (UNESCO).

The active discussion resulted in the following action points:

- **On page 5 of the 3SP under Section 3.1, there is a need to add an additional preamble that clearly articulates APN's intention to support research on current issues that are highly relevant**

to the Asia-Pacific region. This is to be developed and the revised text is to be presented to the meeting on Day 3.

- APN is to continue its efforts to seek collaboration with key UN organisations and reflect this in the 3SP under *Section 3.3 Science-Policy Agenda*. This is to be developed and the revised text is to be presented to the meeting on Day 3.
- Bhutan is to be added as a Member Country.
- APN is to develop an Operating Plan that covers short-, mid- and long-term operations for the effective implementation of the activities and strategies outlined under the 3SP two main agendas.

Action: Secretariat and SC

The Chair closed the item.

Item 9: Sub-Regional Cooperation (SRC) Parallel Session

The Secretariat Programme Officer for Communications and Development talked briefly on the SRC updates highlighting the successful conduct of the 1st South Asia (SA) SRC and 2nd Southeast Asia Sub-Regional Committee (SEA-SRcom) Meeting which were reported at the 13th SC Meeting. She proceeded in providing procedural information and logistical arrangements for the break-out session.

Other member countries were invited to proceed to the Networking Session and the nFPs, with assistance from their respective country SPG Members, were asked to score the 18 posters submitted by young scientists from various institutions in the ROK.

Before formally closing the IGM session, the Chair reminded the SA and SEA Members to gather in their respective groupings for sub-regional discussions.

NETWORKING SESSION

Global Change Community Exhibit and Young ROK Scientists' Poster Session

The session provided the APN Membership, the GC community and the local science and policy community in ROK a networking and informal dialogue opportunity. Eighteen (18) young scientists had the opportunity to display and present their research work via poster presentation to invited esteemed representatives of the scientific and policy communities from within and outside the Asia-Pacific region. APCC and the GC community also showcased their work to the APN Membership and local ROK young scientists through exhibits that displayed posters and relevant information materials.

Posters were judged by the APN Members based on a set of criteria and the winning poster was announced on Day 2 under Item 15.

The winning young scientist had the opportunity to provide more information on his work through a 20-minute PowerPoint presentation (this will be included in the formal proceedings of the 15th IGM/SPG Meeting) on Day 3 under Item 22.

Session Four

Item 10: SPG Report to the IGM

On behalf of the SPG, the SPG Co-Chair and SPG Member for Indonesia, Dr. Erna Sri Adiningsih, reported to the IGM scientific activities conducted in 2009/10 and SPG activities for 2010/11 and beyond. She noted that a number of important issues had been raised at the SPG Pre-Meeting held the previous day,

16th March. This included the ARCP and CAPaBLE Annual Calls for Proposals and subsequent recommendations that **will be presented to the Meeting on Day 3 for IGM consideration.**

Action: SPG

She explained that the APN's policies on data sharing and management, and conflict of interest for reviewers were discussed in detail and, in the next six (6) months, **draft policies would be formulated and presented to the 16th SC meeting to be held in August 2010.**

Action: Secretariat and SPG

It was noted during the discussions the **need to ensure that the results of the scientific research funded by the APN is effectively managed and disseminated providing the best opportunity for citation in the IPCC AR5.** This was well noted by the SPG and the Secretariat.

Action: Secretariat and SPG

In her presentation, the SPG Co-Chair also noted that the SPG had elected a new SPG Co-Chair for a two-year term, the SPG Member for U.S.A., and two new Members for the SPG Sub-Committee (SPG-SC) for a one-year renewable term, the SPG Member for Nepal, Dr. Madan Lall Shrestha and the SPG Member for the Russian Federation, Prof. Alexander Sterin. It was noted at this point that the SPG wished to increase its Sub-Committee from four (4) to five (5) Members.

As for issues beyond April 2010, the following was noted:

- **Implementation of the Annual Regional Call for Research Proposals (ARCP)**
- **Implementation of a focused call for proposals in two scientific thematic areas of the APN Science Agenda**
- **Development of robust policy on Data and Data Management**
- **Development of robust policy on Conflict(s) of Interest**

Action: Secretariat and SPG

The IGM endorsed the elected persons and the request to increase the size of the SPG-SC and thanked the SPG Member for New Zealand for his dedicated service to the SPG and IGM as SPG Co-Chair and Member of the SPG-SC for the previous three-year term.

Item 11: CDC Report to the IGM

As member of the CDC, the nFP/SPG Member for New Zealand, in his capacity as SPG Co-Chair, reported on the activities conducted in 2009/10 under the CAPaBLE Programme and activities in 2010/11 and beyond.

The SPG Co-Chair highlighted the progress of the CAPaBLE programme over the past year particularly highlighting the successful launch of the 2009 CAPaBLE Call for Proposals, the results of which would be presented to the IGM for endorsement under Item 18 of the present Meeting. In addition to the said Call for Proposals, he particularly noted the significant response that the Secretariat received on the special call for proposals, SCBCIA.

Regarding the CDC Membership, particularly in light of the increasing responsibilities of the CDC due to growing activities of the APN under the CAPaBLE Programme, he further requested the IGM to endorse one additional member of the CDC, increasing the number of Capacity Development Experts on the CDC from three (3) to four (4) Members.

The IGM endorsed the elected persons and the request to increase the size of the CDC. **The Framework Document is to be revised accordingly to reflect the changes in the SPG-SC and CDC.**

Action: Secretariat

Before closing the Item, the Chair thanked the CDC for their hard work in the past year to realise the success and implementation of the CAPaBLE Programme.

Item 12: APN Climate Synthesis

Dr. Michael Manton, Chair of the APN Climate Synthesis WG, reported on the activities conducted to date and the timeline for synthesis completion, highlighting that two key products were expected: (1) A Synthesis Report targeted for decision- and policy-makers; and (2) An Academic Book largely consisting of peer-reviewed research papers. He indicated that both of these products will be published and made available in alignment with the timeline of the IPCC AR5, particularly the deadline(s) for recommending publications for citations. He further noted that a two-year timeline had been developed to ensure this.

The Climate Synthesis Chair stressed that eleven (11) Members had been engaged in the synthesis, four (4) of whom are Members of the SPG. These eleven (11) Members would be allocated specific sections in their areas of expertise, with their main input being provided in Chapter 3 of the report, which will be the main synthesis itself.

The synthesis will cover 55 projects funded by the APN under both its ARCP and CAPaBLE Programmes.

In ending his presentation, the Climate Synthesis Chair noted the main themes of the Synthesis, as indicated below:

I. Food, Agriculture and Climate

- *Seasonal to inter-annual change*
- *Decadal and long-term change*

II. Seasonal Climate Prediction & Applications

III. Climate Variability, Trends and Extremes

IV. Regional Climate Change Modelling

V. Vulnerability & Adaptation to Climate Change

- *Assessments*
- *Integrated Assessment Modelling (IAM)*

VI. Climate Change Mitigation

VII. Coastal Cities and Climate Change

VIII. Climate Change Policy and Outreach

- *Policy*
- *Outreach*

Following the presentation, the Chair commented that this kind of APN activity is a good example of highlighting APN activities that are not only relevant for the Asia-Pacific region but also relevant to international bodies such as the IPCC. **He supported and further encouraged reflecting the outcomes of this activity in the IPCC AR5.**

Action: Secretariat and Climate Synthesis WG

The SPG Member for Japan congratulated the synthesis team and underscored that **maintaining the current timeframe was crucial in order to align with the timeframe of the IPCC AR5 Working Groups, specifically their respective deadlines for accepting citations.**

Action: Secretariat and Climate Synthesis WG

The SPG Member for the Russian Federation, Prof. Alexander Sterin, expressed his support of the activity and further recommended that **the scope be extended to ensure that issues such as climate observations and efficiency of monitoring systems, etc, could be included.** The Climate Synthesis Chair further responded that these issues will also be covered under Chapter 4 on emerging issues and will be incorporated in the full report.

Action: Secretariat and Climate Synthesis WG

The nFP for ROK, Mr. Suho Seong, expressed his support and acknowledged that this APN activity is an efficient way of communicating relevant APN activities in the region and might also be a successful way in looking for co-financing opportunities.

The SPG Member for China, Dr. Wenjie Dong, advised the Synthesis Team to **refer to and attempt to align with, the Chapters of the IPCC AR5 Working Group Reports to increase the possibility of contributing to the IPCC AR5 through direct citations.**

Action: Secretariat and Climate Synthesis WG

Session Five

Item 13: Sub-Regional Cooperation (*reports/updates and plans*)

Report from the SA-SRCom

The SPG Member for Pakistan, Dr. Amir Muhammed gave a brief presentation on behalf of the SA-SRCom on the discussions that transpired on Day 1 during the SRC Parallel Session.

He talked about the regional GC priorities and emphasised the need to have a programme in the South Asia Sub-region in consultation with START and the International Council for Science (ICSU) who also have programmes with broadly similar objectives. This is to avoid duplication of efforts.

The SA-SRCom is supportive of **arranging a Proposal Development Training Workshop (PDTW) for young scientists** with larger number of participants from Bhutan. In addition, it was suggested that a **regional training activity on "Training Workshop on Downscaling of South Asian Climate Projections at Indian Institute of Tropical Meteorology (IITM), Pune" be conducted with the 2010/11 funds from the APN for SA-SRC activities.**

Action: SA-SRCom and Secretariat

The following were identified as high priority research areas in South Asia:

- Agriculture-adaptation to changing climate; conversion of large portions of fertile land for non-agricultural purposes; livestock;
- Rapid melting of Himalayan Glaciers and their downstream effects;
- Extreme events, particularly floods and droughts; and
- Sea-level rise and salinity intrusion

Report from the SEA-SRCom

The SPG Member for Thailand presented the outcomes of the meetings on Day 1 of the SEA group. In the SEA Ad hoc Meeting, Dr. Subramaniam Moten, SPG for Malaysia and rapporteur of the Bangkok meeting gave a brief presentation about the use of the SWOT (Strengths, Weaknesses, Opportunities, and Threats) exercise to evaluate cooperation within the SEA region.

Specific strengths determined were 1) Willingness to engage in APN activities, and 2) common interests of Members in APN activities, both of which were reflected in regional research, capacity development and effective linkages with other international bodies and organisations.

The group discussed the issue of mutual importance and highlighted the framework of the SEA-regional research cooperation – Low Carbon Society aiming at green growth through sustainable development. Under this framework, the scientific priorities included:

- Integrated waste management in urban communities;
- Climate vulnerability and adaptation for agricultural-based community; and
- Community-based adaptation in the forest ecosystem focusing on biodiversity and sustainability.

The group agreed that they should focus on the following:

- Contribution of member countries and finding additional resources to support science-policy dialogues once a year with involvement of "youth" to enhance communications among project leaders, nFPs, SPGs, etc.;

- Capacity building activity such as: Workshop on Proposal Development, back-to-back with the next Sub-Regional Committee Meeting with support from APN;
- Engagement of non-member countries and invited experts of the global change related programmes (START, ICSU etc) in the Sub-Regional Cooperation;
- Compilation of the past and on-going regional research projects by the APN Secretariat related to SEA as a pool of research outputs for future discussion in the next meeting.

Mr. Marcial Amaro Jr., SPG Member for the Philippines gave a short presentation on the plans for the next SEA-SRCom Meeting to be hosted by the Philippines on 8-12 November 2010 noting that the meeting will convene at the Dusit Thani Hotel, Makati Manila, back-to-back with a PDTW for 10-20 young scientists.

Action: SEA-SRCom and Secretariat

Feedback on the Reports and Discussions

After the two presentations, the Chair opened the floor for comments and discussion.

The APN Secretariat Director is impressed on the activities that have been proposed by the two groups and expressed his gratitude in the cooperation and active participation of Members of both committees.

The nFP for Indonesia shared that there is mechanism in place where SEA ministers and senior officials meet and that APN activities should therefore be linked to the activities proposed by the ministers. She suggested that information on current and previous APN-funded activities in the areas of vulnerability and adaptation be made available noting that these could be shared with policy-makers.

She asked the Secretariat to compile a very short synthesis of relevant SEA topics in one (1) or two (2) pages to be distributed at the Annual Ministerial and Senior Official Meetings of SEA MoEs.

Action: SEA-SRCom and Secretariat

Another suggestion for consideration is that every country should nominate two (2) youth representatives to be trained for future negotiation. This could be developed in a proposal.

In response to the activities being proposed by the SEA group, the Secretariat Scientific Officer encouraged the SRCom Members to formulate a proposal and the Secretariat could facilitate the activity in ensuring that all available information is provided to complete such a task.

Invited expert to the SPG, Prof. Kanayathu Koshy, shared his observation that the SEA-SRCom focused on prioritising common areas based on the strategic plan. He suggested that new training for negotiation and project development through logic approach being used by the Global Environment Facility (GEF) for sustainability and global change could be duplicated.

The SPG Member for Pakistan explained that there is still a great need to raise awareness among policy-makers on various global change issues. In the next South Asia Ministers' Meeting under South Asia Association for Regional Cooperation (SAARC) auspices, there may be an opportunity to inform policy-makers on global change issues as well as raise their awareness about APN and its activities.

The nFP alternate for Sri Lanka, Ms. Leila Padmini Batuwitage, noted that the proposal writing and capacity building activities are equally important and thanked APN for the budget that is to be proposed for allocation for these activities.

The Chair reminded that there is a process in place for funding projects and that is through the Calls for Proposals. **He asked the Members, with assistance from the Secretariat, to remember the process and the deadline for submitting proposals.**

Action: Members

The SPG Member for Nepal agreed on the point earlier raised by the nFP for Indonesia and the SPG Member for Pakistan that APN should **effectively convey its messages to policy-makers through appropriate platforms and communication tools.**

Action: Secretariat and Members

The Chair reminded and encouraged all to take note of the deadlines for submitting applications (and responding to invitations) to important events in the Asia-Pacific region that are significant to APN to ensure active participation. He further encouraged the Members to submit intentions to the Secretariat if they wish to conduct collaborative activities in certain areas.

Action: Secretariat and Members

Item 14: Proposed New Activities

The Secretariat Director presented on the following proposed new activities (*italicised*) for 2010/11, including joint Hyogo-Prefecture activities.

- 1. *New Activities focused under Scientific Research Themes 2 and 4 of the APN's 3rd Strategic Plan***
 - a. *Theme 2: Ecosystems, Biodiversity and Land Use***
Key Focus Areas: Forestry and REDD-Plus
 - b. *Theme 4: Resources Utilisation and Pathways for Sustainable Development***
Key focus: Global change implications of efficient resource utilisation and Action to establish international sound material cycle society

Action: Secretariat and SPG

The above activities were conceptualised when the MOEJ announced an approximate 50% increase in contribution in the fiscal year running from April 2010 to March 2011 for APN activities (Please refer to **Section III** of this Proceedings for more detailed information).

- 2. *Proposal Development Training Workshops (PDTWs) back to back with APN Sub-Regional Cooperation Committee (SRC-Com) Meetings***
Action: Secretariat, SA-SRCom and SEA-SRCom
- 3. *Proposed New Activities with Funding from Hyogo Prefecture Government, Japan***
 - a. *Activity 1: International Symposium and Public Dialogue on Biodiversity Issues synthesised over 3 years of APN/Hyogo International Symposia***
 - b. *Activity 2: Side Event at CBD COP10***
 - c. *Activity 3: Exhibit at CBD COP10***

Action: Secretariat and SC

After the presentation, the Chair thanked the MOEJ and the Hyogo Prefectural Government for their contributions before opening the floor for discussion.

The nFP alternate for Japan expressed his gratitude for the Hyogo Prefectural Government's generosity. As for the proposed activities that were presented, he gave his full support in the contents of the proposed new activities.

The nFP/SPG Member for New Zealand asked that **the proposed new activities in Section 1. *New Activities focused under Scientific Research Themes 2 and 4 of the APN's 3rd Strategic Plan* be cross-referenced with the Summary of the SPG Pre-Meeting to indicate that the SPG had already discussed the new activities in detail.** (The SPG Pre Meeting Summary is available upon request to the APN Secretariat.)

Action: Secretariat

The nFP/SPG Member for New Zealand requested that the meeting formally recognise the Hyogo Prefectural Government and the MOEJ for their confidence in the APN. To show that the APN is extremely grateful for their generosity, he encouraged **each Member Country to send a letter of gratitude from**

their respective governments to Hyogo Prefectural Government and MOEJ. The Members agreed. He congratulated the Secretariat and all the people involved who worked behind the scenes in developing the concept paper for new activities.

Action: Members and Secretariat

The IGM endorsed the new proposed activities by acclamation.

Item 15: Announcement of Best Poster

The IGM Chair announced the Winning Young Scientist as Mr. Woo-Seop Lee from the Department of Atmospheric Sciences, Kongju National University, Gongju, ROK. He noted that Mr. Lee would be presented with the **Mitra Award for Global Change Research** on Day 3 (Item 22), and then will provide a 20-minute plenary presentation. **The winning poster and Mr. Lee's presentation will be posted on the APN website and appended in the formal proceedings of the 15th IGM/SPG Meeting).**

Action: Secretariat

Session Six: GREEN GROWTH SESSION

Low Carbon Green Growth and Development Session

Based on the Copenhagen Accord and under the current global financial crisis, the climate change issue is mutually related to economic development with environmental integrity, so called "Low Carbon Green Growth". The Session provided a platform to introduce the concept of low carbon green growth and development policies in selected APN member countries and increased the dialogue and information sharing among the APN member countries and the GC Community in implementing low carbon green growth policies. The 15th IGM/SPG Meeting Vice-Chair moderated the session.

Delegates from Indonesia (Ms. Liana Bratasida), Japan (Mr. Tatsuo Seino) and Republic of Korea (Mr. Suho Seong) delivered presentations and shared the various related development policies in their respective countries. An active discussion ensued following the presentations.

The Vice-Chair thanked the presenters and the participants before officially closing the session. **The presentations are available for download on a secure site in the APN website and appended in the formal proceedings of the 15th IGM/SPG Meeting.**

Action: Secretariat

STUDY TOUR

APN's 15th IGM/SPG Meeting delegates were invited for a half-day study tour around Busan Metropolitan City on 18th March 2010. Packed in two buses, APN delegates started the tour with a traditional Korean dining experience. The delegates then passed 108 steps of bridge to reach Haedong Yong Kung Sa "East Ocean Dragon Temple," overlooking the ocean and coastal City of Busan.

Following what many Members noted was a wonderful cultural learning experience, Busan Environmental Corporation (BECO) invited APN delegates to BECO's Haeundae Comprehensive (sewage and incinerator) Processing Plants. First, APN delegates visited Haeundae sewage disposal plant that operates a sewage capacity of 65,000 m³/day over a processing area of 3.82 km². Having had a look at their 'conventional activated sludge and sand filter' processing, APN delegates were pleased to see the final 'eco' water after the treatment.

The second visit was to Haeundae Resource Energy Center and the hosts were eager to explain BECO's 'consecutive burning' method and how energy is supplied to surrounding residents free of charge. BECO welcomed APN delegates with a welcoming speech, promotional video and a tour of its facilities. BECO's

eco-friendly management and green technology was a fascinating opportunity to learn of BECO's practice and facilitate question-answer discussions on environmental engineering technology and know-how.

Session Seven

From this session, the nFP for ROK, as host of the Meeting, served as the Acting Chair in the absence of the Chair. The Acting Chair (Mr. Suho Seong) was assisted by the Vice-Chair (Mr. Bayarbat Dashzeveg).

Item 16: Proposed Budget Plan

The Secretariat Executive Manager presented the APN 2010/11 proposed budget plan for discussion and endorsement by the Members, noting that the total revenue for the next fiscal year is expected to be US\$3,257,000 with US\$3,046,000 allocated for science, policy and institutional activities; US\$147,000 for administrative costs; and US\$64,000 for reimbursement for services.

He acknowledged the continuous support of the donor countries particularly the significant increase received from the MOEJ and the National Science Foundation (NSF) of the U.S.A through the United States Global Change Research Program (USGCRP). It was proposed that the additional allocation from MOEJ be spent for the new activities outlined in Item 14 under Scientific Themes 2 and 4 of the 3SP Science Research Agenda.

The nFP for the U.S.A., Mr. Louis Brown, informed the Members that the contribution from NSF to the APN is sourced from a range of US scientific agencies. He also informed the Members that the funds are provided through a contract and sub-awarded by the START International Secretariat.

He further expressed his satisfaction that the funds from NSF are being allocated to the ARCP Programme and the research component of the CAPaBLE Programme. With regards to how the finances are presented to the Members, he further suggested that the Secretariat **seeks expert advice on accounting procedures and finds an appropriate way of presenting the budget**. He further suggested **increasing the contingency funds to reflect the significantly increased budget for 2010/11 and to ensure the Secretariat's flexibility in managing the APN activities**.

Action: Secretariat

The nFP alternate for Japan asked for clarification on how responsibilities are divided among the Secretariat Members and stressed that Japan wishes to see improved Secretariat performance and efficiency demonstrated.

The nFP/SPG Member for New Zealand recalled that the APN Secretariat has been performing excellently as indicated in the results of the 2SP Evaluation. He further noted that there is a need to **discuss among the Members what exactly is expected from the Secretariat, what would be perceived as problematic and then devise performance indicators accordingly**. This, among other issues pertaining to the Secretariat and staffing, is to be discussed further at the 15th SC Meeting.

Action: SC and Secretariat

The Acting Chair and nFP for ROK announced a tripled increase in contribution from the Ministry of Environment, ROK in the fiscal year running from April 2010 to March 2011 for APN activities. This was welcomed by the Members in acclamation.

The IGM approved the proposed budget plan by acclamation.

Item 17: ER, 3SP and Resources Development Strategy

The Secretariat Director presented the Evaluation Report, 3rd Strategic Plan and the Resources Development Strategy highlighting the revisions made on the documents that were discussed at the 14th SC Meeting and on Day of the 15th IGM/SPG Meeting under Items 5, 6 and 8.

The nFP/SPG Member for New Zealand said that the changes seemed appropriate and was happy to suggest endorsement of the Evaluation Report, 3SP and Resources Development Strategy according to the action points noted in the earlier 15th IGM/SPG items referring to these documents.

All documents were endorsed and the **Secretariat, Members and invited experts were asked to implement the new strategies.**

Action: Secretariat, Members and invited experts

Item 18: CAPaBLE Projects for Funding

The SPG Co-Chair and SPG Member for Indonesia, on behalf of the SPG and the CDC, reported that a total of **US\$610,000** was available for CAPaBLE activities in FY 2010/2011. Of this amount, **US\$430,000** was available for new CAPaBLE capacity development projects and **US\$60,000** for continuing multi-year capacity development projects. In addition, **US\$120,000** was available for continuing multi-year projects under Phase III of the comprehensive research element of the CAPaBLE programme. Recommendations for two (2) continuing capacity development and two (2) comprehensive research multi-year projects were presented to the IGM for approval. Of the twenty-one (21) new CAPaBLE proposals considered, thirteen (13) were recommended for funding.

The recommended allocation is outlined in the table below:

CAPaBLE Proposals and Continuing Multi-Year Projects	
2 continuing multi-year Capacity Development Projects	US\$ 60,000
2 continuing multi-year Comprehensive Research Projects	US\$ 120,000
13 new projects	US\$ 429,320
Contingency Fund	US\$ 680
TOTAL	US\$ 610,000

In the discussion that ensued, the SPG Co-Chair and SPG Member for Indonesia noted that regards the new activities, the SPG Members will have a very tight schedule in reviewing all the proposals particularly in light of the additional independent calls for proposals under the Themes 2 and 4 of the Science Agenda, the reason why one (1) Member to the SPG-SC was added.

The nFP alternate for Japan expressed his support on the recommended proposals and continuation of the multi-year projects.

The IGM approved by acclamation the list of recommended continuing projects and new proposals for funding under the CAPaBLE programme (provided as Attachment II).

Action: Secretariat

Item 19: ARCP Projects for Funding

The SPG Co-Chair and nFP/SPG Member for New Zealand, on behalf of the SPG, explained that the total budget available for ARCP activities in FY 2010/2011 was **US\$ 875,000**.

Seven (7) multi-year projects were recommended for continuation in 2010/11 following highly satisfactory progress in their first year activities. The SPG Co-Chair and nFP/SPG Member for New Zealand also emphasised that compared to previous years, the funded projects have shown significant improvement on reporting the progress of implementing project activities. He further highlighted that eighteen (18) proposals were considered for funding recommendation, which included a pre-screening of summary proposals by the SPG-SC, twelve (12) of which were recommended to the IGM for funding.

In his presentation, the SPG Co-Chair and nFP/SPG Member for New Zealand also noted that, this year, the success rate was 67%, well above the 50% level aimed for. This is expected to be highly encouraging to future proponents who will submit proposals to the APN for funding.

The recommended allocation is outlined in the table below:

ARCP Proposals and Continuing Multi-Year Projects	
7 continuing multi-year projects (1 project does not have funding requirement)	US\$ 239,380
12 new projects	US\$ 634,260
Contingency Fund	US\$ 1,360
TOTAL	US\$ 875,000

The Acting Chair sought comments and asked for endorsement of the projects by the IGM.

The SPG Member for Japan expressed his appreciation on the rigorousness of the APN review process. He noted that, compared with other international funding agencies, the APN review process is well-planned, well-organised and provides little chance for bias reviews.

The SPG Co-Chair and nFP/SPG Member for New Zealand expressed his gratitude to all SPG Members for the generous support, hard work and cooperation in implementing the review process over the last year, particularly in light of their subsequent reviews for the second strategic phase evaluation.

The nFP alternate for Japan suggested that the Secretariat should ensure that all scientists who receive funding from the APN acknowledge the APN in all of their project publications and project outputs. The Secretariat responded that this is already implemented by the APN Secretariat through the contractual arrangements with project leaders and their institutions.

The SPG Member for Japan noted that he would very much appreciate **receiving advance information on the processes and steps to be taken for the special calls to be launched under the approved new activities so that those who would be heavily involved would be able to plan accordingly.**

Action: Secretariat and SPG

The IGM approved by acclamation the list of recommended continuing projects and new proposals for funding under the ARCP programme (provided as Attachment III).

Action: Secretariat

Session Eight

Item 20: Brainstorming/Open Discussion

The Secretariat Director briefly explained the guidance paper and requested everyone to follow it accordingly. The Chair opened the discussion and requested the Secretariat to take note of the important points.

On APN's data policy, the nFP for U.S.A., requested SPG Co-Chairs to share the results of the SPG discussion of APN's data policy.

The SPG Co-Chair and SPG Member for Indonesia summarised the discussion noting the following points:

- Define clearly and establish common definition and understanding of APN data
- Develop a virtual database which contains information on how to access the data
- Conduct electronic discussions on data policies among the SPG Members with the aim of informing the 16th SC Meeting of the outcomes.

She further noted that it is difficult for the Secretariat to collect data due to its lack of infrastructure and suggested that metadata be collected by establishing an electronic/virtual database that provides information on how data can be accessed.

It was also noted that since every country has different policies in terms of data management, it is important to make sure that data from APN projects would be made available to the APN Secretariat.

The SPG Co-Chair and nFP/SPG Member for New Zealand reiterated the importance of establishing a virtual database with metadata, which would allow researchers to contact scientists who were involved in APN-funded projects and request actual data that were generated from the project or processed products from the project.

The SPG Co-Chair and SPG Member for Indonesia added that, in future funding processes, any data collected could be considered as assets since the APN has invested in projects and reminded the Secretariat to formulate an agreement between the APN and the project leader.

The Secretariat Coordinator, Ms. Kristine Garcia, responded that this is already included in the current terms of agreement provided to the project leaders during the awarding process.

The nFP for the U.S.A asked the Secretariat about its current mechanism of collecting information and data from APN-funded projects and if the Secretariat has an existing inventory on what kinds of data have been collected and how this data is made available.

The Secretariat Coordinator responded that the Secretariat, in recent years, consistently reminds the Project Leaders to send all project-related outputs and data used in the project in CDROMs in addition to the final project report. Since the APN lacks the infrastructure to host all generated data on the APN website and make it freely available to the public, only the project leader contact details, project final reports, and project website are included in the current APN website.

The invited expert to the SPG, Prof. Koshy suggested that it might be strategic to link with universities/academia working on global change research as they could be excellent key players and partners of the APN in the future.

The SPG Co-Chair and nFP/SPG Member for New Zealand highlighted the importance for the APN to continue to align its science agenda not only with the GC programmes in general, but more importantly with regional programmes. Alignment with regional networks is incredibly important and can serve as guidance on improving the APN Science Agenda.

SC Member, Prof. Roland Fuchs, asked how APN is maintaining its alignment with the GC and Regional Programmes since linkages within and among the GC and regional programmes appear to be getting weaker. He suggested the APN move to the broader global change arena and develop broader partnerships. He requested that this issue be discussed at the SC Meeting.

Action: SC and Secretariat

The nFP for the U.S.A noted that IGFA has provided opportunity for regional programmes on global change research and funding agencies to meet together and discuss issues not only on funding mechanisms but on strengthening partnerships.

Item 21: Bhutan and its Environment

Representative from the National Environment Commission, Government of Bhutan, Mr. G. Karma Chhopel briefly presented the global change issues that Bhutan is currently working on and other major environment-related activities in the country. (Presentation will be appended on the formal proceedings of the 15th IGM/SPG Meeting).

Item 22: Best Poster Award and Presentation

The Acting Chair introduced the winning poster presenter, Mr. Woo-Seop Lee from Kongju National University and presented him together with the APN Secretariat Director "*The Mitra Award for Global Change Research*". Following the awarding, the Chair requested Mr. Lee to deliver his presentation on his research work as described in the winning poster.

In his presentation entitled "Relationship between absorbing aerosols and snow cover/snow water equivalent over the Himalayas and the western Tibetan Plateau during boreal spring", Mr. Lee discussed the impact of atmospheric heating by dust and black carbon in possibly leading to enhanced pre-summer monsoon surface warming and early snow melt in the Himalayas and TP region using the National Aeronautics and Space Administration (NASA) finite-volume general circulation model and observation data from space-borne sensors, namely MODIS and National Snow and Ice Data Center (NSDIC). (Poster and the presentation will be posted on the APN website and appended on the formal proceedings of the 15th IGM/SPG Meeting which is now a work in progress).

Session Nine

Item 23: Hosting of IGMs

The Government of Sri Lanka through nFP alternate for Sri Lanka confirmed its willingness to host the 16th IGM/SPG Meeting. This was accepted by acclamation. Meantime, the nFP alternate for Sri Lanka was thanked for her representation of Sri Lanka and for Sri Lanka's cooperation to host the 16th IGM/SPG Meeting. Concerning the host country for the 17th IGM/SPG Meeting, Member countries were asked to consider this and contact the Secretariat should their respective countries be interested in hosting the 17th IGM/SPG Meeting in 2012.

Action: nFPs and Secretariat

Item 24: Chairperson's Summary

Before discussing the Chairperson's Summary, the Acting Chair announced the changes in SC Membership and reminded the SC Members that the 15th SC Meeting will convene following the closing of the 15th IGM/SPG Meeting.

A draft Chairperson's Summary was provided for discussion and approval. Each Member Country was asked to check the contents for clarity and to ensure that what had been written reflected the discussions. While some revisions were noted, all participants were invited to check the document and send editorials to the Secretariat. It was noted that a final summary would be prepared in close consultation with the Chair and Vice-Chair of the 15th IGM/SPG Meeting. The final summary will also include a list of action points (**Attachment IV**).

Action: Members and Secretariat

Final Remarks and Joint IGM/SPG Closing

The Secretariat Director expressed his heartfelt thanks to the delegates for attending the meeting in the beautiful City of Busan, ROK. He thanked the Ministry of the Environment, ROK, Busan City and APCC for hosting and for the support in organising the meetings. Special thanks were extended to the Chair, Acting Chair and Vice-Chair for the management of the meeting and the concise wrap-ups. He finally expressed his gratitude to the Secretariat Members for their assistance and cooperation.

The nFP for the U.S.A and the nFP alternate for Japan also expressed their thanks to the Ministry of Environment, ROK, Busan City, APCC for their cooperation and valuable support in the past week.

The Acting Chair thanked the nFPs, the SPG Members, invited experts, guests, and observers for their very thoughtful and positive contributions to the Meeting. He expressed his thanks to the Secretariat for the support that they had provided throughout the Meeting.

List of Participants

Member Country Delegations

BANGLADESH

Joyal TALUKDER (National Focal Point Alternate)

Joint Secretary (Development and Administration), Ministry of Environment and Forests
Bangladesh Secretariat, Dhaka, BANGLADESH
Tel: +88-02-7169621 / Fax: +88-02-7169210 / Email: jsdev@moef.gov.bd

Giashuddin MIAH (SPG Member)

Professor and Treasurer, Dept. of Agroforestry and Environment, Bangabandhu Sheikh Mujibur Rahman, Agricultural University (BSMRAU), Gazipur 1706, BANGLADESH
Tel: +88-02-8954529 / Fax: +88-02-9205333 / Email: giash1960@gmail.com

BHUTAN

G. Karma CHHOPEL (Delegation Member)

Head, Water Resources, National Environment Commission
P.O BOX 466, Thimphu, BHUTAN
Tel: + 975-2-323384 / Fax: +975-2-323385 / Email: gkchhopel@hotmail.com

CAMBODIA

Sundara SEM (National Focal Point)

Director, Department of ASEAN and International Cooperation, Ministry of Environment #48,
Preah Sihanouk Blvd., Chamkar Morn, Phnom Penh, CAMBODIA
Tel: +855-23-213-462 / Fax: +885-23-214-185 / Email: semsundara@yahoo.com;
moe_dic@online.com.kh

Khieu HOURT (SPG Member)

Senior Management Officer, Ministry of Agriculture, Forestry and Fishery
Phnom Penh, CAMBODIA
Tel: +855-23-220897 / Fax: +855-23-220897 / Email: hourt-2010@hotmail.com

CHINA

Wenjie DONG (SPG Member)

Executive Associate Dean, State Key Laboratory of Earth Surface Processes and Resource Ecology,
College of Global Change and Earth System Science, 19 Xijiekou Wai Street, Beijing 100875, CHINA
Tel: +86-10-58802219 / Fax: +86-10-58802219 / Email: dongwj@bnu.edu.cn

INDIA

Bhupendra Nath GOSWAMI (SPG Member)

Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road.,
Pashan, Pune 411008, INDIA
Tel: +91-20-25893924 / Fax: +91-20-25893958 / Email: goswami@tropmet.res.in

INDONESIA

Liana BRATASIDA (National Focal Point)

Assistant Minister, the State Ministry of Environment, Jl. D. I. Panjaitan,
Kav 24, Kebon Nanas, Jakarta 13410, INDONESIA
Tel&Fax: +62-21-858-0112 / Email: dokie@cbn.net.id; lianabratasida@gmail.com

Erna Sri ADININGSIH (SPG Member)

Director, Aeronautics Analysis and Information Center, The Indonesian National Institute of Aeronautics and Space, Jl. Cisadane no. 25, Cikini, Jakarta 10330, INDONESIA
Tel: +62-21-31927982/ Fax: +62-21-31922633/Email: ernasri@lapan.go.id; ernasri@yahoo.com

JAPAN

Tatsuo SEINO (National Focal Point Alternate)

Deputy Director, Office for Global Environment Research, Ministry of the Environment
1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8975, JAPAN
Tel: +81-3-5521-8247 / Fax: +81-3-3581-4815 / Email: tatsuo_seino@env.go.jp

Kensuke FUKUSHI (SPG Member)

Associate Professor, Transdisciplinary Initiative for Global Sustainability (TIGS),
Integrated Research System for Sustainability Science (IR3S), the University of Tokyo
7-3-1 Hongo, Bunkyo-Ku, Tokyo 113-8654, JAPAN
Tel: +81-3-5841-1542 / Fax: +81-3-5841-1543 / Email: fukushi@ir3s.u-tokyo.ac.jp

LAO PEOPLE'S DEMOCRATIC REPUBLIC

Bounthanh BOUNVILAY (National Focal Point)

Deputy Director General, Water Resource and Environment Research Institute
Prime Minister's Office, LAO PEOPLE'S DEMOCRATIC REPUBLIC
Tel: +856-21-219003 / Fax: +856-21-263799 / Email: boun28@yahoo.com

Oulaphone ONGKEO (SPG Member)

Deputy Chief of Division, Water Resource and Environment Research Institute
Prime Minister's Office, LAO PEOPLE'S DEMOCRATIC REPUBLIC
Tel: +856-21-219003 / Email: oulaphone@wrea.gov.la ; oulaphone75@yahoo.com

MALAYSIA

Che Gayah ISMAIL (National Focal Point Alternate)

Deputy Director General (Forecast), Malaysian Meteorological Department
Jalan Sultan, 46667 Petaling Jaya, Selangor, Darul Ehsan, MALAYSIA
Tel: +60-3-7967-8047 / Fax: +60-3-7955-0964 / Email: cgayah@met.gov.my

Subramaniam MOTEN (SPG Member)

Head of Research Division, Malaysian Meteorological Department
Jalan Sultan, 46667 Petaling Jaya, Selangor, Darul Ehsan, MALAYSIA
Tel: +60-3-87872161 / Fax: +60-3-87871019 / Email: subra@met.gov.my

MONGOLIA

Bayarbat DASHZEVEG (National Focal Point)

Secretary for the National Committee to Combat Desertification,
Ministry for Nature, Environment and Tourism, Government Building 2,

Baga Toiruu 44, Ulaanbaatar, MONGOLIA
Tel: +976-51-264627 / Fax: +976-11-450161 / Email: bayarbt@yahoo.com

NEPAL

Shanta Devi PANT (National Focal Point Alternate)

Section Officer, Ministry of Environment, Singha Durbar, Kathmandu, NEPAL
Tel: +977-1-4211996 / Fax: +977-1-4211954 / Email: shanta.pant@gmail.com

Madan Lall SHRESTHA (SPG Member)

Academician, Nepal Academy of Science and Technology, Khumaltar, Lalitpur, NEPAL
Tel: +977-1-4241403 / Fax: +977-1-5547713 / Email: madanls@hotmail.com; malashre@gmail.com

NEW ZEALAND

Andrew MATTHEWS (National Focal Point and SPG Member)

Commissioner, New Zealand National Commission for UNESCO,
13 Kabul Street, Wellington 6035, NEW ZEALAND
Tel: +64-4-9761741 / Fax: +64-4-9721741 / Email: wa.matthews@gmail.com

PAKISTAN

Amir MUHAMMED (SPG Member)

Rector, National University of Computer and Emerging Sciences
FAST House, Rohtas Road, G-9/4, Islamabad, PAKISTAN
Tel: +92-51-2855032 / Fax: +92-51-2855070 / Email: amir.muhammed@nu.edu.pk

PHILIPPINES

Samuel PEÑAFIEL (National Focal Point)

Regional Executive Director, Department of Environment and Natural Resources, Regional Office 01,
Government Center, Barangay Sevilla, San Fernando City, La Union 2500, PHILIPPINES
Tel: +63-72-700-5952 / Fax: +63-72-888-3833 / Email: penafielsam@yahoo.com

Marcial AMARO Jr. (SPG Member)

Director, Ecosystems Research & Development Bureau (ERDB)
UPLB Campus, College, Laguna, PHILIPPINES
Tel: +63-49-536-3628 / Fax: +63-49-536-2850 / Email: erdb@denr.gov.ph

REPUBLIC OF KOREA

Chan-woo KIM (Honoured Guest)

Director General, International Cooperation Office, Ministry of Environment
Government Complex-Gwacheon, 88 Gwanmun-ro, Gwacheon-si,
Gyeonggi-do, 422-729 REPUBLIC OF KOREA
Tel: +82-2-2110-7948 / Fax: +82-2-504-9206 / Email: cwkim84@me.go.kr

Woo-Jin LEE (Honoured Guest)

Executive Director, APEC Climate Center, 1463 U-dong, Haeundae-gu,
Busan, 612-020, REPUBLIC OF KOREA
Tel: +82-51-745-3911 / Fax: +82-51-745-3949 / Email: wjlee@apcc21.net; wjlee@kma.go.kr

Su-ho SEONG (National Focal Point)

Director, Global Environment Division, Ministry of Environment, Government Complex-Gwacheon,

88 Gwanmun-ro, Gwacheon-si, Gyeonggi-do, 422-729 REPUBLIC OF KOREA
Tel: +82-2-2110-6557 / Fax: +82-2-504-9206 / Email: seongsh@korea.kr

Chang-Keun SONG (SPG Member)

Senior Researcher, Global Environment Research Center (GERC), National Institute of Environmental Research, Environmental Research Complex, Gyeongseo-dong, Seo-gu, Incheon, 404-708, REPUBLIC OF KOREA
Tel: +82-32-560-7905 / Fax: +82-32-563-4102 / Email: cksong@me.go.kr

Joon-ki KIM (Delegation Member)

Deputy Director, Global Environment Division, Ministry of Environment, Government Complex-Gwacheon, 88 Gwanmun-ro, Gwacheon-si, Gyeonggi-do, 422-729 REPUBLIC OF KOREA
Tel: +82-2-2110-6558 / Fax : +82-2-504-9206 / Email: kjk4me@korea.kr

Young-min OH (Delegation Member)

Deputy Director, Global Environment Division, Ministry of Environment, Government Complex-Gwacheon, 88 Gwanmun-ro, Gwacheon-si, Gyeonggi-do, 422-729 REPUBLIC OF KOREA
Tel: +82-2-2110-6555 / Fax : +82-2-504-9206

Junghwa LEE (Delegation Member)

Program Officer, Global Environment Division, Ministry of Environment, Government Complex-Gwacheon, 88 Gwanmun-ro, Gwacheon-si, Gyeonggi-do, 422-729 REPUBLIC OF KOREA
Tel: + 82-2-2110-6553 / Fax: + 82-2-504-9206 / Email: beany76@korea.kr

Jeong-ah PARK (Delegation Member)

Interpreter, Global Environment Division, Ministry of Environment, Government Complex-Gwacheon, 88 Gwanmun-ro, Gwacheon-si, Gyeonggi-do, 422-729 REPUBLIC OF KOREA
Tel: + 82-2-2110-6554 / Fax: + 82-2-504-9206

RUSSIAN FEDERATION

Konstantin LUTAENKO (National Focal Point Alternate)

Senior Research Scientist and Head of the International Cooperation Department
Institute of Marine Biology, Far East Branch, Russian Academy of Sciences,
Palchevsky Str., 17, Vladivostok 690041, RUSSIAN FEDERATION
Tel: +7-4232-317-111 / Fax: +7-4232-310-900 / Email: lutaenko@mail.primorye.ru; lutaenko@mail.ru

Alexander STERIN (SPG Member)

Deputy Director, Russian Research Institute for Hydrometeorological Information-World Data Center (RIHMI-WDC), 6 Korolyov Street, Obninsk, Kaluga Region 249035, RUSSIAN FEDERATION
Tel: +7-499-795-2467 / Fax: +7-499-795-2225 / Email: sterin@meteo.ru

SRI LANKA

Leela Padmini BATUWITAGE (National Focal Point Alternate)

Additional Secretary (Environment & Policy), Ministry of Environment and Natural Resources,
Sampathpaya 82, Rajamalwatta Road, Battaramulla, SRI LANKA
Tel: +94-11-2875327 / Fax: +94-11-2879834 / Email: padmini@menr.lk

Gunavi Baladeva SAMARASINGHE (SPG Member)

Director General, Department of Meteorology, Bauddhaloka Mawatha, Colombo 7, SRI LANKA
Tel: +94-11-269-4104 / Fax: +94-11-269-8311 / Email: sbaladev_24@yahoo.com; meteo1@sltnet.lk

THAILAND

Wilailak SURAPHRUK (National Focal Point Alternate)

Environmentalist (Professional Level), Office of International Cooperation on Natural Resources and Environment, Ministry of Natural Resources and Environment,
92 Phahonyothin Soi 7, Bangkok 10400, THAILAND
Tel: +662-2788626 / Fax: +662-2788621 / Email: wilailak.s@mnre.mail.go.th

Jariya BOONJAWAT (SPG Member)

Advisor, Atmospheric Research Group, Southeast Asia START Regional Center, Chulalongkorn University, Chulawich 1 Building 5th Floor, Chulalongkorn University, Henri Dunant Road, Bangkok, 10330, THAILAND
Tel: +662-2189466 / Fax: +662-2519416 / Email: jariya@start.or.th

UNITED STATES OF AMERICA

Louis BROWN (National Focal Point)

Chair, USGCRP Working Group on International Research and Cooperation;
c/o Directorate for Geosciences, National Science Foundation, 4201 Wilson Boulevard,
Arlington, Virginia, 22230, UNITED STATES OF AMERICA
Tel: +1-703-292-7856 / Fax: +1-703-292-9152 / Email: lbrown@nsf.gov

Luis TUPAS (SPG Member)

National Program Leader, Global Change and Climate, National Institute of Food and Agriculture, US Department of Agriculture, 800 9th Street SW, Washington, D.C. 20024, UNITED STATES OF AMERICA
Tel: +1-202-401-4926 / Fax: +1-202-720-7803 / Email: ltupas@nifa.usda.gov

David ALLEN (Delegation Member)

Program Associate for International Research Cooperation, United States Global Change Research Program (USGCRP), 1717 Pennsylvania Ave, NW, Suite 250,
Washington DC, 20002, UNITED STATES OF AMERICA
Tel: +1-202-419-3486 / Email: dallen@usgcrp.gov

VIET NAM

Xuan Bao Tam NGUYEN (National Focal Point)

Deputy Director General, Ministry of Natural Resources and Environment,
83 Nguyen Chi Thanh, Hanoi, VIET NAM
Tel & Fax: +84-4-38352191 / Email: baotam@monre.gov.vn

Invited Experts

Centre for Global Sustainability Studies

Kanayathu Chacko KOSHY

Professor, Universiti Sains Malaysia, 11800 USM, Penang, MALAYSIA
Tel: +60-4-653 4238 / Fax: +60-4-659-1624 / Email: kanayathu.koshy@gmail.com

East-West Center

Roland FUCHS

Senior Fellow, East-West Center, 1601 East-West Road, Honolulu, HI 96848, UNITED STATES OF AMERICA
Tel: +1-808-944-7518 / Fax: +1-808-944-7339 / Email: FuchsR@EastWestCenter.org

Monash University

Michael John MANTON

Professor, Monash University, VIC 3800, AUSTRALIA

Tel: +64-4-19389795 / Email: michael.manton@sci.monash.edu.au

TEACOM

AILIKUN

Director, International Program Office, Monsoon Asia Integrated Regional Study (MAIRS),
of Atmospheric Physics, Chinese Academy of Sciences, Qijiahuozi Huayanli 40#,
Chaoyang District, P.O.Box 9804, Beijing 100029, P. R. CHINA

Tel: +86-10-82995264 / Fax: +86-10-82995161 / Email: ailli@mairs-essp.org; ailli@tea.ac.cn

United Nations University

Anura Srikantha HERATH

Senior Academic Programme Officer, United Nations University, 5-53-70,
Jingumae, Shibuya-ku, Tokyo 150-8925, JAPAN

Tel: +81-3-5467-1212 / Fax: +81-3-3406-7347/ Email: herath@unu.edu

Guests and Observers

Australian National University Climate Change Institute

Lance Clive HEATH

Business and Project Development, Australian National University Climate Change Institute, College of
Asia and the Pacific, Fellows Road, Coombs Building, ANU, Acton, ACT, Canberra, ACT 0200, AUSTRALIA

Tel: +61-2-61254672 / Fax: +61-2-62571893 / Email: lance.heath@anu.edu.au

Hyogo Prefectural Government

Shigeki FUKUI

Director General, Environmental Development Bureau, Hyogo Prefectural Government 5-10-1,
Shimoyamaye-dori, Chuo-ku, Kobe, Hyogo 650-8567, JAPAN

Tel: +81-78-362-3235 / Fax: +81-78-362-4024/ Email: Shigeki_Fukui@pref.hyogo.lg.jp

Korea Meteorological Administration

Won-Tae KWON

Director, Climate Research Laboratory, National Institute of Meteorological Research,
Korea Meteorological Administration, 45 Gisangcheong-gil, Dongjak-gu,
Seoul, 156-720, REPUBLIC OF KOREA

Tel: +82-2-6712-0300 / Email: wontk@kma.go.kr; wontk@korea.kr

United Nations Environment Programme, Northwest Pacific Action Plan (UNEP NOWPAP)

Alexander TKALIN

Coordinator, United Nations Environment Programme, Northwest Pacific Action Plan (UNEP NOWPAP),
152-1 Haeon-ro, Gijang-eup, Gijang-gun, Busan 619-705 REPUBLIC OF KOREA

Tel: +82-51-720-3001 / FAX: +82-51-720-3009 / Email: Alexander.tkalin@nowpap.org

Universiti Sains Malaysia

Fera Fizani AHMAD FIZRI

Lecturer, School of Industrial Technology, Universiti Sains Malaysia, 11800, Penang, MALAYSIA
Tel: +6046532110 / FAX: +604+573678 / Email: fera@usm.my

APN Secretariat

East Building 4F, 1-5-2 Wakinoama Kaigan Dori,
Chuo-ku, Kobe 651-0073, JAPAN
Tel: +81-78-230-8017 / Fax: +81-78-230-8018
Email: info@apn-gcr.org / Website: <http://www.apn-gcr.org>

Tetsuro FUJITSUKA Director, Email: tfujitsuka@apn-gcr.org

Lizhier CORALDE Programme Fellow for Communications and Development,
Email: lcoralde@apn-gcr.org

Kristine GARCIA Coordinator, Email: kgarcia@apn-gcr.org

Yukihiro IMANARI Executive Manager, Email: yimanari@apn-gcr.org

Erdenesaikhan NYAMJAV Programme Fellow for Science and Institutional Affairs,
Email: enyamjav@apn-gcr.org

Perlyn PULHIN Programme Officer for Communications and Development,
Email: ppulhin@apn-gcr.org

Linda Anne STEVENSON Scientific Officer, Email: l Stevenson@apn-gcr.org

2010/2011 CAPaBLE Projects

Full Proposal Reference	Title of Proposed Project	Proponent, Institution and Country	Email	Relevance to 2SP Science Agenda	Summary of Project	National or Regional Activity	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
CBA2010-01CMY-Sang-arun	Promoting Sustainable Use of Waste Biomass in Cambodia, Lao People's Democratic Republic and Thailand: Combining Food Security, Bio-energy and Climate Protection Benefits	Dr. Janya Sang-arun, Institute for Global Environmental, JAPAN	sang-arun@iges.or.jp	Climate; Use of Resources and Pathways for Sustainable Development; Crosscutting Issues and Science-Policy Linkages	Research to identify the suitability of organic waste management options in terms of technical and economic conditions and their benefits for climate change mitigation, livelihoods and self-reliance in Lao PDR, Cambodia, and Thailand and what are effect	Regional	Japan, Cambodia, Lao PDR, Thailand	2 years	30,000
CBA2010-02CMY-Togtohyun	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)	Dr. Chuluun Togtohyun, Institute for Dryland Sustainability (IDS), National University of Mongolia, MONGOLIA	chuluun@nrel.lostate.edu	Climate; Ecosystems, Biodiversity and Land Use	Improving the adaptive capacity to climate and land use changes of people living in the Southern Khangai Mountains, Mongolia and making the Dryland Development Paradigm (DDP) based policy recommendation.	National	Mongolia	2 years	30,000
CBA2010-03NSY-Indrawan	Developing the Capacity for Teaching Biodiversity and Conservation in the Asia-Pacific Region	Dr. Mochamad Indrawan, University of Indonesia, INDONESIA	jamblang@cbn.net.id	Ecosystems, Biodiversity and Land Use	Addressing the gap between the lack of knowledge to teach advanced courses in biodiversity and conservation and the need to have well-trained local scientists, in both academic and managerial positions by providing high-level training in biological field research and data analysis for students in junior faculty positions.	Regional	Indonesia and China	1 year	33,190

Full Proposal Reference	Title of Proposed Project	Proponent, Institution and Country	Email	Relevance to 2SP Science Agenda	Summary of Project	National or Regional Activity	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 Awarded
CBA2010-04NSY-Dhakal	Carbon Governance in Asia: Bridging Scales and Disciplines	Dr. Shobhakar Dhakal, Global Carbon Project, NIES, JAPAN	shobhakar.dhakal@nies.go.jp	Climate; Changes in Atmospheric, Terrestrial and Marine Domains; Crosscutting Issues and Science-Policy Linkages	Workshop as means for capacity building of young researchers from Asian region as well as to discuss the issues and opportunities for carbon governance for developing low carbon societies in Asia.	Regional	Collaboration between Global Carbon Project and Earth System Governance Project of IHDP.	1 year	29,770
CBA2010-06NSY-Kench	Improving Understanding of Local-Scale Vulnerability in Atoll Island Countries: Developing Capacity to Improve In-Country Approaches and Research	Assoc. Prof. Paul Kench, The University of Auckland, NEW ZEALAND	p.kench@auckland.ac.nz	Climate; Crosscutting Issues and Science-Policy Linkages	Building field-based capabilities of researchers in Pacific Atoll Island countries to undertake physical vulnerability assessments of low-lying atoll islands. A case study approach is adopted to deliver in-country training on methods to undertake rapid assessment of the vulnerability of reef islands to sea-level rise and climatic variability and explore local-scale variations in vulnerability.	Regional	New Zealand, Tuvalu and Marshall Islands	1 year	29,760
CBA2010-07NSY-Stone	Web-based 'Discussion-support' Agricultural-Climatic Information for Regional India	Prof. Roger Stone, University of Southern Queensland, AUSTRALIA	stone@uq.edu.au	Climate; Crosscutting Issues and Science-Policy Linkages	Development of an interactive, customisable, web-based climate 'discussion-support' portal to transmit and disseminate vital climate information at a range of time-scales (intra-seasonal to seasonal through to climate change) to farmers in key regions of India.	National	Australia and India	1 year	35,000

Full Proposal Reference	Title of Proposed Project	Proponent, Institution and Country	Email	Relevance to 2SP Science Agenda	Summary of Project	National or Regional Activity	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 Awarded
CBA2010-08NSY-Salinger	Addressing the Livelihood Crisis for Farmers: Weather and Climate Services for Sustainable Agriculture – Development of Tools	Dr. Jim Salinger, University of Auckland, NEW ZEALAND	j.salinger@auckland.ac.nz	Climate; Use of Resources and Pathways for Sustainable Development	An international workshop from 12-14 July 2010 in Belo Horizonte, Brazil to identify the weather and climate risks and uncertainties in different regions of the world which affect the livelihoods of farmers extreme climatic events, climate variability & climate change, lack of timely information on weather and climate risks and uncertainties.	Global	Australia, Cambodia, China, India, Indonesia, Japan, Malaysia, Mongolia, New Zealand, Pacific Islands, Philippines, Russian Federation and Viet Nam	1 year	20,000
CBA2010-09NSY-Rupakheti	Scientific Capacity Development of the Trainers and Policy Makers for Climate Change Adaptation Planning in Asia and the Pacific	Dr. Maheswar Rupakheti, UNEP Regional Resource Centre for Asia and the Pacific, THAILAND	Maheswar.Rupakheti@rrc.ap.unep.org	Climate; Crosscutting Issues and Science-Policy Linkages	Building capacity of the trainers and policy-makers in the Asia-Pacific in order to mainstream climate change adaptation principles and practices in some of the member countries in Asia-Pacific of the UNEP's Global Climate Change Adaptation Network (Hereinafter, the Network).	Regional	Thailand, Australia, China, India, Japan, ROK, Kazakhstan, and Philippines	1 year	30,000
CBA2010-10NSY-Chen	Promoting a Data Sharing Environment within the Earth Observation System of Systems: The Asia-Pacific Perspective	Dr. Robert S. Chen, CODATA/CIESIN, Columbia University, USA	bchen@ciesin.columbia.edu	Crosscutting Issues and Science-Policy Linkages	Aims to highlight and promote the importance of data sharing within and between Earth observation systems in the Asia-Pacific region for research and applications in key societal benefit areas through workshops and a side event at the Group on Earth Observations (GEO) Ministerial meeting in 2010.	Regional	USA and CODATA national bodies in APN member countries	1 year	40,000

Full Proposal Reference	Title of Proposed Project	Proponent, Institution and Country	Email	Relevance to 2SP Science Agenda	Summary of Project	National or Regional Activity	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 Awarded
CBA2010-11NSY-DeGuzman	Capacity Building for Research and Monitoring of Marine Protected Areas: An Adaptive Mechanism for Climate Change in the Asia-Pacific Region	Dr. Asuncion B. de Guzman, Mindanao State University, PHILIPPINES	sony_de_guzman@yahoo.com	Climate; Changes in Atmospheric, Terrestrial and Marine Domains	Capacity building of Marine Protected Areas (MPA) managers in the Philippines, Indonesia and Thailand to implement research/monitoring programs and effective feedbacking that will aid policy makers in making informed decisions, particularly in increasing support for MPAs as a cost-efficient adaptation measure.	Regional	Philippines and Indonesia	1 year	35,600
CBA2010-12NSY-Pradhananga	Graduate Conference on Climate Change and People	Mr. Dhiraj Pradhananga, The Small Earth Nepal (SEN), NEPAL	dhirajmet@hotmail.com ; smallearth@wlink.com.np	Climate	Building the scientific capacity of young students from multiple disciplines, networking and awareness for sustainable development options in the region that will combat climate change.	Regional	Nepal, Bangladesh, India, Pakistan, Sri Lanka, Kyrgyzstan, USA, China and ROK	1 year	26,000
CBA2010-13NMY-Furukawa	Capacity Building of Biodiversity Research in the Coastal Zones of the Asia Pacific Region: Phycology Taxonomy Analysis Training Using Genetic Marker	Mr. Masakazu FURUKAWA, EMECS Secretariat, JAPAN	furukawa@emecs.or.jp	Ecosystems, Biodiversity and Land Use	Capacity building/training for young researchers from the developing Asia Pacific on biological identification analysis using genetic marker in the field of phycology taxonomy to contribute in each country's biodiversity conservation.	Regional	Japan, Korea, Australia, China, Russia, Taiwan, Philippines, Indonesia, India, Malaysia and New Zealand	2 years	30,000
CBA2010-14NMY-Kaihotsu	Drought Monitoring System Development by Integrating In-situ Data, Satellite Data and Numerical Model Output	Prof. Ichiro Kaihotsu, Hiroshima University, JAPAN	kaihotu@hiroshima-u.ac.jp	Climate; Use of Resources and Pathways to Sustainable Development	Improving the drought monitoring capability in various Asian countries such as Bangladesh, China, Nepal, Mongolia, Philippines, Pakistan, Thailand, and Vietnam and setting up a drought monitoring and research network in related Asian countries.	Regional	Japan, Bangladesh, China, Nepal, Philippines, Pakistan, Thailand and Viet Nam	2 years	40,000

Full Proposal Reference	Title of Proposed Project	Proponent, Institution and Country	Email	Relevance to 2SP Science Agenda	Summary of Project	National or Regional Activity	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 Awarded
CBA2010-15NSY-South	Global Change and Coral Reef Management Capacity in the Pacific: Engaging Scientists and Policy Makers in Fiji, Samoa, Tuvalu and Tonga	Prof G. Robin South, Institute of Marine Resources, University of the South Pacific, FIJI	robin.south@usp.ac.fj	Changes in Atmospheric, Terrestrial and Marine Domains; Crosscutting Issues and Science-Policy Linkages	Awareness raising for Pacific Leaders on the impacts of global change and of those factors that are affecting the health of their coral reefs.	Regional	Fiji, Samoa, Tuvalu and Tonga	15-month	40,000
CRP2010-01CMY-Weber	Vulnerability Mapping as Policy Tool in Developing Countries	Dr. Eberhard Weber, The University of the South Pacific, FIJI	weber_e@usp.ac.fj	vulnerability, people and places	Investigates vulnerability of people related to Climate Change through vulnerability mapping. It focuses on people's vulnerabilities, the ways they sustain their livelihoods and how they cope with / adapt to adverse events.	Regional	Fiji, India, Thailand	3 years	50,000
CRP2010-02CMY-Pereira	Strengthening Capacity for Policy Research on Mainstreaming Adaptation to Climate Change in Agriculture and Water Sectors	Dr. Joy Jacqueline Pereira, Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM), MALAYSIA	joy@ukm.my	climate change, adaptation, agriculture and water resources	Strengthening the research capacity on mainstreaming climate change adaptation concerns into agricultural and water policies and creating a consortium for adaptation policy research in Asia (ARNAP: Adaptation Research and Policy Network for Asia and the Pacific).	Regional	Malaysia, Viet Nam, India, Japan	3 years	70,000
								Total Funding Awarded	609,320
								Available Budget Available	610,000
								Contingency	680

2010/2011 ARCP Projects

Original Project/ Proposal Reference Number	Project Reference Number	Title	Project Leader	Email	Relevance to 2SP Science Agenda	Summary of Project	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
ARCP2009-13NMY-Sthiannopkao	ARCP2010-01CMY-Sthiannopkao	Collaborative Research on Sustainable Urban Water Quality Management in Southeast Asian countries: Analysis of Current Status (comparative study) and Strategic Planning for Sustainable Development	Dr. Suthipong Sthiannopkao, Gwangju Institute of Science and Technology (GIST), REPUBLIC OF KOREA (ROK)	suthi@gist.ac.kr suthisuthi@hotmail.com	Use of Resources and Pathways for Sustainable Development; Crosscutting Issues and Science-Policy Linkages	A comparative study in SEA on (1) current and future of urbanization expansion; (2) current water management policies; (3) water quality impacts caused by urban activities and climate change and (4) development of a strategic plan including capacity building programmes.	ROK, Cambodia, Indonesia, Thailand, Viet Nam	2 years	40,000
ARCP2009-14NMY-Phua	ARCP2010-02CMY-Phua	Integrated Prediction of Dipterocarp Species Distribution in Borneo for Supporting Sustainable Use and Conservation Policy Adaptation	Dr. Phua Mui How, School of International Tropical Forestry, Universiti Malaysia, MALAYSIA	pmh@ums.edu.my	Ecosystems, Biodiversity and Land Use; Crosscutting Issues and Science-Policy Linkages	Filling the gap of missing information about the dipterocarp species distribution and conservation gap at a landscape scale through an integrated approach that combines remote sensing, GIS and field data.	Malaysia, Indonesia, Japan	2 years	39,650
ARCP2009-15NMY-Marambe	ARCP2010-03CMY-Marambe	Vulnerability of Home Garden Systems to Climate Change and its Impacts on Food Security in South Asia	Prof. Buddhi Marambe, Faculty of Agriculture, University of Peradeniya, SRI LANKA	bmarambe@pdn.ac.lk	Climate; Ecosystems, Biodiversity and Land Use; Use of Resources and Pathways for Sustainable Development; Crosscutting Issues and Science-Policy Linkages	Assessment of the degree of vulnerability and impacts of changing climates in home garden systems in South Asia using bio-economic models. Obtaining inventories of trees, crops and farm animals to establish current status.	Sri Lanka, India, Bangladesh, USA	2 years	40,000

Original Project/ Proposal Reference Number	Project Reference Number	Title	Project Leader	Email	Relevance to 2SP Science Agenda	Summary of Project	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
ARCP2009-16NMY-Wang	ARCP2010-04CMY-Wang	Building Asian Climate Change Scenarios by Multi-Regional Climate Models Ensemble	Dr. Shuyu Wang, Institute of Atmospheric Physics, Chinese Academy of Sciences, CHINA	wsy@tea.ac.cn	Climate	Building of high resolution climate change scenarios for Asia for 2040-2070 using nine regional climate models' outputs. Development of the envelope analysis of ensemble for Asian regional climate projection with the full evaluation and assessment uncertainty originating from RCM downscaling.	China, ROK, Japan, Australia, USA, Thailand	3 years	40,000
ARCP2009-17NMY-Luck	ARCP2010-05CMY-Luck	The Effects of Climate Change on Pests and Diseases of Major Food Crops in the Asia Pacific Region	Dr. Joanne Elizabeth Luck, Cooperative Research Centre for National Plant Biosecurity, AUSTRALIA	jo.luck@dpi.vic.gov.au	Climate; Use of Resources and Pathways for Sustainable Development	Investigating the impacts of climate change on the biology and distribution of key agricultural pests and diseases in the Asia Pacific region, encompassing key sites in India and Bangladesh and its implications on cropping.	Australia, India, Bangladesh	2 years	0
ARCP2009-18NMY-Schaefer	ARCP2010-06CMY-Schaefer	Quantifying the Role of Dead Wood in Carbon Sequestration	Dr. Douglas Schaefer, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, CHINA	xiedaoan@xtbg.ac.cn	Climate; Ecosystems, Biodiversity and Land Use	Use of advanced techniques of respiration monitoring in quantifying the role of dead wood in carbon sequestration, coupled with woody material manipulations in a variety of Asian forests, and under a wide range of soil conditions.	China, Lao PDR, Viet Nam	2 years	39,730
ARCP2009-19NMY-Bai	ARCP2010-07CMY-Bai	Asian Coastal Ecosystems: An Integrated Database and Information Management System (DIMS) for Assessing Impact of Climate Change and its Appraisal	Dr. V. Ramani Bai, University of Nottingham Malaysia Campus, MALAYSIA	Ramani-Bai.V@nottingham.edu.my	Climate	Development of an Integrated Database and Information Management System (DIMS) for understanding Asian Coastal region's ecosystems.	Malaysia, India, Singapore	2 years	40,000

Original Project/ Proposal Reference Number	Project Reference Number	Title	Project Leader	Email	Relevance to ZSP Science Agenda	Summary of Project	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
ARCP2009-FP04-Freeman	ARCP2010-08NSY-Freeman	Impact of Climate Change on Food Security and Biosecurity of Crop Production Systems in Small Pacific Nations	Dr. Angela Freeman, Department of Primary Industries, AUSTRALIA	angela.freeman@dpi.vic.gov.au	Climate; Ecosystems, Biodiversity and Land Use	Identifying the key impacts of climate change on the unique cropping systems in four small Pacific nations and provide solid data to enable development of strategies/policies to minimise these risks and identify training and research opportunities.	Australia, Fiji, New Zealand, Tonga, Kiribati, Vanuatu, Tuvalu	1 year	55,000
ARCP2009-FP15-Patwardhan	ARCP2010-09NSY-Patwardhan	Enhancing Adaptation to Climate Change by Integrating Climate Risk into Long-Term Development Plans and Disaster Management	Prof. Anand Patwardhan, Indian Institute of Technology, INDIA	anand@iitb.ac.in	Climate	Comparative analysis of the immediate to medium-term post-disaster recovery scenario in the aftermath of extreme weather events in three Asian cities and quantifying the developmental impacts of extreme weather events with the objective of integrating climate change risk considerations into long-term investment and development plans.	India, Thailand and Bangladesh	1 year	65,000
ARCP2009-FP01-Koike	ARCP2010-10NMY-Koike	River Management System Development in Asia Based on Data Integration and Analysis System (DIAS) under the GEOSS	Prof. Toshio Koike, The University of Tokyo, JAPAN	tkoike@hydro.t.u-tokyo.ac.jp	Climate; Use of Resources and Pathways to Sustainable Development; Crosscutting Issues and Science-Policy Linkages	The result of this project will enable (i) integrated data access and transfer among Asian National data management groups as well as between these groups and International data organizations such as WMO and UNESCO for the purpose of coordinating water cycle research in the Asian region, and (ii) improved transformation of observation information and scientific knowledge to water management policy in the Asian region.	18 member countries of AWCI	2 years	90,000

Original Project/ Proposal Reference Number	Project Reference Number	Title	Project Leader	Email	Relevance to 2SP Science Agenda	Summary of Project	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
ARCP2009-FP05-Asanuma	ARCP2010-11NMY-Asanuma	Intercomparison of Landsurface Process Modeling at Asian Drylands	Dr. Jun Asanuma, Terrestrial Environment Research Center, University of Tsukuba, JAPAN	asanuma@suiri.tsukuba.ac.jp	Ecosystems, Biodiversity and Land Use; Changes in Atmospheric, Terrestrial and Marine Domains	This study aims to access uncertainties pertained to the prediction of landsurface environment using landsurface models (LSMs) and soil-plant-ecosystem models and to improve accuracies of the prediction through an intercomparison study with a suite of models and data from a selected set of well documented study sites from the dryland region.	Japan, USA, China, ROK, Mongolia, Australia and Pakistan	2 years	58,700
ARCP2009-FP06-Uprety	ARCP2010-12NMY-Uprety	Community Based Forestry and Livelihoods in the Context of Climate Change Adaptation	Dr. Dharam Raj Uprety, International Forestry Resources and Institutions (IFRI) and Forest Action, NEPAL	forestaction@wlink.com.np , dharam.uprety@gmail.com	Climate; Use of Resources and Pathways for Sustainable Development	Investigation on how climate change is affecting forest-dependent communities Asia-Pacific Region and the actual and potential adaptation measures that enable households, communities and networks to remain resilient in the changing contexts.	Nepal, Thailand and Viet Nam	2 years	40,000
ARCP2009-FP07-Bae	ARCP2010-13NMY-Bae	Climate Change Impact Assessment on the Asia-Pacific Water Resources Under AWCI/GEOSS	Prof. Deg-Hyo Bae, Sejong University, ROK	dhbae@sejong.ac.kr	Climate; Use of Resources and Pathways for Sustainable Development	Evaluation of the climate change impact assessments on water resources over the Asia-Pacific regions joining the Asian Water Cycle Initiative for the Global Earth Observation System of Systems (AWCI/GEOSS) and to promote the capacity building for climate change impact assessment.	ROK, Japan, Bangladesh and Pakistan, Bhutan	2 years	84,000

Original Project/ Proposal Reference Number	Project Reference Number	Title	Project Leader	Email	Relevance to 2SP Science Agenda	Summary of Project	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
ARCP2009- FP08-Li	ARCP2010- 14NMY-Li	Analysis on Urban Land-Use Changes and its Impacts on Food Security in Different Asian Cities of Four Developing Countries Using Modified CA Model	Prof. Jianlong Li, The Global Change Research Institute, College of Life Science, Nanjing University, CHINA	jlli2008@nju.edu.cn ; jianlongli@sina.com.cn	Ecosystems, Biodiversity and Land Use	Assessment of changes on urban expansion and land use to agricultural production and food security in the three core cities of three developing countries using the CA model which analyses different urban land use patterns and the mechanism leading to food shortages.	China, Viet Nam, India, USA and Australia	2 years	60,000
ARCP2009- FP10-Han	ARCP2010- 15NMY-Han	The Impact of Spatial Parameters on GHG Emission: A Comparative Study between Cities in China and India	Dr. Sun Sheng Han, The University of Melbourne, AUSTRALIA	sshan@uni.melb.edu.au	Use of Resources and Pathways for Sustainable Development; Land Use	Aims to examine the impacts of urban spatial parameters on greenhouse gas (GHG) emission at metropolitan, district and street levels in two cultural context to address a gap in linking urban spatial structure to low carbon economies.	Australia, China and India	2 years	41,560
ARCP2009- FP11-Huda	ARCP2010- 16NMY-Huda	Food Security and Climate Change in the Asia-Pacific Region: Evaluating Mismatch between Crop Development and Water Availability	Prof. Samsul Huda, University of Western Sydney, AUSTRALIA	s.huda@uws.edu.au	Climate; Use of Resources and Pathways for Sustainable Development	Investigation of the impact of climate change on the matching of crop phenology and water availability encompassing key sites in China, India and Australia to build the resilience of the community and the natural resources to cope with the future challenges including the increased climate variability resulting from climate change.	Australia, China and India	2 years	60,000

Original Project/ Proposal Reference Number	Project Reference Number	Title	Project Leader	Email	Relevance to ZSP Science Agenda	Summary of Project	Regional Collaboration Countries Involved	Project Duration	Funding (US\$)
									2010/2011 awarded
ARCP2009-FP16-Towprayoon	ARCP2010-17NMY-Towprayoon	Strategic Rice Cultivation for Sustainable Low Carbon Society Development in South East Asia	Assoc. Prof. Dr. Sirintornthep Towprayoon, King Mongkut's University of Technology, THAILAND	sirin@jgse.kmutt.ac.th	Climate; Use of Resources and Pathways for Sustainable Development	Identification of strategic rice cultivation practices involving rotation with energy crops for mitigating GHGs, while enhancing capacity in energy production and long term soil carbon storage for sustainable agriculture in South East Asia (SEA).	Thailand, Indonesia and Japan	2 years	40,000
ARCP2009-FP18-Lutaenko	ARCP2010-18NMY-Lutaenko	Coastal Marine Biodiversity of Viet Nam: Regional and Local Challenges and Coastal Zone Management for Sustainable Development	Dr. Konstantin Lutaenko, Institute of Marine Biology, RUSSIAN FEDERATION	lutaenko@mail.primo.rve.ru ; lutaenko@mail.ru	Ecosystems, Biodiversity and Land Use	Biodiversity assessment in coral reef/tropical ecosystems in Viet Nam based on corals, mollusks, crustaceans and echinoderms; and development of methods of monitoring their status to find common patterns, understand temporal changes and their causes, and predict future modifications of the ecosystems/environments.	Russian Federation, Viet Nam and ROK	2 years	40,000
Total Funding Awarded									873,640
Available Budget									875,000
Contingency									1,360

List of Major Action Points

1. More opportunities had become available for APN members to collaborate with project leaders and APN activities in their respective countries and sub-regions and asked the Secretariat for its continued cooperation in this regard.
2. The Climate Synthesis Working Group (WG) is to follow a strict timeline for the Climate Synthesis to ensure alignment with the IPCC timeline.
3. Think of how the activities and APN's contributions/input at high-level dialogues and related fora can be presented more effectively in a manner that maximises the visibility of the network.
4. Compile a list of scientific experts and submit this to the APN Secretariat in order to maximise the expertise of the reviewers in the APN database.
5. Provide the members of information on relevant outcomes from APN activities that can be used strategically by the members in appropriate events to further increase the network's visibility.
6. APN Secretariat will provide the Japanese delegation with the trends in financial resources over the past five (5) years (provided same day). This will be made available in future IGM/SPG Meetings.
7. For Draft Financial Report for 2009/10, the term "draft" is to be changed to "interim" report. This was agreed.
8. Bhutan membership was approved by acclamation, bringing the number of member countries in the APN to 22. As a new member country of the APN, Bhutan will be incorporated in the present and subsequent APN records, including a revised Framework Document.
9. All documentation provided on membership development (under Item 4), with the exception of the first page, is not to be included in the formal proceedings of the 15th IGM/SPG Meeting due to membership sensitivity. This was agreed by the Members.
10. APN must continue to remember that the Pacific Island States are associated members of the APN.
11. The area of science and policy interactions is to be developed in the 3rd strategic phase with cooperation from all the Members.
12. Relevant criteria need to be established to determine capacity development success indicators for short and long-term outcomes. This issue will be addressed by the Capacity Development Committee (CDC) in the year ahead, noting that identifying smaller stages of capacity development achievement may be an important factor. This will be considered further.
13. The APN will explore the possibility of expanding resources from a range of donors, including the private sector.
14. The Secretariat will continue to encourage in-kind contributions and develop a set of metrics that transfer these contributions into monetary value.
15. Publish special publications: synthesis report and academic book from the current two-year Climate Synthesis; reports of the evaluation of the second strategic phase, 3SP; and policy-relevant documents.

16. National Focal Points (nFPs) and Scientific Planning Group (SPG) Members are encouraged to provide contact details of editors at the newspapers, magazines, radio stations, television stations and/or television networks in their respective countries so that the Secretariat can incorporate in its database/electronic mailing list
17. Long-term plans include stronger collaboration with the Core Projects of the global change programmes. Online fora will also be explored through more advanced communication software to promote stronger collaboration among groups of APN Network.
18. APN is currently maintaining an internal database of experts and this will be linked to the new website in due course. The APN Secretariat will endeavour to collect the complete profile of contacts but will carefully handle the information obtained for reasons of confidentiality.
19. Produce a concise brochure of APN activities intended for policy-makers (one or two-pages).
20. Continue this effort (producing brochures in vernacular language) and encouraged other Members to become more involved in this endeavour.
21. Cooperation sought in the translation and dissemination process of APN brochure for 2010/2011.
22. Members to submit new photos for the website and reiterated the task of producing materials for the international community and flagship publication which can attract media attention.
23. On page 5 of the 3SP under Section 3.1, there is a need to add an additional preamble that clearly articulates APN's intention to support research on current issues that are highly relevant to the Asia-Pacific region. This is to be developed and the revised text is to be presented to the meeting on Day 3.
24. APN is to continue its efforts to seek collaboration with key UN organisations and reflect this in the 3SP under *Section 3.3 Science-Policy Agenda*. This is to be developed and the revised text is to be presented to the meeting on Day 3.
25. APN is to develop an Operating Plan that covers short-, mid- and long-term operations for the effective implementation of the activities and strategies outlined under the 3SP two main agendas.
26. ARCP and CAPaBLE Annual Calls for Proposals and subsequent recommendations will be presented to the Meeting on Day 3 for IGM consideration.
27. New/revised (draft) policies for data and Conflict of Interest are to be formulated and presented to the 16th SC meeting to be held in August 2010.
28. Need to ensure that the results of the related scientific research funded by the APN are fed into the IPCC AR5.
29. Implementation of the annual regional call for research proposals (ARCP)
30. Implementation of a focused call for proposals in two scientific thematic areas of the APN Science Agenda
31. Development of robust policy on Data and Data Management to be presented at the 16th SC Meeting
32. Development of robust policy on Conflict(s) of Interest to be presented at the 16th SC Meeting

33. The Framework Document is to be revised accordingly to reflect the changes in the SPG-SC and CDC.
34. WG encouraged reflecting the outcomes of the Climate Synthesis Activity in the IPCC AR5.
35. WG is to maintain the current timeframe to align with the timeframe of the IPCC AR5 Working Groups, specifically their respective deadlines for accepting citations.
36. The scope be extended to ensure that issues such as climate observations and efficiency of monitoring systems, etc, could be included.
37. Refer to and attempt to align with, the Chapters of the IPCC AR5 Working Group Reports to increase the possibility of contributing to the IPCC AR5 through direct citations.
38. The South Asia Sub-regional Committee (SA-SRCom) is supportive of arranging a Proposal Development Training Workshop (PDTW) for young scientists with larger number of participants from Bhutan. In addition, it was suggested that a regional training activity on “Training Workshop on Downscaling of South Asian Climate Projections at Indian Institute of Tropical Meteorology (IITM), Pune” be conducted with the 2010/11 funds from the APN for SA-SRC activities.
39. The next Southeast Asia (SEA) SRCom Meeting to be hosted by the Philippines on 8-12 November 2010, will convene at the Dusit Thani Hotel, Makati Manila, back-to-back with a PDTW for 10-20 young scientists.
40. Secretariat to compile a very short synthesis of relevant SEA topics in one (1) or two (2) pages to be distributed at the Annual Ministerial and Senior Official Meetings of SEA MoEs.
41. Chair asked the Members, with assistance from the Secretariat, to remember the process and the deadline for submitting proposals.
42. Effectively convey its messages to policy-makers through appropriate platforms and communication tools.
43. The Chair reminded and encouraged all to take note of the deadlines for submitting applications (and responding to invitations) to important events in the Asia-Pacific region that are significant to APN to ensure active participation. He further encouraged the Members to submit intentions to the Secretariat if they wish to conduct collaborative activities in certain areas.
44. Implement New Activities focused under Scientific Research Themes 2 and 4 of the APN’s 3rd Strategic Plan
 - c. Theme 2: Ecosystems, Biodiversity and Land Use
Key Focus Areas: Forestry and REDD-Plus
 - d. Theme 4: Resources Utilization and Pathways for Sustainable Development
Key focus: Global change implications of efficient resource utilization and Action to establish international sound material cycle society
45. The proposed new activities in Action 46. be cross-referenced with the Summary of the SPG Pre-Meeting to indicate that the SPG had already discussed the new activities in detail.
46. Implement Proposal Development Training Workshops Back to back with APN Sub-Regional Cooperation Committee Meetings

47. Implement Proposed New Activities with Funding from Hyogo Prefecture Government, Japan
 - d. Activity 1: International Symposium and Public Dialogue on Biodiversity Issues synthesised over 3 years of APN/Hyogo International Symposia
 - e. Activity 2: Side Event at CBD COP10
 - f. Activity 3: Exhibit at CBD COP10
48. To show that the APN is extremely grateful for their generosity, he encouraged each Member Country to send a letter of gratitude from their respective governments to Hyogo Government and MOEJ.
49. The winning poster and Mr. Lee's presentation will be posted on the APN website and appended in the formal proceedings of the 15th IGM/SPG Meeting).
50. The presentations are available for download on a secure site in the APN website and appended in the formal proceedings of the 15th IGM/SPG Meeting.
51. Secretariat is to seek expert advice on accounting procedures and find an appropriate way of presenting the budget.
52. In light of a significantly increased budget, suggest increasing the contingency funds to ensure Secretariat's flexibility in managing the APN activities.
53. Discuss among the (SC) Members what exactly is expected from the Secretariat, what would be perceived as problematic and then devise performance indicators accordingly. This, among other issues pertaining to the Secretariat and staffing, is to be discussed further at the 15th SC Meeting.
54. Secretariat, all the Members and invited experts were asked to implement the new strategies.
55. The list of recommended continuing projects and new proposals for funding under the CAPaBLE programme was approved by acclamation.
56. Secretariat advance information on the processes and steps to be taken for the special calls to be launched under the approved new activities so that those who would be heavily involved would be able to plan accordingly.
57. The list of recommended continuing projects and new proposals for funding under the ARCP programme was approved by acclamation.
58. SC Member suggested the APN move to the broader global change arena and to develop broader partnerships and requested that this issue be discussed at the SC Meeting.
59. A final summary would be prepared in close consultation with the Chair and Vice Chair of the 15th IGM. The final summary will also include a list of action points.

SECTION II

Opening and Welcome Remarks



**15th Inter-Governmental Meeting/
Scientific Planning Group Meeting**

**Busan, Republic of Korea
17-19 March 2010**

Opening Address by Vice Minister Byung-Wook Lee Ministry of Environment, Republic of Korea

Honorable Director Tetsuro Fujitsuka of the APN Secretariat,
Deputy Mayor of Busan Jeong Lak-hyeong,
and distinguished guests!

I would like to welcome and express my sincere gratitude to all the participants for taking time out of your busy schedule to attend the 15th APN Inter-Governmental Meeting/Scientific Planning Group Meeting here in Busan.

Over the last 15 years the APN has significantly contributed to improving the earth environment as well as the environment in Asia and the Pacific by leading various joint research projects related to global change such as climate change, in particular, in the Asia-Pacific region, and by establishing close ties between policy-makers and scientists.

This meeting will be a very meaningful venue where new joint research projects that can facilitate capacity building in the Asia-Pacific region are selected and plans are reviewed.

Thus, I hope member nations will actively participate in the meeting and make a lot of future-oriented and creative suggestions.

Distinguished guests!

The Asia-Pacific region is very vulnerable to global change such as climate change due to rapid economic growth and urbanisation.

Not to mention the rapid increase in natural disasters such as floods and typhoons, various environmental problems such as decrease in biodiversity, water shortage, water and air pollution and urban waste are occurring simultaneously.

Therefore, sustainable development in the Asia-Pacific region will depend on how wisely we address those environmental problems. As you are well aware, the best way to address global changes and to promote economic growth at the same time is to shift the existing growth paradigm focussed on development to low-carbon green growth.

That is, if we implement diverse policies that improve energy efficiency and reduce the use of fossil fuel through development of renewable energy and create jobs through increase in investment, we will be able to overcome both the economic crisis and the environmental crisis.

Distinguished guests!

The Republic of Korea has the experience of severe environmental damage from development-centered policies but also has the experience of successfully restoring the damage. Currently, the Republic of Korea is proactively carrying out diverse policies based on the principle of low-carbon green growth.



I hope this meeting will serve as an opportunity to further promote sharing of the country's experience and information and facilitate sustainable development in the Asia-Pacific region.

Also, as an advanced developing country, the Republic of Korea wants to constructively contribute to the discussion on the launch of a new climate change regime by playing a bridging role between developed and developing countries.

That is why this country hopes to host the 18th Conference of the Parties of the UNFCCC in 2012 more than any other nation and asks for strong support from the countries in the Asia-Pacific region.

Distinguished guests!

This place, Busan, is the second largest city in the Republic of Korea and a beautiful port city where the country's long history and the latest technologies coexist. I hope, if time permits, you will be able to look around the downtown by taking a city tour and take back cherished memories.

Finally, I would like to once again express my gratitude to the officials of the APN Secretariat and the Busan City government, who spared no effort to organise today's meeting.

Thank you.

Welcome Remarks by Mr. Lakhyeong Jeong Deputy Mayor, Busan City, Republic of Korea

Vice Minister Lee, Byung-wook of the Ministry of the Environment, Director Tetsuro Fujitsuka of the APN, Experts and government officials from home and abroad, ladies and gentlemen,
On behalf of the four (4) million citizens of Busan, I would like to welcome you all to this beautiful marine city of Busan.

It is my great pleasure to see the APN 15th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting being held here in Busan. At this important meeting, ways to realise 'green growth' by actively coping with global warming and resulting environmental change in the Asia Pacific region will be discussed. We will also encourage all participants to consistently implement relevant policies in this regard.

Responding to the challenge of climate change, an issue emerging all around the world as one of today's most pressing concerns, is no longer optional. It is a necessity, as the climate directly affects our daily lives. The issue is also inseparable from each nation's economic growth plans, and many countries are already competing and conflicting with each other regarding the benefits and losses which will be incurred as a result of our response to the climate change issue.

To deal with climate change, the central government of the Republic of Korea has presented a national vision of 'Low Carbon, Green Growth' while Busan City Government is playing an important part in the nation's efforts by opening the APEC Climate Center last year and planning to host the 32nd Session of the Intergovernmental Panel on Climate Change (IPCC).

In this regard, I think it is very timely and meaningful to have this important meeting calling for global cooperation to address climate change and environmental damage.

I hope that the 15th IGM/SPG Meeting can serve as a good opportunity to focus more global attention on environmental issues, to share ideas and information and to strengthen cooperation among Asia-Pacific countries.

Let me once again express my warm welcome and thanks to you all.



Message from Governor Toshido Ido Hyogo Prefectural Government, Japan

(On behalf of Governor Toshido Ido, the Director General, Environmental Development Bureau, Hyogo Prefectural Government, Japan, Mr. Shigeki Fukui, conveyed the message.)

I would like to offer my sincere congratulations for the grand opening of the 15th Inter-Governmental Meeting/Scientific Planning Group Meeting of the APN in Busan, Republic of Korea, with many participants from 21 member countries.

Today, we recognise that it is critical to take an appropriate approach toward global environmental issues in order to achieve sustainable world development in the 21st century. Based on this common understanding, various international meetings have been held including last year's COP15 to the United Nations Framework Convention on Climate Change. COP15 reached an agreement that we shall take long-term cooperative action to maintain the increase in global temperature at no more than two (2) degrees above pre-industrial levels. In addition, this fall, COP10 to the Convention on Biological Diversity will be held in order to set the post 2010 target.

As a local government, Hyogo also works vigorously to tackle environmental issues by implementing the Hyogo Biodiversity Strategy and promoting photovoltaic generation, energy saving system eco-friendly assessment to cut CO₂ emission in households.

I believe that balancing the environment and the economy is key for our goal and I am greatly encouraged by the APN's approach since it corresponds directly to the above. Based on the concept of 'Green Growth Energy,' which aims at a sustainable relationship between Co2 reduction and economic development, the 15th IGM/SPG will finalise the 3rd Strategic Plan, emphasising the importance of ocean and forest preservation for greenhouse gas absorption and promotes resource and energy recycling.

I sincerely hope the joint activities of governments and researchers based on the APN will be successful and pave the way for the further development of scientific and political approach toward global environment issues.

In closing, please accept my best wishes for your good health and continued success.



Opening Remarks by Tetsuro Fujitsuka APN Secretariat Director

Distinguished participants from member countries, international organisations, ladies and gentlemen. My name is Tetsuro Fujitsuka, and I am the Director of the APN Secretariat.

As the Director of the APN Secretariat, let me provide some welcome remarks on the occasion of the APN's 15th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting. First, I would like to express my special thanks to all the participants, who are attending this week's meetings far from their homeland.

Ladies and Gentlemen, now, as always in the past, we have many new friends here with us this morning; we have three (3) new national Focal Points Bangladesh, Republic of Korea and Russian Federation; and also three (3) new SPG Members from Japan, Philippines and Sri Lanka as well as several new officials working for the APN and colleagues representing global change scientific organisations as observers. I would like to welcome all of you to our network and to the APN family.

For those new to us, let me briefly explain what the APN is all about and what we are supposed to do here in Busan at the 15th IGM/SPG Meeting.

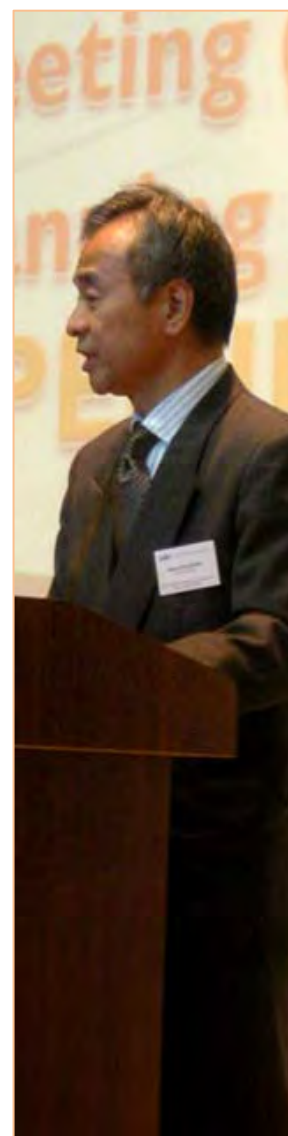
Responding to the proposal by the U.S.A. in 1990 to create regional networks for North-South scientific cooperation at the inter-governmental level for global environmental change research, the APN was established in 1996 for the Asia-Pacific region, which supports more than half of the world's population.

Since 1999, the APN Secretariat has been located in Kobe, Japan, and is hosted by Hyogo Prefectural Government. Now, we as a network, have 21 member countries. With the financial contributions from Japan, the U.S.A., New Zealand and the Republic of Korea, we have financially supported numerous scientific research and capacity building projects and activities over the past 14 years.

It is one of the striking and unique characteristics of the APN that both scientists and governmental officials work together for the enhancement of global change research. Scientists in the region cooperatively develop research projects under the APN's Annual Regional Call for Research Proposals (ARCP), and Comprehensive Research Projects (CRP) and Capacity Building projects under our capacity development programme, CAPaBLE.

Twenty-one (21) leading scientists, one from each member country and representing the SPG review project proposals and recommend which among those, for funding endorsement by the IGM, which is the highest body of the APN. The IGM consists of nFPs or representatives of each member country. As the decision-making body of the APN, the IGM approves policies, budget, rules and procedures, as well as work plans of the APN, including the approval of proposals recommended by the SPG for funding.

Since 2004, we have been holding IGMs and SPG Meetings together with several parallel sessions to synergise these two (2) important forces. This joint and annual IGM/SPG Meeting is really the best occasion to formulate plans of action to enhance global change research in the Asia-Pacific region.



In spite of the probable international attention to the Asia-Pacific region, we know research on global change is still far from sufficient in our region and that is exactly why we are all gathered here together today.

The meetings in the next three (3) days will determine research and capacity development projects and other activities that the APN will fund in the coming year, and in so-doing, are expected to bear yet more precious fruit in the future.

Talking about the future of the APN is another important topic of this IGM/SPG Meeting. We will soon enter into the first year of our new five-year APN Third Strategic Phase covering the period from 2010 to 2015. The meeting from today will also determine this third Strategic Plan, and in this sense, the 15th IGM/SPG Meeting in Busan should be a memorable meeting that places a remarkable footprint on the history of the APN.

As you know, the APN Secretariat is located in Japan's Kobe City, which is especially famous for its beautiful port and as a highly internationalised City of Japan. Busan City, where we are conducting IGM/SPG Meeting is very similar in that sense as it too is recognised a famous port and internationalised city of the Republic of Korea. Therefore I feel that I have come back to our hometown now.

I look forward to your continued positive contributions and cooperation throughout the next three (3) days and beyond, for further success in the year ahead. Also, I hope you can enjoy and learn about Busan and the beautiful country of the Republic of Korea during your stay here.

Thank you very much.

Welcome Remarks by Woo-Jin Lee APEC Climate Center Director

Honorable Mr. Byung-Wook Lee, Vice Minister of the Ministry of Environment of the Republic of Korea;

Mr. Lakhyeong Jeong, The Deputy Mayor of Busan City;

Mr. Tetsuro Fujitsuka, Director of the Asia-Pacific Network for Global Change Research Secretariat;

Mr. Shigeki Fukui, Director General of the Environmental Development Bureau, Hyogo Prefectural Government, Japan;

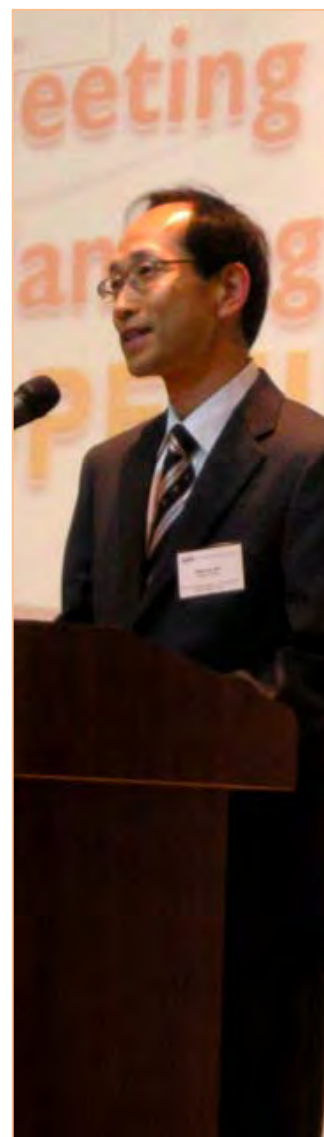
Esteemed guests and participants of the APN Joint 15th Inter-Governmental Meeting and Scientific Planning Group Meeting;

First of all, I would like to thank you for visiting us. I also would like to thank APN Secretariat and Ministry of Environment, Republic of Korea for arranging this important meeting being held here at APEC Climate Center (APCC) building.

On behalf of the Board of Directors and all the staff of the APCC, I would like to congratulate the APN for its many accomplishments since its founding in 1996.

APCC has been striving to provide high-quality climate information and application tools to the APEC region and also facilitating its science and technology partners. I hope that this meeting would be a good opportunity for APN and APCC to get to know each other better and that the two organisations and their networking partners could pursue some collaborative work in the future. I believe that we share the common goal of bridging the science and policy-making communities in order to improve our understanding and adaptation to global climate and environmental changes.

I sincerely hope that the discussions and planning that will transpire here for the next few days would be very productive, provide insights to the activities of the APN and inspire more discussion on its future directions. Again, congratulations to the organisers of the IGM/SPG Meeting and may you have a comfortable and enjoyable stay at APCC facilities.



SECTION III

Main Item Papers



**15th Inter-Governmental Meeting/
Scientific Planning Group Meeting**

**Busan, Republic of Korea
17-19 March 2010**

Timetable

Pre-Meetings: Monday 15th March		Pre-Meetings: Tuesday 16th March		Day One: Wednesday 17th March		Day Two: Thursday 18th March		Day Three: Friday 19th March	
Time	Item	Time	Item	Time	Item	Time	Item	Time	Item
9th Capacity Development Committee (CDC) Meeting		SPG Pre-Meeting		Session One		Session Four		Session Seven	
8:30-12:30 (including coffee break)	9th CDC Meeting to discuss CAPABLE issues and continuing CAPABLE multi-year projects and annual capacity-building CAPABLE proposals for recommendation to the SPG for funding: Members: Dr. Erna Adiningsih, Prof. Roland Fuchs, Dr. Srikantha Herath, Dr. Andrew Matthews, Mr. Won-tae Kim, Dr. Harini Nagendra, Mr. Hiroshi Ono	8:30-12:30 (including coffee break)	SPG Pre-Meeting	09:00-09:10	Opening Address	09:00-09:20	Item 10: SPG Report to the IGM	09:00-09:30	Item 16: Proposed Budget Plan
				09:10-09:30	Welcome Remarks/Greetings	09:20-09:40	Item 11: CDC Report to the IGM	09:30-10:00	Item 17: ER, 3SP and RDP/S endorsement
				09:30-09:50	Group Photograph	09:40-10:00	Item 12: APN Climate Synthesis Activities	10:00-10:45	Item 18: CAPABLE Projects Recommended for Funding
				09:50-10:00	Election of Officers	10:00-10:20	Tea/Coffee Break	10:45-11:00	Tea/Coffee Break
				10:10-10:15	Item 1: Adoption of Agenda		Session Five	11:00-11:45	Item 19: ARCP Projects Recommended for Funding
				10:15-10:30	Tea/Coffee Break	10:20-10:55	Item 13: Sub-Regional Cooperation (report/updates and plans)	11:45-12:45	Lunch
					Session Two	10:55-11:40	Item 14: Proposed New Activities		Session Eight
						11:40-11:45	Item 15: Announcement of Best Poster	12:45-13:45	Item 20: Brainstorming/Open Discussion (science-policy, partnerships, media links etc.)
				10:30-11:00	Item 2: Major Activities in 2009/2010		Session Six	13:45-14:00	Item 21: Butan and its Environment
				11:00-11:30	Item 3: Financial Reporting	11:45-13:15	Introduction of Low Carbon Green Growth and Development	14:00-14:30	Item 22: Best Poster Award and Presentation
				11:30-12:00	Item 4: Membership Development	13:15-14:30	Lunch	14:30-14:45	Tea/Coffee Break
				12:00-13:00	Lunch				Session Nine
12:30-14:00	Lunch	12:00-13:00	Lunch		Session Three			14:45-15:00	Item 23: Hosting of IGMs
5th SPG Sub-Committee Meeting		SPG Pre-Meeting...continued / followed by 14th SC Meeting		13:00-13:45	Item 5: Evaluation Report (ER) of the Review of 2SP (to be endorsed on DAY 3)	14:30-18:30	Study Tour hosted by Busan City (tentative)	15:00-15:45	Item 24: Chairperson's Summary
		13:00-14:30	SPG Pre-Meeting	13:45-14:15	Item 6: Resources Development Plan/Strategy (to be endorsed on DAY 3)			15:45-16:00	Final Remarks and Closing then back to the hotel except for SC Members and some Secretariat staff
		14:30-15:30	Break	14:15-14:45	Item 7: Communications & Outreach (Website Development)			15th Steering Committee Meeting	
				14:45-15:00	Tea/Coffee Break			16:30-18:00	15th SC Meeting to discuss 15th IGM Action Points, Operating Plan for 3rd Strategic Phase, etc.
		15:30-18:30	14th SC Meeting	15:00-16:00	Item 8: APN 3rd Strategic Plan -3SP (to be endorsed on DAY 3)				
				16:00-17:30	Item 9: Parallel Sessions: Sub-Regional Cooperation				
				16:30-18:30	Networking Session: Global Change Community Exhibit & Young ROK Scientists Poster Session (with cheese & wine served from 17:30-18:30)				
				18:30	back to the hotel				
				20:00 ~	Reception Dinner hosted by the Republic of Korea	19:30 ~	Reception Dinner hosted by the APN Secretariat		Free Time

This timetable will be supplemented with detailed daily agendas, which explain each of the items in detail and whether the items are for the attention of the IGM only, SPG only, or both the IGM/SPG.

5th SPG Sub-Committee Mtg.
9th CDC Meeting
SPG Pre-Meeting

14th & 15th SC Meetings
15th IGM/SPG Meeting
to be decided/free time

Networking Session with refreshments (held at APCC)
Introduction of Low Carbon Green Growth and Dev't

Agenda

Day One: Wednesday 17th March

Session One

09:00-09:10 (IGM/SPG)	<p>Opening Address The Vice Minister, Ministry of Environment, Republic of Korea, HE Mr. Byung-Wook Lee will provide opening remarks and welcome participants.</p>
09:10-09:15 (IGM/SPG)	<p>Welcome Remarks The Deputy Mayor, Busan City, Republic of Korea, Mr. Lakhyeong Jeong will welcome participants.</p>
09:15-09:20 (IGM/SPG)	<p>Message The Director General, Environmental Development Bureau, Hyogo Prefectural Government, Japan, Mr. Shigeki Fukui, will give greetings/remarks.</p>
09:20-09:25 (IGM/SPG)	<p>Opening Remarks The Secretariat Director, Mr. Tetsuro Fujitsuka, will welcome participants.</p>
09:25-09:30 (IGM/SPG)	<p>Welcome Remarks The APEC Climate Center Director, Mr. Woo-Jun Lee, will welcome participants.</p>
09:30-09:50 (IGM/SPG)	<p>Group Photograph All members, experts, guests and staff have a group photograph taken.</p>
09:50-10:10 (SPG Observes)	<p>Election of Officers IGM delegates will elect a Chair and a Vice-Chair. <u>SPG members, experts and guests observe this session.</u></p>
10:10-10:15 (IGM/SPG)	<p>Item 1: Adoption of the Agenda The elected Chair of the meeting will seek adoption of the agenda. Items of Any Other Business (AOB) may be raised.</p>
10:15-10:30	<p><i>Tea/Coffee Break</i></p>

Document Reference
(action)

Item 1:
IGM-SPG/15/01
(for adoption)

Session Two

10:30-11:00 (IGM/SPG)	<p>Item 2: Major Activities in 2009/2010 The Secretariat Scientific Officer, Dr. Linda Anne Stevenson, will report on the activities of the APN from April 2009 to March 2010.</p>
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Item 2:
IGM-SPG/15/02
(for information)

11:00-11:30 (SPG Observes)	Item 3: Financial Reporting The Secretariat Executive Manager, Mr. Yukihiro Imanari, will present a final financial report for 2008/9 for approval by the IGM and a draft financial report for 2009/10. <u>SPG members, experts and guests observe this session.</u>
11:30-12:00 (IGM/SPG)	Item 4: Membership Development Mr. Fujitsuka, will report on Membership Development.
12:00-13:00	Lunch

Session Three

13:00-13:45 (IGM/SPG)	Item 5: Evaluation Report (ER) of the Review of the APN 2nd Strategic Phase SC Member and nFP/SPG member for New Zealand, Dr. Andrew Matthews and the 2 nd ASCM Chair, Dr. Luis Tupas, will report on the institutional and scientific evaluation of the APN's 2 nd strategic phase and present the draft ER to members for discussions and approval on Day 3 (Item 17).
13:45-14:15 (IGM/SPG)	Item 6: Resources Development Plan/Strategy Mr. Imanari will introduce the Resources Development Plan/Strategy to members for information and discussion then remind that the item paper is for approval on Day 3 (Item 17).
14:15-14:45 (IGM/SPG)	Item 7: Communications and Outreach (Website Development) Programme Officer for Communications & Development, Ms. Peryn Pulhin, will briefly update the members on the progress and plans in strengthening the implementation of the APN's Communications Strategy, including an introduction of the new APN website. Ms. Lizhier Coralde, Programme Fellow for Communications and Development, will present the 'new face' of the website to be launched in April.
14:45-15:00	Tea/Coffee Break
15:00-16:00 (IGM/SPG)	Item 8. APN 3rd Strategic Plan – 3SP Dr. Matthews will provide a brief background on the formulation of the 3SP and present the draft 3SP to members for discussion approval on Day 3 (Item 17).
16:00-17:30 (IGM/SPG)	Item 9: Parallel Session: SRC The members will group into their respective sub-regions to discuss issues of mutual importance and the way forward for the sub-regional committees.
16:30-18:30	NETWORKING SESSION: Global Change Community Exhibit and Young ROK Scientists' Poster Session (see separate sheet for more info)

Item 3:
IGM/15/03-1
(for approval)
IGM/15/03-2
(for information)

Item 4:
IGM-SPG/15/04
(for information and discussion)
IGM-SPG/15/04-App.1
(for information)

Item 5:
IGM-SPG/15/05-1 IGM-SPG/15/05-2
IGM-SPG/15/05-3
(for information)
IGM-SPG/15/05-4
(for discussion & approval on Day 3)

Item 6:
IGM-SPG/15/06
(for discussion, then approval on Day 3)

Item 7:
IGM-SPG/15/07
(for information and discussion)
IGM-SPG/15/07-App.1
IGM-SPG/15/07-App.2
IGM-SPG/15/07-App.3
IGM-SPG/15/07-App.4
IGM-SPG/15/07-App.5
(for information)

Item 8:
IGM-SPG/15/08-1
IGM-SPG/15/08-2
(for information)
IGM/15/08-3
(for approval on Day 3)

Item 9:
IGM-SPG/15/09
IGM-SPG/15/09-App.1
IGM-SPG/15/09-App.2
IGM-SPG/15/09-App.3
IGM-SPG/15/09-App.4
IGM-SPG/15/09-App.5
(for information)

18:30 *back to the hotel*

20:00 *Dinner*

----- END OF DAY ONE -----

Day Two: Thursday 18th March

Session Four

09:00-9:20 (IGM/SPG)	<p>Item 10: SPG Report to the IGM On behalf of the SPG, the SPG Co-Chair will report to the IGM scientific activities conducted in 2009/10 and SPG activities in 2010/11 and beyond.</p>
09:20-09:40 (IGM/SPG)	<p>Item 11: CDC Report to the IGM A member from the Capacity Development Committee (CDC) will report on the activities conducted in 2009/10 under the CAPaBLE Programme and activities in 2010/11 and beyond.</p>
09:40-10:00 (IGM/SPG)	<p>Item 12: APN Climate Synthesis Dr. Michael Manton, Chair Climate Synthesis, will report on activities to date, a timeline for future activities, including publications in 2011 and 2012.</p>
10:00-10:20	<i>Tea/Coffee Break</i>

Session Five

10:20-10:55 (IGM/SPG)	<p>Item 13: Sub-Regional Cooperation (reports/updates and plans) Each sub-regional committee will report on the conclusion of the discussion on day one. The floor will be opened for any further discussion.</p>
10:55-11:40 (IGM/SPG)	<p>Item 14: Proposed New Activities Secretariat Staff will present on a number of proposed new activities including joint Hyogo-Prefecture activities for 2010/11 for discussion and approval.</p>
11:40-11:45 (IGM/SPG)	<p>Item 15: Announcement of Best Poster The IGM Chair or Vice-Chair will announce the Winning Young Scientist. On Day 3 (Item 21), he/she will receive his/her award and have the opportunity to provide a 20-minute plenary presentation.</p>

Session Six

11:45-13:15	Introduction of Low Carbon Green Growth and Development (see separate sheet for more info)
13:15-14:30	<i>Lunch hosted by Busan City (tentative)</i>
14:30-18:30	<i>Study Tour hosted by Busan City (tentative)</i>
19:30	<i>Dinner</i>

Document Reference (action)

Item 10:
IGM-SPG/15/10
(for information and discussion)

Item 11:
IGM-SPG/15/11
(for information and discussion)

Item 12:
IGM-SPG/15/12
(for information and discussion)

Item 13:
IGM-SPG/15/13
(for information)

Item 14:
IGM/15/14
(for discussion and approval)

Item 15:
IGM/15/15
(for information)

----- END OF DAY TWO -----

Day Three: Friday 19th March

Session Seven

09:00-09:30 (SPG Observes)	Item 16: Proposed Budget Plan Mr. Imanari will propose the APN 2010/11 budget plan for discussion and approval.
09:30-10:00 (IGM/SPG)	Item 17: ER, 3SP and Resources Development Plan/Strategy Mr. Fujitsuka will propose the approval of the Evaluation Report, 3 rd Strategic Plan and the Resources Development Plan/Strategy.
10:00-10:45 (SPG Observes)	Item 18: CAPaBLE Projects for Funding On behalf of the SPG, the SPG Co-Chair will recommend CAPaBLE Continuing Multi-Year Projects and New Projects for approval by the IGM. <u>SPG members, experts and guests observe this session.</u>
10:45-11:00	<i>Tea/Coffee Break</i>
11:00-11:45 (SPG Observes)	Item 19: ARCP Projects for Funding On behalf of the SPG, the SPG Co-Chair will recommend ARCP Continuing Multi-Year Projects and New Projects for approval by the IGM. <u>SPG members, experts and guests observe this session.</u>
11:45-12:45	<i>Lunch</i>

Session Eight

12:45-13:45 (IGM/SPG and guests/observers)	Item 20: Brainstorming/Open Discussion (media links, science-policy interactions partnerships, etc.) The floor will be opened for discussion on the above-mentioned topics.
13:45-14:00 (IGM/SPG and guests/observers)	Item 21: Bhutan and its Environment Representative from the National Environment Commission, Government of Bhutan, Mr. G. Karma Chhopel will briefly present on the global change issues that Bhutan is currently working on and other major environment-related activities in the country.
14:00-14:30 (IGM/SPG and guests/observers)	Item 22: Best Poster Award and Presentation The IGM will present the award for Best Poster and the Winning Young Scientist will deliver a presentation about his research/work
14:30-14:45	<i>Tea/Coffee Break</i>

Document Reference (action)

Item 16:
IGM/15/16
(for discussion and approval)

Item 17:
IGM-SPG/15/17
(for approval)

Item 18:
IGM/15/18-1
(for approval)
IGM/15/18-2
(for discussion and approval)

Item 19:
IGM/15/19
(for discussion and approval)

Item 20:
IGM-SPG/15/20
(for guidance)

Item 21:
IGM-SPG/15/21
(for information)

Item 22:
IGM-SPG/15/22
(for information)

Session Nine

14:45-15:00
(IGM/SPG)

Item 23: Hosting of IGMs

Secretariat Director, Mr. Fujitsuka, will announce/discuss hosts for the 16th and 17th IGMs.

15:00-15:45
(IGM/SPG)

Item 24: Chairperson’s Summary

Members will review and discuss the draft Chairperson’s Summary.

15:45-16:00
(IGM/SPG)

Final Remarks and Closing

Chair and Secretariat Director will make closing remarks. Secretariat will provide logistical details, if any.

----- END OF DAY THREE -----

Item 23:
IGM-SPG/15/23
(for information)

Item 24:
IGM-SPG/15/24
(for discussion and adoption)

Report and Review of 2009/2010 Activities

This paper summarises the work undertaken by the APN since the 14th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting in Kuala Lumpur, Malaysia, March 2009.

Major Activities since 14th IGM/SPG Meeting

- Supporting/managing 19 projects (11 new and 8 continuing) from the funded activities budget under the 2008 Annual Regional Call for Research Proposals (ARCP) process
- Supporting/managing 12 projects (10 new and 2 continuing) capacity building (CBs) projects and 2 new comprehensive research projects (CRPs) from the funded activities budget under Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE)'s Annual Call for Capacity Development Proposals and APN's 3rd Phase Call for Comprehensive Research proposals
- Launched and managed a Special Call for Proposals for a Focussed Activity where 82 Letters of Intent were received: Scientific Capacity Building for Climate Impact and Vulnerability Assessments. Seven (7) projects were selected for funding according to the funds available and began activities in January 2010)
- Launched the 2009 APN Annual Calls for Proposals under ARCP & CAPaBLE Programmes and managed the proposal submission and review process (projects recommended for funding to be discussed on Day 3 under Items 18 & 19)
- Co-sponsored and organised an exhibit on the occasion of Greenhouse 2009: Climate Change and Resources in Perth, Australia on 23-26 March 2009
- Organised and conducted a Proposal Development Training Workshop (PDTW) at the 17th Session of the United Nations Commission for Sustainable Development (UNCSD17) Partnerships Fair in New York on 7 May 2009
- Organised and conducted the 1st South Asia Sub-Regional Cooperation Meeting (Colombo, Sri Lanka, 27-28 July 2009) and the 2nd Southeast Asia Sub-Regional Committee Meeting (Bangkok, Thailand, 19-20 August 2009)
- Organised and conducted the 13th Steering Committee (SC) Meeting, Augmented SC Meeting (ASCM) and Writing Workshop on 24-27 August 2009, Kobe, Japan
- Facilitated and conducted the 2-tier evaluation of the APN's second strategic phase (science/policy and institutional) and formulation of the 3rd strategic plan
- Processed the applications of Programme Fellows (2 new Programme Fellows joined the APN Secretariat in autumn)
- Revamped the APN website (will be presented under Item 7) that will be timely launched as the APN enters its Third Strategic Phase, from April 2010. The Secretariat is continuously developing the website that includes a new interface with dynamic features.
- Organised and conducted the APN Scoping Workshop for Climate Synthesis (presentation will be provided on day 2 for this). The Secretariat is continuing the facilitation of this activity through to 2011 (synthesis report expected) and 2012 (academic book expected)
- Organised and conducted the side-event and exhibition booth as part of the APN Partnership with the Association of Southeast Asian Nations (ASEAN) Centre for Biodiversity at the ASEAN Conference on Biodiversity on 21-23 October 2009, Singapore
- Secretariat moved to new office in December 2009
- Organised and conducted the APN/Hyogo Low Carbon Society Scoping Workshop, 30 October 2009, Kobe, Japan, and the APN International Symposium on Challenge 25 Beyond Borders?: Promoting a Low Carbon Society, 23 January 2010, Kobe, Japan

- APN members and secretariat were invited and participated at various national and international fora (more details below). In many events, presentations were delivered and/or exhibition booth was set up.

Communications and Outreach

Publications and other communication tools

- Proceedings of the APN International Seminar on Biodiversity and Human Dimensions: Promoting Harmonious Coexistence
- CAPaBLE Phase One 'In Review' Brochure
- 4 Posters
 - *Poster 1*: provides an overview of the CAPaBLE evaluation
 - *Poster 2*: summarises the key outcomes of the highlighted project of CAPaBLE Phase One: *Training Institute on Climate and Extreme Events in the Pacific*
 - *Poster 3*: demonstrates APN objectives and was designed as an introductory/promotional material
 - *Poster 4*: highlights CAPaBLE as a strong APN pillar
- 14th IGM/SPG Meeting Proceedings
- APN 2009 General Brochure in nine (9) languages:
 - *Bahasa Malaysia*
 - *Chinese*
 - *English*
 - *Japanese*
 - *Khmer*
 - *Laotian*
 - *Sinhala*
 - *Thai*
 - *Urdu*
- Proceedings of the Proposal Development Training Workshop
- CAPaBLE Policy Brief, Vol. 1 Issue 1
- APN Annual Report 2008-2009
- APN Project Bulletin, Volume 5
- Proceedings of the APN International Symposium on Challenge 25 Beyond Borders?: Promoting a Low Carbon Society
- Quarterly issue of the APN Newsletter (soft/electronic copy only)
- Regular updating and maintenance of the APN website (English and Japanese); Number of access per week is 500 on the average
- Regular updating and maintenance of the database and electronic mailing list (non-working email accounts were deleted and over 400 new contacts were added/recorded and updated from April 2009 to date)

Representation at National and International Events

The APN attended, made presentations, and set up an exhibit or displayed materials at various national and international fora to further raise its visibility/recognition in the region.

March 2009 (after the IGM)

- Greenhouse 2009: Climate Change and Resources. Perth, Australia (*DW, LS*)

April 2009

- Monthly Seminar for Disaster Prevention. Kobe, Japan (*YI*)
- Japan International Cooperation Agency (JICA) Climate Change and Disaster Meeting, Kobe, Japan (*TF*)

- 9th Global Earth Observation System of Systems (GEOSS) Capacity Building Committee Meeting. Athens, Greece (*BS*)
- Cool Earth Partnership JICA Training. Osaka, Japan (*TF*)

May 2009

- Institute for Global Environmental Strategies (IGES) Brainstorming Session for its White Paper. Kanagawa, Japan (*TF*)
- Japanese Biodiversity Observation Network (JBON) Workshop - first workshop to organise a Japanese committee for promoting Group on Earth Observations (GEO) BON. Tokyo, Japan (*TF*)
- Haillym University Symposium: Our Visions and Practices in Confronting Global Climate Changes. Chuncheon, Republic of Korea (*TF*)
- 16th Meeting of the Inter-American Institute for Global Change Research (IAI) Conference of the Parties (CoP). Bogota, Columbia (*TF*)
- 17th UNCED, New York, USA (*KG, LS*)
- Visit to Global Change System for Analysis, Research and Training (START) International Secretariat to discuss National Science Foundation (NSF)-funded projects (*YI*)

June 2009

- United Nations University (UNU) and Integrated Research System for Sustainability Science (IR3S) Consultation Conference on Role of Higher Education in Adapting to Climate Change. Tokyo, Japan (*LS, NM*)
- Informal Dialogue Meeting at the 30th Session of the Subsidiary Body for Scientific and Technological Advice (SBSTA). Bonn, Germany (*AM, TF*)
- High-Level Dialogue: Climate Change in Asia and the Pacific - A Development Challenge. Manila, Philippines (*SP*)
- International Forum for Sustainable Asia and the Pacific (ISAP) – Towards Copenhagen: A New Development Pathway to a Low-Carbon Sustainable Asia and the Pacific. Kanagawa, Japan (*KG, PP, TF*)
- IGES 26th Board of Directors Meeting. Kanagawa, Japan (*AS, TF*)

July 2009

- International Workshop on Networking Biodiversity Observation Activities in Asia-Pacific. Nagoya, Japan (*LS*)
- Cool Earth Partnership JICA Training (part of seminar series). Osaka, Japan (*PP*)
- 2nd Monsoon Asia Integrated Regional Study (MAIRS) International Workshop on Dryland Studies. Changchun City, China (*TF*)
- APN 1st South Asia Sub-Regional Cooperation (SA-SRC) Meeting (*PP and APN members from SA*)

August 2009

- 2nd Interim Steering Committee of the Asia-Pacific Climate Change Adaptation Network. Tokyo, Japan (*LS*)
- APN 2nd Southeast Asia Sub-Regional Committee (SEA-SRC) Meeting (*KG, PP and APN members from SEA*)
- Hyogo International Association, Youth Asian Camp. Kobe, Japan (*LS*)
- 13th SC Meeting, ASCM and 3rd Strategic Plan Writing Workshop. Kobe, Japan (*APN Secretariat and SC members with the Lead Evaluation Team*)

September 2009

- 6th International Symposium on Digital Earth (ISDE6). Beijing, China (*LS*)
- Workshop on Inter-Agency Collaborative Technologies in Earth Observations (EO) for Global Change Research in the Asia-Pacific Region. Ulaanbaatar, Mongolia (*LS, TJ, BD*)
- Brainstorming Workshop on Addressing Marine and Coastal Biodiversity Conservation Issues in the Northwest Pacific Action Plan (NOWPAP) Region. Toyama, Japan (*PP*)
- 1st Marine Biodiversity Workshop in the Northwest Pacific Region. Toyama, Japan (*PP*)

October 2009

- 13th International Council for Science (ICSU) Regional Consultation for Asia and the Pacific. Penang, Malaysia (*TF*)

- Second International Programme of Biodiversity Science (DIVERSITAS) Open Science Conference. Cape Town, South Africa (*LS*)
- Hyogo Environmental Non-Governmental Organisation/Non-Profit Organisation Symposium – A Biodiversity Crisis: Influence of Global Warming (*EN, KG, LC, PP, TF, TJ*)
- APN Scoping Meeting for International Symposium on Low Carbon Societies for Sustainability. Kobe, Japan (*AS, EN, KG, LS, TF, YI and invited experts*)
- Asia-Pacific Economic Cooperation (APEC) Climate Change Symposium (via videoconference). Canberra, Australia (*LS, PP, TF*)
- International Group of Funding Agencies for Global Change Research (IGFA) Annual Meeting. Paris, France (*LB, YI*)
- ASEAN Conference on Biodiversity. Singapore (*PP, TF*)
- Side-event at the ASEAN Conference on Biodiversity – APN Seminar Series on Biodiversity: Providing Scientific Knowledge to Civil Society and Preparing for Convention on Biological Diversity 10th Conference of the Parties (CBD COP10). Singapore (*PP, TF*)
- 18th Asia-Pacific Forum of Environmental Journalists (APFEJ) World Congress of Environmental Journalists. Colombo, Sri Lanka (*AJ*)
- Disaster Reduction Institute (DRI) Seminar on Disaster Prevention. Kobe, Japan (*AS, TF, YI*)

November 2009

- APN Climate Synthesis Scoping Meeting. Kobe, Japan (*EN, KG, LS, TF and members of the Climate Synthesis Team*)
- International Symposium on Cities and Carbon Management: Towards Enhancing Science-Policy Linkages. Tokyo, Japan (*KG, TF*)
- Global Ecolabelling Network (GEN) Annual General Meeting. Kobe, Japan (*KG, TF*)
- GEO VI Plenary Session. Washington DC, USA (*YI*)
- 9th International Conference on Ecomaterials (ICEM9), Kyoto, Japan (*TF*)
- 2009 East Asian Seas (EAS) Congress. Manila, Philippines (*SP*)
- International Symposium for the Significant Reduction of CO₂ in Household Sector: Learning from Good Practices for Realising Low-Carbon Household. Kobe, Japan (*EN, KG, LC, PP, TF*)

December 2009

- United Nations Framework Convention on Climate Change 15th Conference of the Parties (UNFCCC COP15). Copenhagen, Denmark (*LS, TF*)
- 5th GEOSS/Asian Water Cycle Initiative (AWCI) International Coordination Group (ICG) Meeting. Tokyo, Japan (*KG, TF*)

January 2010

- International Symposium on Climate Change/Global Environment and Natural Disaster. Kobe, Japan (*EN, KG, LC, NM, PP, TF*)
- APN International Symposium – Challenge 25 Beyond Borders?: Promoting a Low Carbon Society. Kobe, Japan (*APN Secretariat*)

March 2010

- UNFCCC Technical Workshop on Collaboration among Regional Centres and Networks. Apia, Samoa (*TF*)
- The 4th GEOSS Asia-Pacific Symposium. Bali, Indonesia (*TF*)

Issues beyond 15th IGM/SPG Meeting

- Implementation of the APN's Third Strategic Plan
- Implementation of New Activities with Increased Budget for 2010/2011
- Resources and Membership Development Strategies

Financial Report (Final) for FY 2008/2009 (01 April 2008 ~ 31 March 2009)

All figures in US\$

	Financial Report (Final) FY 2008	Financial Report (Draft) FY 2008	Approved Budget FY 2008
<u>Resources Available</u>			
Operative Assets from FY 2007	160,000	160,000	150,000
Japan	963,000	963,000	963,000
Hyogo Prefecture	295,000	294,000	294,000
U.S.A.	480,000	480,000	480,000
New Zealand	20,000	20,000	20,000
Republic of Korea	10,000	10,000	10,000
Total Resources Available	1,928,000	1,927,000	1,917,000

	Financial Report (Final) FY 2008	Financial Report (Draft) FY 2008	Approved Budget FY 2008
<u>Use of Resources</u>			
Science, Policy and Institutional Activities			
Annual Regional Call for Proposals (ARCP)	718,000	718,000	720,000
CAPaBLE CRPs	180,000	180,000	180,000
CAPaBLE CBs	345,000	345,000	330,000
APN/AWCI Joint Workshop	16,000	14,000	33,000
EMECS 2008	26,000	25,000	15,000
International Seminar	18,000	16,000	20,000
APN/IAI Joint Side Event at SBSTA28	13,000	13,000	13,000
Sub-Regional Cooperation Meetings	0	0	15,000
14th IGM/SPG and 10 th SC Meeting	105,000	97,000	97,000
Posts (Science, Policy and Institutional Activities)	258,000	250,000	235,000
Programme Fellowship	31,000	30,000	48,500
Travel	27,000	22,000	18,000
Publications & Website Management	18,000	12,000	28,000
Contingency for Scientific Activities	0	0	5,000
Reserve for Exchange Rate Fluctuations	0	0	3,000
Sub Total Science, Policy and Institutional Activities	1,755,000	1,722,000	1,760,500
Administrative/Operative Costs			
Posts (Administration)	68,000	70,000	74,000
General Operative Cost, including Supplies, Materials and Equipment	64,000	65,000	53,500
Sub Total Administrative/Operative Costs	132,000	135,000	127,500
Reimbursement for Services			
IGES Overhead (3% of MOEJ's contribution)	29,000	29,000	29,000
Sub Total Reimbursement for Services	29,000	29,000	29,000
Total Use of Resources	1,916,000	1,886,000	1,917,000

Unspent Resources (Total Resources Available - Total Use of Resources)	12,000
Savings through Exchange Rate Fluctuations	82,000
Sub Total Operative Assets to FY 2009	94,000
Additional Support provided in FY 2008, to be deducted	-49,000
Total Operative Assets (to be carried over to FY 2009)	45,000

Exchange Rate Fiscal Year 2008:

US\$ 1.00 = Japanese Yen 115

NZ\$ 1.00 = US\$ 0.80

Financial Report (Interim) for FY 2009/2010 (01 April 2009 ~ 31 March 2010)

	Financial Report (Draft) FY 2009	Approved Budget FY 2009
<u>Resources Available</u>		
Operative Assets from FY 2008	45,000	78,000
Japan		
Ministry of the Environment	1,342,000	1,342,000
Hyogo Prefecture	322,000	322,000
USA		
NSF/USGCRP	480,000	480,000
New Zealand		
Ministry for the Environment	0	14,000
Republic of Korea		
Mnistry of Environment	10,000	10,000
Total Resources Available	2,199,000	2,246,000

<u>Use of Resources</u>		
Science, Policy, Institutional Activities		
ARCP	720,000	720,000
CAPaBLE CRP	180,000	180,000
CAPaBLE CBA	305,000	330,000
CAPaBLE SCBCIA	150,000	150,000
Climate Synthesis	9,000	50,000
UNCSO and PWTW	18,000	20,000
SBSTA	4,000	10,000
Hyogo Activities	48,000	50,000
Sub-Regional Cooperation	20,000	25,000
IGM/SPG and SC Meetings	105,000	100,000
Posts (Science, Policy, Institutional)	312,000	290,000
Programme Fellowship	35,000	55,000
Travel	29,000	35,000
Publication & Website	31,000	32,000
Reserve	0	14,000
Sub Total Science, Policy, Institutional Activities	1,966,000	2,061,000
Administrative/Operative Costs		
Posts (Administration)	58,000	65,000
General operational costs, including supplies materials and equipment	71,000	80,000
Sub Total Administrative Costs	129,000	145,000
Reimbursement for Services		
IGES Overhead (3% of MOEJ contribution)	40,000	40,000
Sub Total Reimbursement for Services	40,000	40,000
Total Use of Resources	2,135,000	2,246,000

Unspent Resources (Resources Available Total - Total Use of Resources)	64,000
Savings through Exchange Rate Fluctuations	47,000
Returned Funds from NSF/USGCRP 2006-2009 Grant	77,000
Total Operative Assets to be carried over to FY 2010	188,000

All figures are shown in US Dollars, based on the following exchange rates:

FY 2009 US\$ 1 = Japanese Yen 100
 NZ\$ 1 = US\$ 0.55

Additional Contributions:

Co-Funding/Fund Matching from APN Funded Projects/Activities: **US\$ 600,000**

In-Kind Contributions from APN Funded Projects/Activities: **US\$ 350,000**

In-Kind Contributions of Member Country Governments, including Hyogo Prefecture: **US\$ 530,000**

International START Secretariat: **US\$ 20,000**

NSF: **US\$ 2,600**

Total: more than US\$ 1,500,000

Related to 15th IGM/SPG Meeting:

China: **US\$ 400 (for Dr. Dong's airfare)**

India: **US\$ 450 (for Dr. Goswami's airfare)**

Ministry of Environment, Republic of Korea

APEC Climate Center (APCC)

Membership Development

New APN Members

Following the 14th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting in Kuala Lumpur, Malaysia, new members (national Focal Points [nFP] and Scientific Planning Group [SPG] Members) for Bangladesh, Japan, Philippines, Republic of Korea, Russian Federation (nFP appointed for the first time) and Sri Lanka were appointed. With the recent retirement of Mr. Epeli Nasome from his position in the Government, the role of nFP for Fiji is left vacant. The position of nFP for Australia also remains vacant.

FP	Former	New
Australia	Dr. Michael STODDART <i>Chief Scientist</i> <i>Australian Antarctic Division</i> <i>Department of the Environment,</i> <i>Water, Heritage and the Arts</i>	vacant
Bangladesh	Mr. Md. Nazrul Islam KHAN <i>Deputy Secretary</i> <i>Ministry of Environment and Forests</i>	Mr. Martuza AHMED <i>Joint Secretary Administration</i> <i>Ministry of Environment and Forests</i>
Fiji	Mr. Epeli NASOME <i>Director</i> <i>Department of Environment</i> <i>Ministry of Lands, Mineral Resources</i> <i>and Environment</i>	vacant
Republic of Korea	Mr. Jung-kyun NA <i>Director</i> <i>Global Environmental Office</i> <i>Ministry of Environment</i>	Mr. Won-Tae KIM <i>Director</i> <i>Global Environmental Office</i> <i>Ministry of Environment</i>
	Mr. Won-Tae-KIM <i>Director</i> <i>Global Environmental Office</i> <i>Ministry of Environment</i>	Mr. Suho SEONG <i>Director</i> <i>Global Environmental Office</i> <i>Ministry of Environment</i>
Russian Federation	vacant	Dr. Andrey ADRIANOV <i>Director</i> <i>Institute of Marine Biology, Far East Branch,</i> <i>Russian Academy of Sciences</i>
SPG	Former	New
Sri Lanka	Mr. G.H.P. DHARMARATNA <i>Director General of Meteorology</i> <i>Department of Meteorology</i>	Mr. G.B. SAMARASINGHE <i>Director General of Meteorology</i> <i>Department of Meteorology</i>
Japan	Prof. Nobuo MIMURA <i>Center for Water Environment Studies</i> <i>Ibaraki University</i>	Dr. Kensuke FUKUSHI <i>Associate Professor</i> <i>Integrated Research System for Sustainability</i> <i>Science and Department of Urban Building</i>
Philippines	Dr. Adeluisa SIAPNO <i>Director</i> <i>Ecosystems Research and</i> <i>Development Bureau</i>	Mr. Marcial AMARO, Jr. <i>Director</i> <i>Ecosystems Research and Development</i> <i>Bureau</i>

Changes in the APN Secretariat

The APN Secretariat has undergone changes since the 14th IGM/SPG Meeting. **New Members** joined the Secretariat in the positions of Programme Fellow for Communications and Development and Programme Fellow for Science and Institutional Affairs. Ms. Kanako Tamada, Administrative Assistant has returned from maternity/child-care leave.

Position	Former	New
Administrative Assistant	Chiyo Tokushima	Kanako Tamada
Coordinator	Perlyn Pulhin	Kristine Garcia
Programme Fellow for Communications and Development	vacant	Lizhier Coralde
Programme Fellow for Scientific Affairs (for Science and Institutional Affairs)	Kristine Garcia	Erdenesaikhan Nyamjav
Programme Officer for Communications and Development	vacant	Perlyn Pulhin

New Member Countries

Bhutan

In 2007, the Government of Bhutan has expressed its interest to become an APN member. As directed by the IGM to pursue country membership of interested parties in the Asia-Pacific region, the Secretariat continued to follow up through email correspondences. In September 2009, the Deputy Minister of the National Environment Commission of Bhutan sent an official letter to the APN signifying its interest to become an APN member. Among the various fields of interest, they are keen on specific areas geared towards realising the mission and goals of the APN such as the following: sustainable development, climate change, ecosystems, biodiversity and land use, water resources particularly the integrated water resources management, regional cooperation on emerging environmental issues, cooperation with research networks in other regions, and training and capacity building.

As stipulated in the APN Framework Document, APN membership is open to all countries in the Asia-Pacific region and following an official governmental written request from a country in the region, this country may become a member subject to the approval of the IGM.

Singapore

In the light of the opportunity for APN to showcase its activities at the Association of Southeast Asian Nations (ASEAN) Conference on Biodiversity in Singapore in October 2009, Mr. Tetsuro Fujitsuka and Ms. Perlyn Pulhin arranged a meeting with the Director of the International Relations Division, Ministry of Environment and Water Resources (MEWR) of Singapore to brief him about APN and its recent activities, discuss in detail the current approved status of Singapore and membership issue in the APN and explore possible ways of strengthening the ties between APN and Singapore. Two other colleagues from the MEWR and two more from the National Environment Agency (NEA) joined the meeting.

Following the discussions with Singaporean team, Mr. Fujitsuka reminded them to confirm their commitment and get back to the Secretariat by mid-February so there is enough time to inform the SC and also prepare logistics for the 15th IGM/SPG Meeting. The Secretariat got a response by email on 23 February 2010 that though they are unable to commit to Singapore's involvement in the APN, the issue will be kept under their consideration.

Evaluation of the APN's Second Strategic Phase (2005-2010) and Formulation of the Third Strategic Plan (2010-2015)

This paper aims to report the main highlights of work to date on the evaluation of the APN's Second Strategic Phase (2005-2010) and the formulation of the Third Strategic Plan (3SP) leading to the approval of the draft Evaluation Report (ER) and draft 3SP on Day 3 (Item 17).

Main highlights of work to date

- The 13th IGM/SPG Meeting, held in Kobe, Japan, 2008, approved the timeline and plan for the evaluation of the APN's second strategic phase and preparation of the 3SP. The evaluation was categorised into two components. The *APN Network Review* covered the Institutional Agenda and evaluated the performance of the APN as a network. The *Funded Project Set Review* covered the Science Agenda and evaluated the performance of 80 projects under its core Annual Regional Call for Research Proposals (ARCP) and Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programmes funded during the second strategic phase. The APN's Policy Agenda was considered under both of these components.
- To facilitate the evaluation of the 80 projects supported by the APN, Project Leaders performed a self-evaluation of their respective projects. These were subsequently reviewed by the SPG and Capacity Development Committee (CDC) members, as well as external reviewers, before being evaluated further by a Lead Evaluation Team (LET).
- In order to review the findings of the LET and further evaluate the scientific components of the APN's activities, an Augmented Steering Committee Meeting (ASCM) convened in August 2009, in Kobe, Japan. The ASCM comprised of LET and the APN's SC Members.
- At the ASCM, key findings from the Independent Remote Reviews (IRRs) assigned to the Lead Reviewers for each of the five (5) scientific thematic areas were presented. A set of criteria was used to evaluate each project independently noting specifically that no project comparisons were made and merit was based on performance against the original objectives of the projects as well as the goals of the APN. While ARCP and CAPaBLE were evaluated using the same general criteria incorporating the APN goals, three (3) more specific objectives for the CAPaBLE Programme were also used as performance indicators. The ASCM selected outstanding projects based on their strengths and key outcomes and also looked into the achievements, challenges and impacts of APN-funded scientific activities.
- The discussion of the review findings of APN-funded projects was followed by an overall evaluation of the current APN Scientific Research Framework. The ASCM concluded in providing key results and making recommendations.
- The *APN Network Review* was facilitated by the Secretariat based on key input from all of the members (past and present) comprising the organs of the APN as well as the global change community. Contributions were submitted via surveys and country reports as well as through periodic consultations by e-mail. A half-day Secretariat Brainstorming Session also convened to assess how APN has been operating in the past five years, identify areas that require greater efforts, and recommend actions to be taken in the future for APN continued success and improvement. The 13th SC Meeting that convened in August 2009 prior to the ASCM looked into the outcomes of the *APN Network Review* and provided input for ER and the 3SP.
- A Writing Workshop was held after the 13th SC Meeting and ASCM. In this Workshop, a writing team, involving selected SC Members and LET worked with the Secretariat in drafting the major sections of the ER and 3SP.

The draft ER and 3SP were prepared based on the discussions at the aforementioned meetings, then circulated to the APN's national Focal Points and SPG Members, as well as partners from the global change community..

Major Outcomes of the APN Network Review

I. Areas under the Institutional Agenda that were evaluated

- A. *Membership Development (active involvement of member countries)*
- B. *Financial Resources/Development*
- C. *Partnerships (alignment with programmes of the global change community)*
- D. *Communications and Outreach*
 - Communication Tools
 - Efforts to Communicate/Disseminate the Outcomes of its Activities and the Projects it Supports
 - Outreach Activities to Raise Visibility/Recognition in the Region
 - Awareness about APN in the Science and Policy Communities
 - Efforts to Strengthen and Expand the Network
- E. *Institutional Arrangements*
 - Usefulness/Relevance of the Framework Document
 - Functions of the APN's Organs
 - Effectiveness of the Operating Plan
 - Sub-Regional Cooperation
- F. *Overall Institutional/Network Evaluation (including vision, mission, goals, core strategies and activities)*

II. Significant Achievements/Strengths

- Continued and increasing involvement of member countries in APN's activities resulting in a greater sense of ownership among the member states, particularly evidenced by increased contributions, both in-kind and financially
- Marginally increased its budget despite economic difficulties and the strain on government budgets throughout the period of the second strategic phase
- Enhanced communication and outreach tools/strategies
- Increased visibility in the region, coupled with new and stronger linkages with other organisations
- Strengthened alignment of its programmes with the global change scientific community
- Unique structure that is effective and useful in the efficient management of its organs
- Operating Plan has been an effective tool in ensuring that APN's activities are implemented to meet the goals of the strategic plan
- Steadily improved and expanded its interactions with policy-and decision-makers, thus helping to provide a sound scientific basis for policy-and decision-making related to global change in the region
- Effective management of the network's programmes and activities that has not only built the research base in the region, but also increased the scientific research capabilities of the developing countries in the Asia-Pacific region

III. Key Challenges

- Sustaining the active involvement of member countries in APN
- Engaging/reengaging member countries' participation in APN activities (particularly those who are not or no longer active)
- Securing and increasing financial and in-kind contributions
- Achieving better alignment with relevant ministries and key partner organisations in the global change community
- Strengthening the function of the Secretariat as a node for communication, outreach and scientific syntheses

Major Outcomes of the Funded Project Set Review

I. Key Findings

APN-funded projects overall had very good success in terms of meeting the five goals stated in the APN Second Strategic Phase (2005-2010)

Goal 1: Supporting regional cooperation in global change research on issues particularly relevant to the region: Global change issues were addressed with excellent regional collaboration. Most of the projects were able to form strong regional networks of scientists.

Key Rating: Excellent

Goal 2: Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public: There were genuine attempts to have policy and decision-makers participate in mainstream science, however, it was realised that more interactions are still necessary in this field. It is important to assure that policy-making is made more aware of the results of APN science and their potential value in policy-making.

Key Rating: Good

Goal 3: Improving the scientific and technical capabilities of nations in the region: Scientific and technical expertise was considerably increased through workshop and hands-on training. With some project initiatives, institutional units were formed and were able to sustain their functions after APN funding ended. Some projects communicated effectively at all levels, particularly at the grassroots level.

Key Rating: Excellent

Goal 4: Cooperating with other global change networks and organisations: Collaboration with other global change institutions facilitated projects to look at global change issues from a regional perspective and, at the same time, provided opportunities for scientists to communicate with their counterparts in the global change programmes. However, more interactions with the global change community are needed.

Key Finding: Good

Goal 5: Facilitating the development of research infrastructure and the transfer of know-how and technology: The transfer of knowledge and methodologies were conducted well through training and workshops. Research infrastructure in the region is improving; and some APN projects were able to help in establishing those infrastructures.

Key Finding: Very good

II. Strengths

ARCP

- Many projects reviewed were policy relevant
- Successful and highly rated projects:
 - focussed on specific impacts on the environment and society
 - identified relevant problems

- proposed well-developed methodologies to achieve outcomes beneficial to either a scientific community or the public at large
- Projects improved regional and national networking of scientists in specialised fields of research, which resulted in improved collaboration
- Research outcomes resulted in better understanding of the impacts of climate change in the region and an increased awareness of these issues by policy-makers and resource managers
- All projects were designed to meet the needs for scientific information relevant to regional issues

CAPaBLE

- All projects reviewed were policy relevant
- Capacity building provided opportunities for young scientists to discuss relevant issues on global change and developed professional networking for future collaborative efforts
- Workshops and meetings provided excellent fora for interactions between scientists and policy-makers as well as enhanced the knowledge base of information relevant to regional climate change impacts
- Projects augmented technical training of scientists and science support personnel and produced some well-designed educational and training materials for local application. Local outreach through workshops was very effective in disseminating information

III. Challenges

ARCP

- All projects have important policy considerations but the degree of science and policy interaction needs to be strengthened
- Sustainability of project implementation (where sustainability was a project objective) also needs to be improved, particularly those with long-term support and not a one-time only activity
- Projects classified under the Crosscutting and Science-Policy Linkages had the weakest ratings
- It was difficult to assess outcomes when the criteria for determining success were not well defined
- There is an increasing need to evaluate economic impacts; food, water and energy security; and financial consequences to facilitate science-policy interfacing
- Without adequate metrics to determine a successful project outcome, it is difficult to determine if a science-policy linkage has been made

CAPaBLE

- There were only limited indications that policy linkages were established and inadequate feedback to determine whether the meetings had substantive impact on policy-makers
- Dissemination of information through proceedings or journals targeted mostly the scientists and may not be as interesting or useful for non-science readers
- Other methods of dissemination may be more appropriate when providing information to policy-makers
- A single conference or workshop does not appear to be sufficient to ensure long-term capacity of an individual participant and a follow-up of the activities of the participants needs to be documented to determine long-term impacts

IV. Recommendations

ARCP

- Devise specific criteria that defines a successful science-policy linkage(s)
- Encourage trans-disciplinary approaches for projects to include economic, social, behavioural and political science
- Encourage plans for on-going/continuous support of project in appropriate types of proposals

CAPaBLE

- Establish a definition of successful capacity building for short- and long-term outcomes
- Consider supporting policy-based workshops where the invited participants are a good and relevant mix of policy-making groups, local scientific experts and a cross-section of stakeholders
- Adapt and disseminate scientific results for non-science audiences in order for policy-makers, implementers, and the general public to have a better appreciation of global change issues
- Encourage the publication of policy-briefs

V. Conclusions

Two areas that require strengthening are policy linkages and sustainability (i.e., the ongoing support of projects beyond APN funding support) of programmes initiated by APN projects. Many scientists and scientific bodies face these challenges and the reviewers recommend that APN find innovative ways to address them. Some strategies include:

- Encouraging governance studies that will involve collaboration with social, economic, business, political, and behavioural scientists and professionals
- Enhancing networks of scientists by including countries/continents outside the APN region
- Enhancing APN networks by being more pro-active in engaging member and non-member states to participate and play a more active role in APN programmes and activities
- Encouraging regular monitoring and self-evaluation of funded projects and including indicators of success during project implementation
- Encouraging climate change adaptation studies that promote sustainability

Strategies to improve the evaluation process include:

- Providing appropriate guidelines and more specific criteria to the project review process to limit discrepancies in independent reviews
- Providing more time for the project review process to carry out more comprehensive assessments of projects
- Establishing a mentoring system particularly for beginning investigators and for long-term projects
- Creating concrete metrics to measure the success of projects under the ARCP and CAPaBLE Programmes

Draft Evaluation Report

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Executive Summary

The APN embarked on an evaluation of the APN's Second Strategic Phase (2005-2010) to review its activities and programmes since 2005 and to look into where the APN wants to go in the future based on the lessons learned in the past and also considering the issues that are currently emerging in the global change community. The Steering Committee (SC) Meeting, Augmented Steering Committee Meeting (ASCM) and Writing Workshop that convened in Kobe, Japan, August 2009 marked the end of several months of review work of the APN's three Agendas: Science, Policy, Institutional.

The SC Meeting looked at the outcomes of the Institutional/Network Review while the ASCM focused on the evaluation of achievements, challenges and impacts of APN-funded scientific activities under the Annual Regional Call for Research Proposals (ARCP) and Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programmes identified in the 80 Project Sets that were completed in the second phase. The SC Meeting and ASCM made recommendations for the 3rd strategic phase of the APN.

For the Institutional review of the APN, it was noted that APN had increasingly involved member countries in its activities resulting in a greater sense of ownership among the member states, particularly evidenced by increased contributions, both in-kind and financially. The APN has increased and expanded the scientific research capabilities within the Asia-Pacific region and steadily improved its interactions with policy- and decision-makers.

Financially speaking, the APN has marginally increased its budget despite economic difficulties and the strain on government budgets throughout the period of the second strategic phase.

At the ASCM, key findings from the Independent Remote Reviews (IRRs) assigned to the Lead Reviewers for each of the five scientific thematic areas were presented. A set of criteria was used to evaluate each project independently noting specifically that no project comparisons were made and merit was based on performance against the original objectives of the projects as well as the goals of the APN. While ARCP and CAPaBLE were evaluated using the same general criteria incorporating the APN goals, three more specific objectives for the CAPaBLE Programme were also used as performance indicators.

The ASCM selected outstanding projects based on their strengths and key outcomes: had a product, a target audience and disseminated project outputs well; were regionally-specific; and were able to augment financial resources from other projects and organisations. It was concluded that the APN-funded projects overall had very good success in terms of meeting the five goals stated in the APN 2nd Strategic Plan (2SP). Generally, the projects received above average ratings but the individual projects varied in effectiveness, impact and sustainability. The key findings under each goal are presented in the full document.

APN has made significant progress in promoting research in global change with a number of research activities producing robust scientific outputs. Through its CAPaBLE programme, the APN has reached many scientists and policy-makers and provided training course for young scientists and professionals on methods and tools to analyse global change-related issues.

While ARCP and CAPaBLE programmes still have challenges that require addressing, both pillars of APN's science and policy agendas have fulfilled their goals to the most part, resulting in policy-relevant science being conducted and increased scientific capabilities. Policy linkages and sustainability programmes initiated by APN projects are the two main areas that require strengthening.

Other challenges presented for the future are the need to secure and increase financial and in-kind contributions; achieve better alignment with relevant ministries; and strengthen the function of the Secretariat as a node for communication, outreach and scientific syntheses.

In conclusion, the APN has, in its second strategic phase, strengthened its alignment with the global change scientific community; increased engagement with APN members and stakeholders; increased involvement with the policy- and decision-making communities; developed scientific capabilities within the region; conducted successful and policy-relevant scientific research; and enhanced the networking tools of the APN by devising and implementing a new communications strategy.

Acknowledgements: The APN is grateful to the lead reviewers for their immense efforts in the evaluation process and active participation at the ASCM and Writing Workshop. Sincere gratitude is extended to the SC members and all the national Focal Points (nFPs) and Scientific Planning Group (SPG) Members, key partner organisations, remote scientific reviewers and other members from the wider global change community who engaged in the review process and provided valuable contributions. Following the outcomes of the evaluation, including the recommendations from the reviewers, the APN will continue to make a difference in the Asia-Pacific region.

Message from the Director

It is my pleasure to present the Report of the Institutional and Scientific Evaluation of Phase II (2005-2009).

The 13th Inter-Governmental Meeting (IGM), held in Kobe, Japan, 2008, approved the Secretariat's plan for the evaluation of the APN's second strategic phase and preparation of the Third Strategic Plan. The evaluation itself was categorised into two components for the evaluation of "Institutional" for the performance of the APN as a Network; and "Scientific" for the performance of the APN's projects funded under its core ARCP and CAPaBLE programmes. The APN's Policy Agenda was considered under both of these components.

To facilitate the evaluation of the eighty (80) projects supported by the APN during the second strategic phase, Project Leaders performed a self-evaluation of their respective projects. These were subsequently reviewed by the SPG and CDC members, as well as external reviewers, before being evaluated further by a Lead Evaluation Team, who provided key results of the evaluation as well as recommendations for the APN's third strategic phase. The feedback received from the Project Leaders and the hard work of all of the key scientific reviewers involved was invaluable and very much appreciated.

In order to review the findings of the Lead Evaluation Team and further evaluate the scientific components of the APN's activities; an Augmented Steering Committee Meeting (ASCM) was convened in August 2009, in Kobe, Japan. The ASCM consisted of the Lead Evaluation Team and the APN's Steering Committee Members. At this meeting, the findings of the review of APN-funded projects were discussed, followed by an overall evaluation of the current APN Scientific Research Framework. The meeting concluded in making recommendations for the future; the main results of which are included in the present evaluation report.

In parallel with the scientific review, the review of the APN's institutional aspects was facilitated by the Secretariat based on key input from all of the members (past and present) comprising the organs of the APN as well as the global change community. Contributions were submitted via surveys and country reports as well as through periodic consultations by e-mail.

The draft reports of the Evaluation and the APN's Third Strategic Plan (2010-2015) were prepared based on discussions at the aforementioned meetings. The draft reports were then circulated to the APN's national Focal Points and Scientific Planning Group members, as well as partners from the global change community.

This preparation process has clarified the achievements of the APN's activities in its Second Phase, made possible by all stakeholders concerned. The implementation of the Third Strategic Plan will be an exciting time for all member countries and global change community, as the APN works to achieve its mission during its Third Phase.

Tetsuro Fujitsuka

Secretariat Director

Asia-Pacific Network for Global Change Research (APN)

March 2010

Preface

In preparation for the 15th Inter-Governmental Meeting (IGM) of the APN in March 2010 (this being the last IGM in the Second Strategic Phase), the APN commissioned an evaluation of the Second Strategic Phase and the preparation of a 3rd Strategic Plan (3SP), to cover the next five years from April 2010 to March 2011. This work was coordinated by the Secretariat and the present evaluation report of the second strategic phase was devised based on the responses and reviews of all of APN's stakeholders, including scientists, decision-makers and the community at large.

The evaluation comprised two parts: *Funded Project Set Review* and *APN Institutional/Network Review*. For the Project Set Review, the APN conducted evaluation of the science and policy components of 80 APN-funded projects that were completed during the second phase. The evaluation was carried out by a Lead Evaluation Team (LET) of Expert Scientific Reviewers who conducted their evaluations based on independent remote reviews of SPG members and external scientific reviewers drawn from the APN's mail review system, responses of Projects Leaders to a set of questions, and their own experiences. The LET highlighted project performance against APN's five goals identified in the 2SP in terms of Relevance, Efficiency, Effectiveness, Impact, and Sustainability. Through this process, LET members were able to identify and select projects whose performance was considered outstanding. The LET presented their findings at the ASCM in Kobe, Japan, August 2009.

For the Institutional/Network Review, a questionnaire for members was distributed to gauge how APN has advanced towards achieving its goals and implementing the strategies outlined in the 2SP. Input from the global change key partners/organisations and from the wider global change community was also sought through questionnaire distribution via email and the APN website. Specific questions were targeted to: Assess how APN's projects and activities are aligned with the programmes of the global change community; strengthen the role of key partners in shaping the future of APN and generate ideas from civil society so APN can harmonise its activities with other organisations towards achieving shared goals and meeting the needs of the region in global environmental change research; and gauge the awareness of the wider GC community in terms of APN's activities and determine the relevance of these activities in the Asia-Pacific region. Submitted questionnaires were compiled and reviewed at the SC Meeting and Writing Workshop in Kobe, Japan, August 2009.

A half-day Secretariat Brainstorming Session also convened to assess how APN has been operating in the past five years, identify areas that require greater efforts, and recommend actions to be taken in the future for APN continued success and improvement.

1. OVERVIEW OF THE SECOND PHASE (2005-2010)

1.1 Development of the Second Strategic Plan and Annual Operating Plans

The APN 2SP was developed based on the evaluation of its first ten years through an extensive scientific and institutional review. The plan was devised based on key contributions from APN nFPs, SPG Members, and partners from the global change community. The plan provides a practical and flexible approach for the APN to fulfil its mission and goals by identifying key areas of importance reflected in the three agendas: Science, Policy and Institutional. At the 10th IGM/SPG Meeting, the 2SP was endorsed and implementation commenced in April 2005. At the time of writing the present evaluation report, the 2SP is still in effect.

To ensure the effective implementation of activities outlined under the 2SP's three agendas, the need to devise an operating plan, as highlighted in the 2SP, was considered a crucial step. The Secretariat, with advice from Dr. Subramaniam Moten, SPG Member for Malaysia and member of the APN SC, prepared an Operating Plan covering three timescales: short-term, medium-term and long-term, which was subsequently endorsed at the 11th IGM/SPG Meeting. At the end of each year, the SC and the Secretariat perform an evaluation of achievements against the plan and prepare a revised Operating Plan for the following year based on the review as well as those new activities endorsed at the IGM/SPG Meeting.

1.2 Highlights of the Second Phase

A number of key highlights of the APN's scientific activities are detailed below in date chronological order.

- i. Incorporated the APN's capacity development programme, CAPaBLE, which had an initial shelf life of five years, as an integral part of APN's activities. (2005)
- ii. Financially supported and managed 143 projects (80 completed and 63 ongoing at the time of writing) under its two annual Calls for Proposals: *ARCP* and *CAPaBLE Programmes*. (2005-2009)
- iii. Revised the proposals submission and review process of the ARCP and CAPaBLE annual Calls for Proposals, resulting in a more streamlined process with greater scientific integrity and a less time-consuming procedure for proponents, reviewers and the Secretariat. (2006)
- iv. Devised and implemented an external mail review system as part of the proposals review process. The database currently holds 133 scientific expert reviewers. (2006)
- v. Launched Phase II (2006-2009) of the comprehensive research element of CAPaBLE, focussing on Water and Food Security. Three projects are being implemented. (2006)
- vi. Published APN's first book: *Global Change and Integrated Coastal Management: The Asia Pacific Region* (Springer edition). Chapters from this book and a number of outputs such as peer-reviewed papers from selected APN-funded research and capacity building projects and activities were cited in the Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report (AR4). (2006-2007)
- vii. Initiated and conducted in-house seminars and capacity development activities, including two scoping workshops in Global Earth Observations, three international seminars on biodiversity supported by Hyogo Prefectural Government, Japan, and four proposal-development training workshops. (2006-2009)
- viii. Evaluated 18 activities conducted during Phase I of CAPaBLE, which focussed on Climate Change and ran from April 2003 to March 2006, the results of which indicated that the CAPaBLE Programme is timely and crucial for the Asia-Pacific region. Three publications were devised and distributed: *CAPaBLE Phase 1: Climate Change*; *CAPaBLE Phase 1 Evaluation Report: Summary for Stakeholders*; and *CAPaBLE Phase 1: In Review*. These publications were distributed throughout the global change community and showcased at various international fora. (2007-2009)
- ix. Launched Phase III (2009-2012) of the comprehensive research element of CAPaBLE, focussing on Climate Change Impacts, Adaptation and Vulnerability. Three projects are being implemented. (2009)

- x. Launched a Special Call for Proposals for a Focused Activity: *Scientific Capacity Building for Climate Impact and Vulnerability Assessments (SCBCIA)*. Seven projects are being implemented. (2009)

In addition to the scientific activities undertaken, a number of key institutional issues were addressed and APN members have made valuable contributions, including the translation of communication materials in members' vernacular languages and subsequent distribution in members' respective countries; and annual submission of *Country Reports*. In particular, the Country Reports have been used to streamline and plan the APN's strategies, particularly in the evaluation of its second phase and in demonstrating the challenges being faced by member countries in the field of global change.

Institutional sub-regional cooperation was initiated in the second phase of APN with the establishment of the Southeast and South Asia Sub-Regional Committees. The conduct of sub-regional committee meetings, with participation from key international organisations, has improved the flow of information among members of the APN at the sub-regional level and has strengthened collaboration with key partners.

On other institutional arrangements, the APN Framework Document was amended twice, at the 12th and 14th IGMs. The most recent version is found in *Appendix a*. In terms of networking and raising the visibility of the APN in the Asia-Pacific region and at the international level, the APN has attended and made presentations at numerous international fora and engaged in a number of outreach activities by conducting side events and displaying exhibits of APN materials.

APN has become strategically involved in international global change events organised by the global change community and other institutions including the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties and Meeting of the Parties (COP/MOP) and Subsidiary Body for Scientific and Technological Advice (SBSTA). The APN now participates in an annual dialogue with the global change programmes, the IPCC and SBSTA. This event is organised by the UNFCCC and the Earth System Science Partnership (ESSP).

Since 2005, the APN Secretariat has been producing all of its publication materials in-house and numerous publications have been distributed throughout the second phase:

- i. First Global Change Directory;
- ii. Proceedings of in-house meetings, symposia and workshops;
- iii. Brochure that provides a general overview of the APN and its activities;
- iv. Annual policy-brief that highlights and summarises major activities undertaken by the APN; and
- v. Annual Project Bulletins, Annual Reports, quarterly Newsletters, posters, and other promotional materials.

An internal database was created and is continuously updated. This is very useful in maintaining the electronic mailing list (EML), which is a tool used by the Secretariat to strategically inform, support and disseminate information throughout the network. The EML has a network of over 1,500 members, not only from the Asia-Pacific region, but from the global community as well.

A Communications Strategy (please refer to *Appendix b*) was devised and endorsed at the 14th IGM in 2009. As part of implementing this strategy, the APN website has improved its webpage and a new interactive website is being developed and will be timely launched when the APN enters its Third Strategic Phase, from April 2010.

Another major highlight of the APN second phase is the review process of all three agendas based on the strategies outlined in the 2SP and the formulation of the Third Strategic Plan (3SP). The 13th SC Meeting, ASCM and Writing Workshop, held in August 2009, marked the culmination of the evaluation process¹.

1.3 The APN's Donors and Financial Status

Despite the global economic scenario, strong exchange rate fluctuations and competition for limited resources, APN has been quite successful in securing funds. The APN is very grateful to the following member countries that provided direct financial support to the APN for its activities in the second phase: Japan (Ministry of the Environment, US\$ 5.5 million and Hyogo Prefectural Government, US\$ 1.5 million); USA (National Science Foundation/United States Global Change Research Program, US\$ 2.3 million); Australia (former Australian Greenhouse Office, US\$ 68,000); New Zealand (Ministry for the Environment, US\$ 67,000); and Republic of Korea (Ministry of Environment, US\$ 40,000). **Figure 1** displays member countries' contributions while the financial summary for the fiscal years from 2005 to 2010 is provided in *Appendix c*.

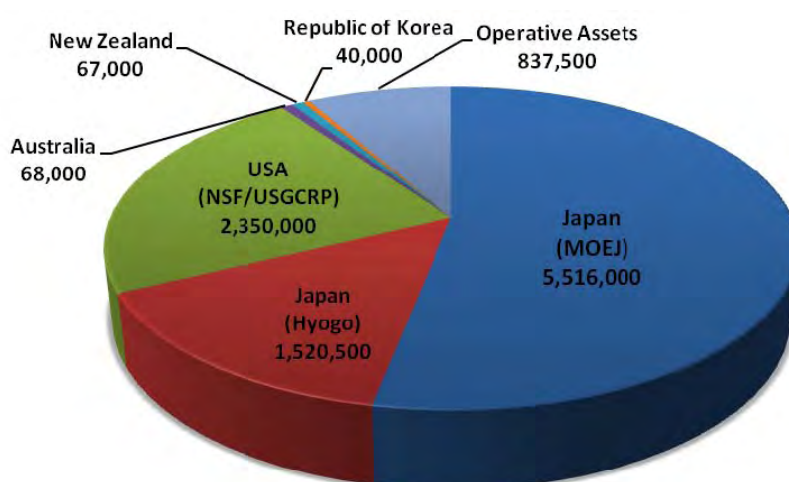


Figure 1. Revenue in 2005-2009 (US\$)

The overall budget of the second phase, amounting to around US\$ 10.4 million (refer to *Appendix c* for the APN financial summary), is leveraged by the considerable in-kind contributions by the member countries, including Hyogo Prefectural Government.

Furthermore, in order to successfully conduct many APN-funded projects/activities, substantial in-kind support, as well as additional resources, in the form of matching funds, are in the order of US\$ 2 million/year by the institutions of the Leaders and Collaborators of the projects/activities and other sources of funding.

Also, APN's 21 member country governments, including Hyogo Prefectural Government, the host of the APN Secretariat in Kobe, Japan, together with the staff from a whole range of institutions, strongly support the network with in-kind contributions including providing their time and equipment, supplies and other support. In addition, nFPs and SPG Members spend considerable time on issues directly related to the APN. These include:

- Attending annual IGM/SPG and Sub-Regional Cooperation Meetings, including direct payment of travel expenses;

¹ The results of these events are in the process of being finalised and will be cited in the final version of the present Evaluation Report

- Hosting APN Meetings (Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Sri Lanka, Thailand, USA);
- Reviewing the science activities and agendas of the APN;
- Reviewing proposals under the APN annual Calls for Proposals;
- Producing APN materials in vernacular languages and distributing at strategic events and to in-country institutions;
- Communicating with the Secretariat on issues that require regular input throughout the year; and
- Promoting APN and its programmes and activities on various occasions at the national, sub-regional and international levels

In addition, Hyogo Prefectural Government generously supports the Secretariat by providing office space and fixtures, etc. This in-kind support amounts to more than US\$ 500,000/year.

Of the overall direct cash contributions to APN of approximately US\$ 10.4 million, the majority (92%) was invested in supporting/conducting global change research, capacity development, and networking activities. Investments were also made in fellowship programmes, science/policy fora, and climate synthesis work, which was initiated in August 2009. **Figure 2** shows the breakdown of expenditure for science, policy and networking activities for the period covered by the APN's Second Strategic Phase (2005-2009).

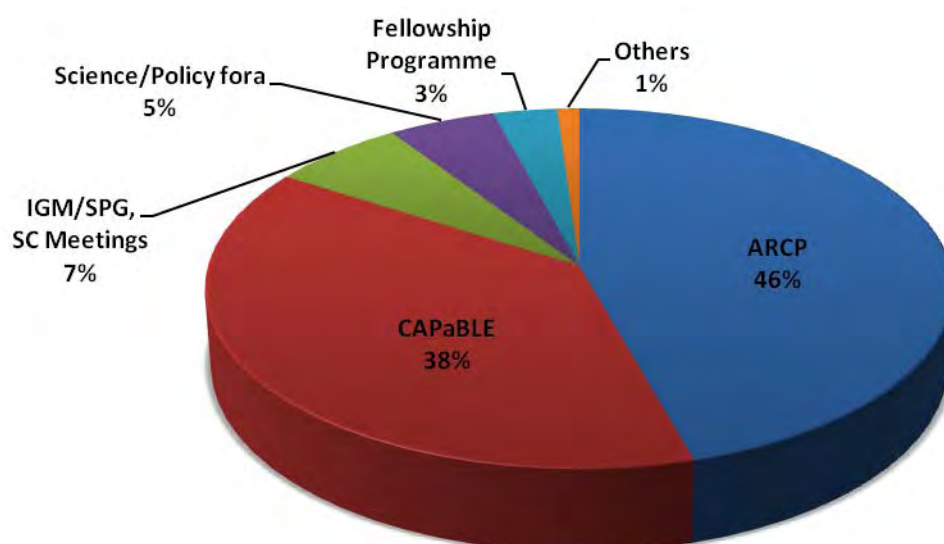


Figure 2. Breakdown of the Expenditure for Science, Policy and Networking Activities from 2005-2009

2. EVALUATION OF SCIENCE AND POLICY AGENDAS

2.1 Overview of the Evaluation Process

During its second strategic phase, the APN has conducted its global environmental change activities primarily through its two main pillars of activities, the ARCP and CAPaBLE Programmes.

Types of activities eligible for funding included synthesis and analysis of existing research and new research addressing knowledge gaps in key scientific areas, planning and scoping workshops for global change research, policy-relevant tools such as the development and use of models, impact and other assessments and synthesis activities. Other key activities included scientific capacity development and enhancement at various levels from local (grassroots) to national and regional levels; science and policy

interfacing; awareness raising and outreach activities for scientists, decision-makers, end-users and civil society.

Box.1 2SP Scientific Themes
1. Climate (24)
2. Ecosystems, Biodiversity and Land-Use (22)
3. Changes in Atmospheric, Terrestrial and Marine Domains (11)
4. Use of Resources & Pathways for sustainable Development (11)
5. Crosscutting & Science-Policy Linkages (12)

Seven Expert Scientific Reviewers who formed the Lead Evaluation Team (LET) were invited to evaluate the science and policy components of the 80 APN projects that were completed during the Second Strategic Phase (until April 2009) and present their findings at the ASCM, held in August 2009.

The LET conducted its evaluation based on independent remote reviews of SPG Members and external scientific reviewers drawn from the APN’s mail review system, responses of project leaders to a set of questions, and their own experiences. The LET highlighted project performance against APN’s five goals identified in the 2SP in terms of Relevance, Efficiency, Effectiveness, Impact and Sustainability.

The LET (was) also asked to identify projects whose performances were outstanding. The present Scientific Review focussed on 80 Project Sets divided into five thematic areas and selected through the ARCP and CAPaBLE Programmes.

The eighty (80) project sets were divided into the APN’s five thematic areas outlined in the 2SP, and shown in Box 1.

2.2 Key Findings

The ASCM concluded that the APN-funded projects overall had very good success in terms of meeting the five goals stated in the APN 2SP (2005-2010). A distribution of the ratings of the 80 project sets is shown in **Figure 3**. Generally, the projects received above average ratings, although ratings of the individual projects varied in terms of effectiveness, impact and sustainability. The overall assessment under each goal is presented below. The few projects rated as poor were either projects awarded seed grants to develop further a proposal but failed; or projects that did not meet their original objectives due to poor project implementation or collaboration.

Goal 1: Supporting regional cooperation in global change research on issues particularly relevant to the region: Global change issues were addressed with excellent regional collaboration. Most of the projects were able to form strong regional networks of scientists.

Key Rating: Excellent

Goal 2: Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public:

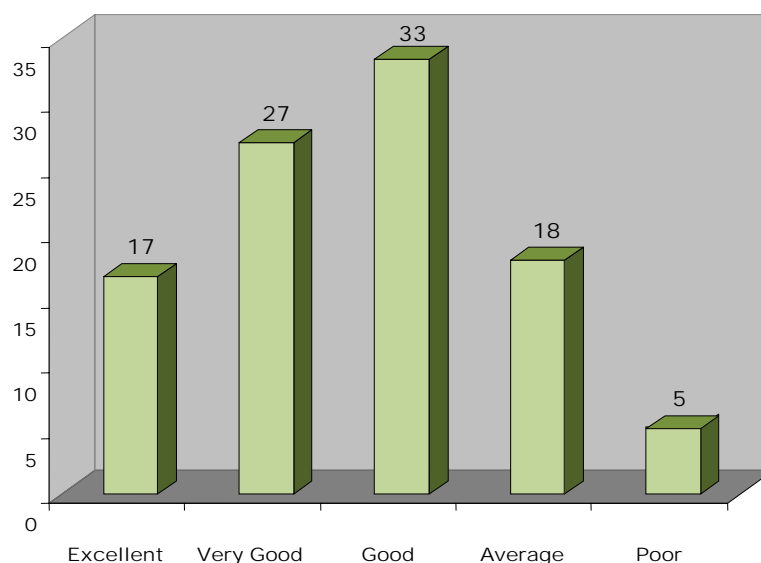


Figure 3: Distribution of Ratings (%)

There were genuine attempts to have policy and decision-makers participate in mainstream science, however, it was realised that more interactions are still necessary in this field. It is important to assure that policy-making is made more aware of the results of APN science and their potential value in policy-making.

Key Rating: Good

Goal 3: Improving the scientific and technical capabilities of nations in the region: Scientific and technical expertise was considerably increased through workshop and hands-on training. With some project initiatives, institutional units were formed and were able to sustain their functions after APN funding ended. Some projects communicated effectively at all levels, particularly at the grassroots level.

Key Rating: Excellent

Goal 4: Cooperating with other global change networks and organisations: Collaboration with other global change institutions facilitated projects to look at global change issues from a regional perspective and, at the same time, provided opportunities for scientists to communicate with their counterparts in the global change programmes. However, more interactions with the global change community are needed.

Key Finding: Good

Goal 5: Facilitating the development of research infrastructure and the transfer of know-how and technology: The transfer of knowledge and methodologies were conducted well through training and workshops. Research infrastructure in the region is improving; and some APN projects were able to help in establishing those infrastructures.

Key Finding: Very good

2.3 Selected Outstanding Projects

Theme 1: Climate

Project Set 1: Applying Climate Information to Enhance the Resilience of Farming Systems Exposed to Climatic Risk in South and Southeast Asia

Project Leader: Dr. Holger Meinke

Selected Publications (2006)

1. Donald, A., Meinke, H., Power, B., Wheeler, M., Maia, A.H.N., Stone, R.C., Ribbe, J. and White, N., 2006. Near-global impact of the Madden Julian Oscillation on rainfall. *Geophysical Res. Letters*, Vol. 33, L09794.
2. Meinke, H., Nelson, R., Stone, R.C., Selvaraju, R. and Baethgen, W., 2006. Actionable climate knowledge – from analysis to synthesis. In: Hansen, J.W., Sivakumar, M.V.K., and Bates, B.C. (eds.), *Advances in Applying Climate Prediction to Agriculture*. Climate Research Special 16, Volume 33: 101-110.
3. Selvaraju, R., Venkatesh, R., Babu, C., Meinke, H. and Hansen, J.W., 2006. Impact of climate variability on smallholder farmers' farm level income inequality and food security: a comparison across farming systems and water availability scenarios. *World Development*.
4. Kumar, K.K., Rajagopalan, B., Hoerling, M., Bates, G. and Cane, M. 2006. Unraveling the Mystery of Indian Monsoon Failure During El Niño. *Science* 314, 115, DOI: 10.1126/science.1131152.

Project Set 23: Development and Application of Climate Extreme Indices and Indicators for Monitoring Trends in Climate Extremes and their Socio-economic Impacts in South Asian Countries

Project Leader: Mr. Munir Sheikh

Selected Publications (2008)

1. Baidya, S., Shrestha, M. and Sheikh, M.M. 2008. *Trends in Daily Climatic Extremes of Temperature and Precipitation in Nepal*. *Journal of Hydrology and Meteorology*. 5(1):38-51.

Theme 2: Ecosystems, Biodiversity and Land-Use

Project Set 20: Standardisation and Systematisation of Carbon-Budget Observation in Asian Terrestrial Ecosystems Based on AsiaFlux Framework

Project Leader: Yoshikazu Ohtani

Selected Publications (2005 & 2006)

1. AsiaFlux Workshop Organizing Committee (Ed.). 2005. *Proceedings of AsiaFlux Workshop "International Workshop on Advanced Flux Network and Flux Evaluation"*, 96 pp.
2. Lakanavichian, S. (Ed.). 2006. *Proceedings of AsiaFlux Workshop 2006 "International Workshop on Flux Estimation over Diverse Terrestrial Ecosystem in Asia"*, 113 pp.
3. Asia Flux Steering Committee (Ed.). 2006. *Practice of Flux Observations in Terrestrial Ecosystems*.

Project Set 69: Greenhouse Gas (GHG) and Aerosol Emissions under Different Vegetation Land Use in the Mekong River Basin Sub-region

Project Leader: Dr. Sirintornthep Towprayoon

Selected Publications (2007)

1. Towprayoon, S., et.al. 2007. *Greenhouse Gas and Aerosol Emissions From Rice Field and Forest in the Mekong River Basin Sub-Region*. GMSARN International Journal 2 (2008), 163 - 168

Theme 3: Changes in Atmospheric, Terrestrial and Marine Domains

Project Set 48: Capacity Development for Greenhouse Gases Inventory Development in Asia-Pacific Developing Countries

Project Leader: Dr. Hideaki Nakane

Theme 4: Use of Resources and Pathways for Sustainable Development

Project Set 2: Water Resources in South Asia: An Assessment of Climate Change - Associated Vulnerabilities and Coping Mechanisms

Project Leader: Dr. Amir Muhammed

Selected Publications

1. Muhammed, A., Mirza, M.M.Z. and Stewart, B.A. (Eds.). 2007. *Climate and Water Resources in South Asia: Vulnerability and Adaptation*. Islamabad, Pakistan: Asianics Agro Dev. International.
2. Mitra, A.P. (Guest editor). 2005. *Science and Culture*, Special Issue: Water Resources in South Asia: An Assessment of Climate Change-Associated Vulnerabilities and Coping Mechanisms. Vol. 71, No. 7-8, July-August 2005.

Project Set 62: Integrated Assessment Model for Developing Countries and Analysis of Mitigation Options and Sustainable Development Opportunities

Project Leader: Prof. P.R. Shukla

Selected Publications

1. Garg, A., Shukla, P.R., Kapshe, M. 2007. From Climate Change Impacts to Adaptation: A Development Perspective for India. *Natural Resources Forum*, 31 (2007) 132-141.
2. Garg, A., Shukla, P.R. and Kapshe, M. 2006. Multigas Emissions Inventory of India: Sectoral and Regional Trends. *Atmospheric Environment*, 40, 4608-4620.
3. Shukla, P.R., Garg, A., Kapshe, M. and Nair, R. 2006. India's Non-CO2 GHG Emissions: Development Pathways and Mitigation Flexibility. *Energy Journal [Special Issue]*, 461-483.
4. Shukla, P. R., Rana, A., Garg, A., Kapshe, M., Nair, R. 2006. Global Climate Change Stabilization Regimes and Indian Emission Scenarios: Lessons for Modeling of Developing Country Transitions. *Environment Economics and Policy Studies*, 7(3), 205-231.

5. Menon-Choudhury, D., Shukla, P.R., Biswas, D. and Nag, T. 2006. Electricity Reforms, Firm Level Responses and Environmental Implications In Kalra, P.K. and Rue,t J. (Eds), *Electricity Act and Technical Choices for the Power Sector in India* (pp. 183-216).

Theme 5: Crosscutting Issues & Science-Policy Linkages

Project Set 42: Carbon Financial Markets, Rural Poverty, and Global Climate Change in Southeast Asia – Scoping Workshop, Training and Project Site Development

Project Leader: Dr. David Skole

Selected Publications

1. Developing Small-Holder Carbon Offset Projects: Lessons Learned from SE Asia (In progress)
2. Charismatic Carbon - Inpang Community Small-Holder Teak, Northeast Thailand (In progress)
3. Website: www.carbon2markets.org

2.4 Scientific Research²

ARCP Programme: APN funds scientific research mainly through the ARCP Programme. This programme focusses on the implementation of regional collaborative scientific research according to the main themes identified under the Science and Policy Agendas of the APN.

A) ARCP Strengths

Many of the ARCP-funded projects reviewed were policy relevant. The successful and highly rated projects focussed on specific impacts on the environment and society. These projects identified relevant problems and proposed well-developed methodologies to achieve outcomes beneficial to either a scientific community or the public at large. The projects improved regional and national networking of scientists in specialised fields of research, which resulted in improved collaboration. The research outcomes resulted in better understanding of the impacts of climate change in the region and an increased awareness of these issues by policy-makers and resource managers. All projects were designed to meet the needs for scientific information relevant to regional issues.

B) ARCP Challenges

The projects all have important policy considerations but the degree of science and policy interaction needs to be strengthened. Sustainability of project implementation (where sustainability was a project objective) also needs to be improved, particularly those with long-term support and not a one-time only activity. Projects classified under the Crosscutting and Science-Policy Linkages had the weakest ratings. It was difficult to assess outcomes when the criteria for determining success were not well defined. There is an increasing need to evaluate economic impacts; food, water and energy security; and financial consequences to facilitate science-policy interfacing. Without adequate metrics to determine a successful project outcome, it is difficult to determine if a science-policy linkage has been made.

C) ARCP Recommendations

- Devise specific criteria that defines a successful science-policy linkage(s)
- Encourage trans-disciplinary approaches for projects to include economic, social, behavioural and political science.
- Encourage plans for on-going/continuous support of project in appropriate types of proposals.

2.5 Scientific Capacity Building

CAPaBLE: The CAPaBLE Programme was launched in April 2003 and is an initiative to realise parts 107-114

² The evaluation under 2.4 Scientific Research and 2.5 Scientific Capacity Building considers both the Science and Policy Agendas of the Second Strategic Plan.

of the Johannesburg Plan of Implementation (JPOI) for the World Summit on Sustainable Development (WSSD) and is registered as a WSSD Type II Partnership. CAPaBLE is the scientific capacity development pillar of APN's activities, standing parallel with the scientific research programme, the ARCP. The CAPaBLE Programme focuses on the implementation of scientific capacity building, including science-policy interactions and outreach activities, according to the main themes identified under the Science and Policy Agendas of the APN.

A) CAPaBLE Strengths

All the CAPaBLE Programme funded projects reviewed were policy relevant. Capacity building under the CAPaBLE Programme provided opportunities for young scientists to discuss relevant issues on global change and developed professional networking for future collaborative efforts. The workshops and meetings provided excellent fora for interactions between scientists and policy-makers as well as enhanced the knowledge base of information relevant to regional climate change impacts. The projects augmented technical training of scientists and science support personnel and produced some well-designed educational and training materials for local application. Local outreach through workshops was very effective in disseminating information.

B) CAPaBLE Challenges

There were only limited indications that policy linkages were established and inadequate feedback to determine whether the meetings had substantive impact on policy-makers. Dissemination of information through proceedings or journals targeted mostly the scientists and may not be as interesting or useful for non-science readers. Other methods of dissemination may be more appropriate when providing information to policy-makers.

A single conference or workshop does not appear to be sufficient to ensure long-term capacity of an individual participant and a follow-up of the activities of the participants needs to be documented to determine long-term impacts.

C) CAPaBLE Recommendations

- Establish a definition of successful capacity building for short- and long-term outcomes.
- Consider supporting policy-based workshops where the invited participants are a good and relevant mix of policy-making groups, local scientific experts and a cross-section of stakeholders.
- Adapt and disseminate scientific results for non-science audiences in order for policy-makers, implementers, and the general public to have a better appreciation of global change issues.
- Encourage the publication of policy-briefs.

2.6 Concluding Remarks

Two areas that require strengthening are policy linkages and sustainability (i.e., the ongoing support of projects beyond APN funding support) of programmes initiated by APN projects. Many scientists and scientific bodies face these challenges and the reviewers recommend that APN find innovative ways to address them. Some strategies include:

- Encouraging governance studies that will involve collaboration with social, economic, business, political, and behavioural scientists and professionals.
- Enhancing networks of scientists by including countries/continents outside the APN region.
- Enhancing APN networks by being more pro-active in engaging member and non-member states to participate and play a more active role in APN programmes and activities.
- Encouraging regular monitoring and self-evaluation of funded projects and including indicators of success during project implementation.
- Encouraging climate change adaptation studies that promote sustainability.

Strategies to improve the evaluation process include:

- Providing appropriate guidelines and more specific criteria to the project review process to limit discrepancies in independent reviews.
- Providing more time for the project review process to carry out more comprehensive assessments of projects.
- Establishing a mentoring system particularly for beginning investigators and for long-term projects.
- Creating concrete metrics to measure the success of projects under the ARCP and CAPaBLE Programmes.

3. EVALUATION OF THE INSTITUTIONAL AGENDA

APN has effectively managed its programmes and has not only built the research base in the region, but also increased the scientific research capabilities of the developing countries in the Asia-Pacific region. The APN has also steadily improved and expanded its interactions with policy- and decision-makers, thus helping to provide a sound scientific basis for policy- and decision-making related to global change in the region.

3.1 Involvement of Member Countries

There has been a continued and increasing involvement of member countries in APN activities during the period of the second strategic phase. Member countries' sense of ownership has increased as evidenced by the willingness to host APN meetings and providing direct and in-kind contributions and representing APN at relevant global change fora, and members have also taken the opportunity to directly influence the APN's science agenda by creating sub-regional committees. However, in some of the member states, APN is still seeking better alignment with relevant ministries.

3.2 Financial Resources

During the review period, the APN's budget has marginally increased despite the economic difficulty and demands on government resources. The Governments of Japan and the USA, and the Hyogo Prefectural Government have continued to be the main financial contributors to APN. These contributions are very much appreciated by the APN.

The Governments of New Zealand and Australia Government have directly contributed financially during the second strategic phase specifically for the APN's CAPaBLE Programme. The Government of the Republic of Korea decided to make direct contribution to APN's core budget from 2006.

3.3 Alignment with Programmes of the Global Change Community

The feedback from the global change key partners confirms that APN's activities and programmes are aligned well with their programmes and strategies. APN's activities are also well aligned with the needs identified by the Parties of the UNFCCC and through the Nairobi Work Programme (NWP)³ on impacts, vulnerability and adaptation to climate change.

3.4 Communications and Outreach

During the present strategic period, APN devised and is implementing a new Communications Strategy, which includes the production of new communication tools to reach out to a wider audience, particularly through electronic means. The number of publications has increased and the quality has significantly

³ http://unfccc.int/adaptation/nairobi_work_programme/items/3633.php

improved. Among recent publications is a book published by Springer in 2006: *Global Change and Integrated Coastal Management - The Asia Pacific Region*. APN also participated in international conventions/events and made representation at several high-profile international fora such as SBSTA of the UNFCCC. The efforts on co-organising international seminars and side-events on climate change and other related issues proved very useful. These activities helped in raising APN's profile and establishing linkages with other organisations.

3.5 Institutional Arrangements

While the members noted that the current framework document is adequate, clear and precise in defining the organisational arrangements and procedures of the APN, several minor revisions have been suggested for the next strategic phase. The APN's structure is seen as relevant, effective and useful while the management of the organs is viewed as efficient and well managed. However, it is important to help new members play an active role in the APN. The APN's Operating Plan is seen by the members as continuing to provide an effective tool designed to ensure that APN's activities are implemented to meet the goals of the strategic plan.

Recommendations from the evaluation of the APN Institutional Agenda are reflected in the APN's 3SP.

4. CONCLUSION

Since 1995, the APN has made significant progress in promoting research in global change that has implications in the Asia-Pacific region. Significant scientific research has been conducted through the ARCP Programme that has produced strong and robust scientific outputs. Several high-priority collaborative research studies have been implemented during the second strategic phase that cover a range of cross-cutting issues on climate change and have strengthened global change science in the Asia-Pacific region, particularly in developing countries.

Through the projects supported under the CAPaBLE Programme, the APN has reached many scientists and policy-makers in countries of the region and made possible the conduct of training courses for young researchers and professionals on methodologies and tools to analyse issues related to global change. The APN has also become a stronger network creating new ties and strengthening links among individuals, organisations, countries and sub-regions within and outside the Asia-Pacific region.

The projects funded by APN have contributed to the IPCC, particularly the AR4. It has produced several good publications such as the book, *Global Change and Integrated Coastal Management - The Asia Pacific Region*. Recognition in the global change community significantly increased through APN participation in international conventions/events and representation at several high-profile international fora. The efforts to co-organise international seminars and side-events on climate change and other related issues have been highly positive.

The ASCM concluded that the overall evaluation of the APN-funded projects were considered as very successful in terms of meeting the five goals stated in the APN 2SP (2005-2010). Goals 1 and 3 were rated Excellent in terms of outcomes and performance, Goal 5 was rated Very Good, while Goals 2 and 4 were rated Good. Although the ARCP and CAPaBLE Programmes still face challenges that need to be addressed, both fulfilled their goals for the most part during the second strategic phase and resulted in policy-relevant science.

Policy linkages and sustainability of programmes initiated by APN projects are the two areas identified that require strengthening. The reviewers recommend that APN explore ways to address them. Governance studies that will involve collaborations with social, economic, business, political, and behavioural scientists and professionals should be encouraged as well as the regular monitoring and self-

evaluation of funded projects. ASCM suggested including indicators of success during project implementation, enhancing APN networks by including other nations in the region and encouraging climate change adaptation studies that promote sustainability.

Though there is an enhanced involvement and ownership of member countries in the second phase, there is still a need to further improve financial and in-kind contributions and achieve better alignment with relevant ministries. While the Secretariat has been effective and efficient in implementing the day-to-day operations of the network, there is a need to strengthen the Secretariat's function as a node for better communication/outreach and scientific synthesis.

As the threat of climate change and urgency of mitigation and adaptation responses are becoming greater with every passing year, the role of the APN in enhancing scientific research capacity in the region becomes more important.

5. APPENDICES

a. Framework Document

Introduction

Changes in the Earth system are clearly impacting upon the societies and economies of the countries within the Asia-Pacific region, which supports more than half of the world's population. Recognising this, the APN was established in 1996 as an inter-governmental network in the Asia-Pacific region to foster global change research⁴ in the region, increase developing country participation in that research, and strengthen interactions between the science community and policy-makers.

The purpose of this document is to define the Framework and organisational arrangements and procedures of the APN. The Framework provides a vehicle for implementation of the Second Strategic Plan (2005-2010). The mission, vision and goals from the Strategic Plan are copied below.

1. Mission

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

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

2. Core strategies

The core strategies of the APN are to:

- i. Encourage and promote research that has the potential, in addition to improving understanding of global change and its implications in the region, to contribute to the establishment of a sound scientific basis for policy-making with regard to issues for which global change is an important factor.
- ii. Identify, in consultation with policy-makers and practitioners, present and future needs for such research.

⁴ "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."

3. Vision

Changes in the Earth system are clearly impacting the societies and economies of the countries within the Asia-Pacific region. These countries support more than half of the world's population. Recent research and supporting observations have provided new insights into some of these changes and their impacts, but have at the same time opened a number of new and challenging scientific issues.

The APN seeks to identify such emerging issues and to promote and encourage regional cooperative research to address these. In doing so, the APN assures that the results of this research contribute to development of a sound scientific basis for policy- and decision-making related to issues for which global change is an important factor.

The APN strives to enable developing countries of the region to participate increasingly in, and to benefit fully from, cooperative research in the region. Finally, recognising the interactive role of regional processes in the overall Earth system, the APN also seeks to link the research it sponsors with research conducted in other regions and under the aegis of global-scale programmes.

4. Goals

In order to achieve its mission, the APN has identified five goals. Each goal will be achieved as outlined below, particularly through APN-funded activities; these activities are selected from the Annual Regional Call for Proposals (ARCP) process, as well as the APN's capacity development programme, CAPaBLE.

- Goal 1.* Supporting regional cooperation in global change research on issues particularly relevant to the region
- Goal 2.* Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public
- Goal 3.* Improving the scientific and technical capabilities of nations in the region
- Goal 4.* Cooperating with other global change networks and organisations
- Goal 5.* Facilitating the development of research infrastructure and the transfer of know-how and technology

5. Membership

- i. Membership is open to all countries in the Asia-Pacific region. The current APN member countries are listed in Appendix 1 (page 12).
- ii. Each member country appoints:
 - a. a national Focal Point; responsible for coordinating national activities and participating in the annual Inter-Governmental Meeting (IGM)
 - b. a global change research expert, who acts as the scientific contact in the respective country and participates in the annual Scientific Planning Group (SPG) meeting
- iii. Following an official governmental written request from a country in the region, this country may become a member subject to the approval of the IGM. A member country may withdraw from the membership of the APN at any time by submitting written notice to the Secretariat.

6. Organs

The Organs of the APN are:

- i. the Inter-Governmental Meeting (IGM); a meeting wherein national Focal Points serve as the APN's general policy and decision-making body and approve the operational arrangements and activities for the year
- ii. the Steering Committee (SC); acts on behalf of the IGM between the IGMs
- iii. the Scientific Planning Group (SPG); reviews and recommends, to the IGM, scientific proposals for APN support and provides scientific advice to the IGM
- iv. the Secretariat; maintains the daily operations of the APN and staffs the IGM, the Steering Committee and the SPG

The operations of the APN are subject to the Organisational Arrangements and Procedures formulated by the Inter-Governmental Meeting.

Organisational Arrangements and Procedures

A. The Inter-Governmental Meeting

1. Mandate

The Inter-Governmental Meeting (IGM), as the APN's general policy and decision-making body:

- i. sets policy for the programmes, finances and other activities of the APN, etc.
- ii. adopts rules and procedures for the APN
- iii. oversees the development and production of the APN's annual operating plan
- iv. reviews and approves the annual financial report and budget for the APN
- v. reviews and approves projects and activities to be undertaken or supported by the APN, based on recommendations made by the Scientific Planning Group
- vi. provides thematic guidance to the Scientific Planning Group, the Steering Committee and the Secretariat
- vii. identifies, approves and keeps under review the implementation of long-term plans, including the APN's Strategic Plan
- viii. carries out regular evaluations and reviews of the Strategic Plan
- ix. performs other functions, as necessary, to achieve the mission and goals of the APN

2. Participation

- i. National Focal Points, of each member country, may participate in the IGM and may be accompanied by their SPG Members.
- ii. Pacific Island States may be invited to participate in IGM and SPG Meetings and other activities, as appropriate.
- iii. Any non-APN member country that wishes to attend an IGM must indicate its interests to and receive an invitation from the Steering Committee, following consultation with national Focal Points.
- iv. International global change organisations and national and international funding organisations engaged in supporting global change research may be invited by the Steering Committee to send observers to the IGM.

3. Meeting Procedures

- i. The IGM convenes annually/biennially.
- ii. The IGM elects a Chair, usually from the host country, and one Vice-Chair from among the member country delegates.
- iii. The Chair facilitates all sessions of the IGM. He/She may delegate this role to the Vice-Chair, with the agreement of the IGM.
- iv. The Chair (Vice-Chair) ensures orderly and timely conduct of the IGM and that issues are decided by consensus.
- v. All participants may take part in discussions at the IGM; however only member country Focal Points may approve APN policies and programmes.
- vi. The Secretariat maintains a record of the IGM and the Chair's Summary is adopted by the IGM.

B. The Steering Committee

1. Mandate

The Steering Committee (SC) as designated by the IGM:

- i. acts on behalf of the IGM during the period between the IGMs, implementing IGM decisions, with assistance from the Secretariat

- ii. facilitates administrative and management arrangements necessary to implement the programme of activities of the APN. This includes thorough consideration of the APN budget
- iii. consults the national Focal Points regarding the potential attendance of observers as referred to in section A. 2 Participation - iii

In particular, the SC guides the Secretariat in:

- iv. developing funding for the APN and its programmes and activities by encouraging member countries to contribute funds or in-kind support
- v. exploring potential funding from other sources, e.g., international agencies and the private sector
- vi. liaising with international global change agencies and seeking their support and involvement in APN activities.

2. Membership

- i. The SC includes:
 - a. three Focal Points elected by the IGM, in addition to one Focal Point from the country to host the next IGM
 - b. the Focal Point from the country to host the next IGM has a one-year term on the SC while the other three Focal Points are elected for a two-year term
 - c. the two SPG Co-Chairs
 - d. if an SPG Co-Chair is also a Focal Point, then another Focal Point will be included
- ii. The SC may co-opt experts as members to participate in SC activities for a term of one-year (renewable).

3. Procedures

- i. The SC elects from among its national Focal Points a Chair and Vice-Chair.
- ii. The Chair is responsible, with the assistance of the Secretariat, for managing SC activities.

C. The Scientific Planning Group

1. Mandate

The Scientific Planning Group (SPG):

- i. reviews research proposals received by the APN, especially those in response to the APN annual calls for proposals, and on the basis of this review, recommends to the IGMs approval proposals for APN funding
- ii. recommends themes to be included in the Science Agenda
- iii. works with the Steering Committee and the Secretariat in arranging other scientific activities
- iv. interacts on the APN's behalf with other international research programmes on global change
- v. responds to scientific requests from the IGM or the Steering Committee

2. Membership

- i. Each member country of the APN may appoint one member to the SPG.
- ii. Members should be selected for their ability to contribute to development and implementation of APN scientific activities through:
 - a. relevant knowledge of high priority APN science issues;
 - b. participation in research or programmes directly related to APN activities;
 - c. capacity to initiate and strengthen science-policy links; and
 - d. availability to participate in the annual SPG meeting.
- iii. A member country may appoint an alternate to participate in SPG activities, including meetings, when the regular SPG Member is unavoidably unavailable.

- iv. International organisations (such as DIVERSITAS, IAI, IGBP, IHDP, START, WCRP, etc.) and research institutions, involved in global change research activities, may be invited to attend the SPG meeting as observers and to participate in SPG activities.

3. Meeting Procedures

- i. The SPG convenes annually, in conjunction with the IGM.
- ii. The SPG elects two Co-Chairs from among its members. The election is held at the end of the SPG meeting. It is usual for one Co-Chair to be elected from a developing member country and the other Co-Chair to be elected from a developed member country.
- iii. The Co-Chairs are elected for a term of two years; the terms are offset to provide continuity. A Co-Chair whose term is ending remains in office until the end of the IGM.
- iv. A Co-Chair may be re-elected at the expiry of his/her term.
- v. A Co-Chair participates in all SPG relevant meetings, as agreed upon between the two Co-Chairs. If both are absent or otherwise unavailable, another SPG Member participates, at the request of the two Co-Chairs, or with the agreement of the SPG.
- vi. The Co-Chairs are responsible, with assistance from the Secretariat, for the orderly and timely conduct of meetings. The Co-Chairs ensure that SPG issues are decided by consensus.
- vii. The SPG agrees on the processes for the conduct of its activities, including meetings. Observers may participate in SPG discussions and activities.
- viii. The SPG prepares and submits reports of its meetings and activities to the IGM.

4. The SPG Sub-Committee

- i. convenes prior to the SPG meeting
- ii. reviews and prioritises, with the cooperation of the Secretariat, ARCP proposals received for APN funding, for consideration by the SPG
- iii. the SPG Sub-Committee Members are:
 - a. two SPG Co-Chairs (ex officio)
 - b. two other SPG Members, elected by the SPG at its meeting in the previous year
- iv. the SPG Sub-Committee may invite additional representatives to attend its meeting as observers

5. The Capacity Development Committee (CDC)

- i. convenes prior to the SPG meeting
- ii. reviews and prioritises, with the cooperation of the Secretariat, CAPaBLE proposals received for APN funding, for consideration by the SPG
- iii. the CDC members are:
 - a. Steering Committee Chair (ex officio)
 - b. two SPG Co-Chairs (ex officio)
 - c. one donor representative
- iv. the CDC may co-opt up to three experts as members to participate in CDC activities for a term of one-year (renewable) among members with strong link to the International Organisations (such as DIVERSITAS, IAI, IGBP, IHDP, START, WCRP, etc.) and regional programmes that are involved in capacity development activities
- v. the CDC may invite additional representatives to attend its meeting as observers.

D. The Secretariat

1. Mandate

- i. The Secretariat is the principal administrative organ of the APN. The APN Secretariat address and contact details of the staff are listed in Appendix 2 (page 13).
- ii. Resources and support for the Secretariat are provided by the host country, including the Central and Local Governments. In addition, the host country provides the services of a senior expert in global change issues, seconded as the Director of the Secretariat.

- iii. The Secretariat:
 - a. facilitates the day-to-day operations of the network;
 - b. provides secretarial support to the organs of the APN; and
 - c. implements IGM, SC and SPG decisions on behalf of these organs.
- iv. The Secretariat operates under the administrative arrangement of the Institute for Global Environmental Strategies (IGES). For further information, refer to Appendix 3 (page 14).

7. Financial Arrangements

- i. The APN maintains a special funding/financial account within the IGES administration. The purpose of this account is to independently administer contributions pledged by member countries and other sources.
- ii. The APN special account is subjected annually to external audit.
- iii. As described in the Secretariat section, D.1.ii., resources and support for the Secretariat are provided by the host country; however this does not exclude other member countries from providing support to the Secretariat.
- iv. Member countries are strongly encouraged to contribute to the budget on a regular and/or project basis.
- v. In-kind support from governments and/or institutions of the member countries is also encouraged. This includes providing human resources, supporting workshops and meetings, particularly the IGM, SPG and SC meetings, and providing equipment.
- vi. APN funds are administered in a transparent and cost-effective manner.
- vii. The Secretariat manages the APN account and presents annual financial reports to the IGM.
- viii. The fiscal year is from April 1 to March 31, the following year.

8. Additional Arrangements

- i. The APN may appoint APN representatives to encourage and promote cooperation between the APN and specific geographic regions/sub-regions in Asia and the Pacific.
- ii. The IGM, SC and SPG may establish small ad-hoc groups for specific tasks such as planning or provision of specialised advice.
- iii. Expected roles of the nFPs, SC Members, SPG Members and the Secretariat are specifically elaborated in the Appendix 4 (pages 15-18) as guidance.

9. Language and Records

- i. English is the official and working language for all IGM, SPG and SC papers and discussions.
- ii. A member country delegate, an observer, or an invited expert may speak at a meeting in a language other than English; however he/she is responsible for providing interpretation in English.
- iii. The Secretariat is responsible for keeping APN records and official papers, and for distributing them to members and interested parties, as appropriate.

10. Date and Effect of Amendments

- i. Amendments to the Framework must be proposed by a member country or the SC and approved by the IGM.
- ii. Proposed amendments and supporting documentation must be distributed to member countries no later than two months prior to the IGM, for consideration.
- iii. Each approved amendment will take effect on the day following the IGM, unless the IGM decides on another date.

Appendix 1

Current APN member countries are:

Australia, Bangladesh, Cambodia, China, Fiji, India, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea, Russian Federation, Sri Lanka, Thailand, United States of America, Viet Nam

Note: APN Approved Countries:

Individuals and organisations in Pacific Island States and Singapore are able to participate in all APN programme activities and are considered to be from an APN Approved Country under the programme membership participation criterion.

Appendix 2

The APN Secretariat is located at the APN Centre:

*Hitomiraikan 4F
1-5-2 Wakinohama Kaigan Dori
Chuo-ku, Kobe, 651-0073
JAPAN
Tel: +81-78-230-8017
Fax: +81-78-230-8018
Email: info@apn-gcr.org
Website: <http://www.apn-gcr.org>*

The APN Secretariat

Ms. Lizabeth CORALDE

Programme Fellow for Communications and Development
lcoralde@apn-gcr.org

Mr. Tetsuro FUJITSUKA

Director
tfujitsuka@apn-gcr.org

Ms. Kristine GARCIA

Coordinator
kgarcia@apn-gcr.org

Mr. Yukihiro IMANARI

Executive Manager
yimanari@apn-gcr.org

Ms. Natsuki NIIMI

Support Staff
nniimi@apn-gcr.org

Mr. Erdenesaikhan NYAMJAV

Programme Fellow for Science and Institutional Affairs
enyamjav@apn-gcr.org

Ms. Perlyn PULHIN

Programme Officer for Communications and Development

ppulhin@apn-gcr.org

Mr. Akihiro SHIOMI

Administrative Manager

ashiomi@apn-gcr.org

Dr. Linda Anne STEVENSON

Scientific Officer

l Stevenson@apn-gcr.org

Ms. Kanako TAMADA

Administrative Assistant

ktamada@apn-gcr.org

Appendix 3

As of 1 April, 2004, the APN transferred from its former administrative body and now operates under the administrative arrangement of the Institute for Global Environmental Strategies (IGES).

IGES is an independent, non-profit research institute, established in Kanagawa, Japan, in 1998 under the support of the Japanese government. It aims to conduct research on practical ways to protect the earth's environment and to realise greater sustainability and equity in the global community.

The APN's decision-making is independent from IGES. The APN maintains, and separately manages, a special account within the IGES administration. The purpose of this APN special account is to independently administer contributions pledged by member countries and other sources.

The APN's financial report is submitted for external audit by an independent body with an international reputation. Thus, the APN's status will become more robust with the aforementioned financial, legal and administrative arrangements.

Appendix 4

Guidance for APN national Focal Points (nFPs)

National Focal Points (nFP's) are responsible for representing their countries in the activities of the APN, especially their countries' programs and interests in global change research and related activities, e.g., observing systems, data policy and management, and science-driven capacity building. These APN activities include especially the annual Inter-Governmental Meetings (IGMs).

NFPs are looked to prepare effectively for and to participate actively in these meetings/activities and their follow-up. Each nFP is expected to arrange for an annual update on his/her country's APN-relevant global change research and related programs to be presented at the annual IGM.

NFPs are called upon to participate in IGM efforts to identify important issues, evaluate these, consider options for resolving them, and assist the IGM to take decisions to implement them. Such issues could, but are not limited to, setting policy for APN programmes and finances; approval of APN rules and procedures; development and production of the APN's annual operating plan; review and approval of the APN's annual financial report and budget; review and approval of projects and activities to be undertaken or supported by the APN, based on recommendations made by the Scientific Planning Group; providing thematic guidance to the Scientific Planning Group, the Steering Committee and the Secretariat; implementation of long-term plans, including the APN's Strategic Plan,

and regular evaluation and review of these. NFPs are the only IGM participants authorised to formally approve or otherwise vote on actions to be taken and are expected to do so.

Each nFP is expected to work closely with his/her country's Scientific Planning Group (SPG) Member to assure consistent participation in both groups.

NFPs are expected to bring to APN activities their experience as scientists, science managers, and government officials. They are expected to maintain close communications with their national scientific communities, scientific institutions, and interested government agencies and to bring the benefits of these communications to the APN meetings/activities in which they participate.

NFPs should be prepared, when called upon, to represent the APN at meetings, workshops and other APN-relevant events and activities.

NFPs are expected to respond to queries and requests from the APN Secretariat on a timely basis.

If an nFP is not able to participate in an APN meeting/activity in which the nFP is representing his/her country, the nFP is expected to designate an appropriate alternate and to do so on a timely basis.

If an nFP is no longer able to serve in such a capacity on a long-term basis, he/she should notify his/her appropriate national authorities and arrange for a successor to be designated and should so notify the APN Secretariat.

An nFP may offer or may be asked to arrange for his/her country to host either the annual IGM/SPG Meetings or other APN activities/meetings.

The nFP from the country that hosts an IGM is normally expected to offer to Chair the IGM. NFPs from other APN member countries may be asked to serve as Vice-Chairs for IGMs and are encouraged to accept such responsibilities when offered.

The Chair is expected to manage the IGM on an effective and timely basis, keeping in mind the need to do so on a fair and open-minded basis; to seek an appropriate balance among the wide variety of interests among the nFPs, SPG Members, and other IGM participants; and, when appropriate, set aside his/her personal scientific, managerial, and/or national official interests. The Chair is strongly encouraged to seek solutions to issues based on consensus.

If the Chair finds it necessary to be absent or is otherwise unavailable (e.g., because of a conflict of interest), a Vice-Chair may be asked to serve as a Co-Chair on an interim basis and, in doing so, to act in accordance with the above guidance.

NFPs from developed countries are expected to seek and to obtain funding from their programs, institutions and/or governments to participate in IGMs and other APN meetings/activities. Other nFPs are encouraged to similarly seek such national funding, but may receive reimbursement for travel, accommodation and daily subsistence, as appropriate, for their participation in IGMs and other APN meetings/activities. However, honoraria are not provided to nFPs for their service in IGM's and other APN meetings/activities.

When representing the APN in a meeting/activity, nFPs are expected to submit a mission report to the APN Secretariat, normally within a few weeks of the completion of the activity.

Guidance for Members of the APN Scientific Planning Group (SPG)

SPG Members are expected to participate actively in the annual meetings and other activities of the SPG. SPG Members should bear in mind that, in this participation, they are expected to bring to bear their personal scientific and scientific management, irrespective of how they were nominated for SPG membership. SPG Members are, of course, welcome and encouraged to share with the SPG information regarding national and/or international science programs and issues that may be relevant to the work of the SPG, but should not advocate in the SPG and its deliberations official positions of the member's program, institution, country, and/or international organisations. Each SPG member is expected to work closely with the national Focal Point (nFP) from his/her country and, in particular, to make sure that the nFP is kept up-to-date on activities and views of the SPG.

SPG activities in which members are expected to participate include, but are not limited to:

- review and evaluation of research proposals received by the APN and the preparation of recommendations to the APN Inter-Governmental Meeting (IGM) for APN funding of appropriate proposals; this could involve serving on various small ad hoc groups that support these activities;
- evaluation and review of the APN Strategic Plan and of themes that the APN may consider appropriate and may select for emphasis in the implementation of this Plan;
- consideration and identification of research-driven capacity building of value to the APN; and
- when called upon, to represent the SPG in other APN activities or with national and/or international programs and organisations with which the APN interacts, e.g., in meetings, workshops and other APN-relevant events.

If an SPG Member is not able to participate in an SPG meeting, he/she should so notify the APN Secretariat as soon as possible. If an SPG Member is not able to fulfil his/her responsibilities on a long-term basis, for any reason, then he/she should step down and so notify the APN Secretariat immediately so that a new member may be proposed.

The SPG calls upon two of its members to serve as Co-Chairs of the SPG for two-year periods. SPG Members are encouraged to serve in this capacity if asked.

The Co-Chairs are expected to manage the meetings of the SPG on an effective and timely basis, keeping in mind the need to do so on a fair and open-minded basis and to seek an appropriate balance among the wide variety of interests among SPG Members and, when appropriate, set aside their personal scientific interests.

If both Co-Chairs are absent or otherwise unavailable, another SPG Member may be asked to serve as a Co-Chair on an interim basis and, in doing so, to act in accordance with the above guidance.

SPG Members from developed countries are expected to seek funding from their programs, institutions and/or governments for their participation in SPG meetings and other SPG activities. Other SPG Members may receive reimbursement for travel, accommodation and daily subsistence, as appropriate, but honoraria are not provided to SPG Members for their service on the SPG.

When representing the APN in an activity, SPG Members are expected to submit a mission report to the APN Secretariat, normally within a few weeks of the completion of the activity.

Guidance for Steering Committee (SC) Members

Steering Committee (SC) Members, after being selected by the Inter-Governmental Meeting (IGM), are expected to work very closely together and in close interaction with the APN Secretariat to guide the APN in the intercessional period between the IGMs, especially to promote and encourage effective implementation of IGM decisions. SC members are expected to be very proactive and to initiate action to improve the APN program, planning and operations, especially via electronic communications.

SC members may be called upon to participate in SC efforts to identify important issues, evaluate these, consider options for resolving them, and take decisions to implement them. Such issues could include, but are not limited to: administrative and financial management arrangements to implement the APN program; development of funding for the APN and its programs from member countries, international agencies and the private sector, either on a cash or in-kind basis; interacting with the international global change research programs and international intergovernmental and non-governmental organisations; preparation, in cooperation with the APN Secretariat, of an annual operating plan; keeping under review the roles, responsibilities, performance and achievements of the APN using appropriate metrics; and reporting to the IGM and keeping the APN Secretariat informed regarding SC activities.

NFPs are encouraged to serve on the SC when called upon to do so (Note: the two SPG Co-chairs are automatically SC Members). An SC Member who is not able to fulfil his/her responsibilities for any reason should step down so that a new member may be appointed. If an nFP serving on the SC no longer serves as his/her country's nFP, then the newly appointed nFP for that country is expected to take his/her place on the SC in the capacity of an observer, until the next IGM at which a new SC Member will be selected.

The SC Chair, who is elected by the SC from among its national Focal Points, is expected to manage the IGM on an effective and timely basis, keeping in mind the need to do so on a fair and open-minded basis and to seek appropriate balance among the APN's scientific, scientific management, administrative and financial management interests and, when appropriate, set aside his/her personal scientific, managerial, and/or national official interests. The Chair is strongly encouraged to seek solutions to issues based on consensus.

The SC Chair and other SC Members as well are expected to work closely with the APN Secretariat to represent the APN in a wide range of international meetings and related activities, carrying to these audiences information regarding the APN program, planning and operations; inviting input to the APN program, planning and operations within and from these fora; and encouraging, when appropriate, improved interaction with the APN.

If the Chair finds it necessary to be absent or is otherwise unavailable (e.g., because of a conflict of interest), another SC Member may be asked to serve as an Acting Chair on an interim basis and, in doing so, to act in accordance with the above guidance.

SC Members from developed countries are expected to seek and obtain funding from their programs, institutions and/or governments to participate in SC meetings and related activities. Travel support may be provided for SC Members from developing countries

Guidance for the APN Secretariat

The Secretariat performs the daily operations of the APN and, in particular, assists the IGM, the Steering Committee and the SPG in implementation of the APN's Strategic and Operational Plans; program; budget; and other activities, as appropriate.

The Secretariat is expected to manage as a very high priority the Annual Regional Call for Proposals and CAPaBLE Call for Proposals processes.

The Secretariat is expected to organise and support staff APN Meetings, including the IGM and SPG and SC Meetings. This support should include, but may not be limited to, planning the meetings; carrying out meeting logistics; assisting in their conduct, as needed; and documenting the meetings, especially by keeping records of the Meetings and preparing draft reports as needed.

The Secretariat is looked to assure timely and effective APN communications and to work closely with all of its bodies, with its members (nFPs and SPG and SC Members); with other regional institutions and networks; with the international global change research programs; with policy-makers; with donors and stakeholders; and with the scientific community and the general public (e.g., through newsletters, brochures, the APN website, publications, etc.).

When travelling on behalf of the APN, Secretariat staff will receive reimbursement for travel, accommodation and daily subsistence, as appropriate. Secretariat staffs are expected to submit a mission report, normally within a few weeks of the completion of the activity.

b. Communications Strategy

This Communications Strategy was endorsed at the 14th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting to facilitate continuity and to advance APN efforts in:

- Demonstrating its work within and outside the region;
- Effectively communicating the outcomes of the projects it supports;
- Strategically disseminating the results and outputs of its activities to the global change (GC) community, including scientists, decision-makers and the public through various platforms
- Enhancing communications among the APN organs and with the wider global change community

STRATEGY 1: Continue to produce and improve the communication tools

Publications

Continue to produce (in-house) and improve the appearance and quality (in terms of conciseness and clarity) of the following publications to make them more interesting and effective in providing information to the broader scientific community, policy-makers and the public.

- Proceedings of meetings, symposia, workshop
- Brochure that provides general introduction about APN
- Flyer that highlights major activities undertaken by the APN in the previous year and summarises the current projects being supported
- Project bulletin
- Annual report
- Quarterly newsletters
- Posters
- CD-ROMs containing APN publications and project reports

Website

Revamp the APN website to attract more visitors who access information on global change and thus further promote APN and its activities in the public domain. Changes may include but not be limited to:

enhanced and dynamic navigation structure, extensive linkages to other appropriate organisations, continuously updated content that clearly and accurately reflects APN's structure, activities under the Annual Regional Call for Research Proposals (ARCP) and *Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries (CAPaBLE)* Programmes, and a number of searchable databases for contacts, meetings and publications, etc.

STRATEGY 2: Develop new communication tools

- Press release – actively consider press releases to the media; issue joint press releases from the Secretariat and the country where an APN-related activity is taking place and ensure that the national Focal Points are well-informed
- Policy briefs – start from the submitted country reports by the member countries
- Synthesis reports or book from the synthesis activities
- Other useful publications

STRATEGY 3: Organise outreach activities

Continue to organise outreach activities and disseminate APN materials to further promote the network in the region and to encourage involvement of more stakeholders in APN activities.

STRATEGY 4: Establish/strengthen partnerships

- Maintain close liaison and strengthen the relations with the global change programmes and key organisations to explore better ways of collaboration in achieving shared goals
- Be more open and pro-active in establishing new ties/collaboration with other organisations in the region involved in global change research, capacity building/enhancement and policy development
- Explore mechanisms of engaging other countries (institutions) outside the region for mutually beneficial endeavours

STRATEGY 5: Raise APN visibility

- Expand more substantive APN activity to and supportive of policy-making, such as policy fora and symposia to contribute in raising APN profile in the region
- Use all opportunities to mention the APN at high-level ministerial meetings attended by national Focal Points
- Fully utilise other available infrastructure (such as the facility of the Institute for Global Environmental Studies) in promoting APN and disseminating information

STRATEGY 6: Empower APN members

The use of an appropriate communication platform is important in engaging the APN members to be more actively involved in APN activities.

- Create a web-based information tool where Members can have free access (or password-protected) to all the APN materials that they need.
- Add a portal on the APN website that will serve as a forum where Members can exchange information and ideas. This portal could be later expanded and opened to the public.
- Provide/supply the APN Members with useful materials for information and dissemination to their own networks.
- Convene a meeting (or include as a separate session/item of the IGM) devoted solely on empowering the Members and assessing how they progress on being more involved in APN activities and defining specific actions they have done as an APN Member. This strategy requires strengthening of the membership and full support/commitment from the Members should be realised beforehand.
- Be more proactive and diligent in reminding the Project Leaders to report the progress and outcomes of their activities to the National Focal Points (nFPs) and SPG Members in their countries/sub-regions.

c. APN Financial Summary 2005-2010

		2005	2006	2007	2008	2009 ¹⁾
Revenue	MOEJ	1,260,000	1,034,000	917,000	963,000	1,342,000
	Hyogo	327,000	294,000	282,500	295,000	322,000
	NSF/USCCRP	475,000	435,000	460,000	480,000	500,000
	Australia	23,000	22,000	23,000	--	--
	New Zealand	--	16,000	17,000	20,000	14,000
	Republic of Korea	--	10,000	10,000	10,000	10,000
	Operative Assets from the previous Fiscal Year	150,000	228,000	178,500	160,000	45,000
	Savings through exchange rate fluctuations				76,000	
	Revenue total	2,235,000	2,039,000	1,888,000	2,004,000	2,233,000
Expenditure	Science, Policy, Communications, Networking					
	ARCP	636,000	629,000	669,000	718,000	720,000
	CAPaBLE	564,000	596,000	494,000	525,000	660,000
	Climate Synthesis	--	--	--	--	50,000
	2SP Evaluation and 3SP Formulation	--	--	--	--	30,000
	Science/Policy fora	163,500	41,000	31,000	102,000	50,000
	Fellowship Programme	50,800	47,500	45,000	31,000	55,000
	IGM/SPG Meetings, SC Meetings	68,100	118,000	92,000	105,000	100,000
	Salaries and related costs, for professional service (science & policy)	244,000	230,000	224,000	258,000	290,000
	Sub-Regional Cooperation	16,300	--	13,000	--	25,000
	Travel costs	40,000	29,500	17,000	27,000	35,000
	Publication & Website	30,700	28,000	24,000	18,000	32,000
	Contingency					1,000
	Institutional Expenditure					
	Salaries and related costs for professional service administration	65,400	45,500	48,000	68,000	65,000
	General Operational Costs	63,700	65,000	56,000	64,000	80,000
	IGES Overhead	34,500	31,000	27,500	29,000	40,000
	Compensation exchange rate fluctuation	25,000				
	Expenditure total	2,010,000	1,860,500	1,740,500	1,965,000	2,233,000
	Operative Assets to the next Fiscal Year	225,000	178,500	147,500	39,000	0

Exchange rates applied: 2008: US\$ 1 = JPYen 115

2009: US\$ 1 = JPYen 100

1) In 2009, the amounts shown under "Expenditure" are taken from the budget plan as actual figures would not be available until April 2010.

Draft Resources Development Strategy

Recalling the short-, medium- and long-term actions points, derived from the Action Plan 2009/2010 which are shown in the box below.

Short-Term Action Points for 2009/2010

- Have APN-initiated and APN-funded projects proactively seek collaboration with institutes and organisations that provide co-sponsorship and in-kind contributions.
- Work with those presently funding APN Programmes and activities to assure long-term stability of such funding.
- Based on the review of discussions held in the past, formulate financial working plan with concrete and targeted action points (divided in two separate groups, one with actions to raise additional funds, and a second one with actions to reduce expenses).
- Report in-kind contributions (in figures) in the financial reporting at IGM/SPG.
- Encourage members from developing countries to consider sharing costs of travelling to IGM.
- Formulate a Resources Development Plan according to the advice of the 14th IGM/SPG Meeting.

Medium and Long Term Action Points for 2009/2010 and beyond

- Consider the possibility of looking to member countries to invest in the APN, with in-kind and/or financial contributions.
- Continue to mobilise funds for scientific and capacity development activities from sources within and outside of the APN region.
- Co-organise activities with other agencies, for the purpose of cost efficiency.

and in light of the endorsement of the currently draft Third Strategic Plan, the following steps and actions are proposed for discussion and endorsement for presentation to the 15th IGM.

In so doing it is necessary to recall the three recognised strategic domains we need to look at:

1. *Direct financial contributions from the Governments of the APN member countries;*
2. *In-kind contributions from the Governments of the APN member countries; and*
3. *Direct financial support provided by external sources, such as foundations, funding agencies, and private sector etc.*

Direct financial contributions from the Governments of the APN member countries

1. Investigate those scientific and policy-relevant areas of global change the Governments of the member countries are interested in. Confer with the nFPs and SPG members member countries regards the kinds of activities that are pressing and under which conditions the member countries may be ready to provide contributions to undertake these pressing activities.
2. Investigate, together with the nFPs of those member countries that are already contributing to the APN directly and financially, areas of their specific interest in global change research and possibilities of how to achieve increased contributions. Vice versa, check the obstacles that may hinder these countries to increase their contributions so the APN may consider them while trying to improve its structural basis.

In-kind contributions from the Governments of the APN member countries

1. While the Ministry of the Environment of Japan remains the major donor for the expenses related to personnel at the APN Secretariat, possibilities must be investigated to secure human resources by, perhaps, secondment of junior staff from member countries to the APN Secretariat. While a part of the remuneration/allowance during their stay in Japan may be covered by APN, a substantial portion would be expected to be borne by the seconding Governments of the member countries. Explore this strategy with member countries.
2. Encourage Governments of the developing member countries to cover, at least partially, the travel costs of their APN members to attend APN meetings.
3. Encourage members, in particular the developing country members, to develop, organise and fund/co-fund events, such as workshops, symposia, etc., that could be held in conjunction or back-to-back with major international events related to global change research, that are held in their countries, respectively. Proposal Development Training Workshops (PDTW) are a good example. Seek advice and guidance from the nFPs and SPG members.

Direct financial support provided by external sources, such as foundations, funding agencies, and private sector, etc.

1. While starting to search for potential funding agencies and foundations, identify with the member countries, particularly the SPG members, the 'scientific products' APN wants to offer.
2. Create 'products' to offer that have 'added value' component: What is the APN specific 'added value' that would make the products more attractive for potential donors? This is an ongoing process and must be consistently and sensitively re-considered and re-developed.
3. Think strategically how to receive financial support from external donors while being aware that, at least partially, the APN is a funding agency itself.

Although many of the aforementioned steps have to be looked at as an ongoing process, the initial outcomes of the investigations are supposed to be reported to the 16th SC Meeting, tentatively scheduled in the latter half of August 2010 in Kobe, Japan. SC's input and recommendations will be incorporated into the strategy of further investigation work. A detailed plan will be delivered to the 16th IGM in early 2011 for discussion and subsequent endorsement

Communications and Outreach

This paper summarises the progress and plans in strengthening the implementation of the APN's Communications Strategy.

Background

Recognising that effective communication is crucial to the success of APN and to realise the broad strategies in many communication aspects that are highlighted in the APN 2nd Strategic Plan (2SP) under the Institutional Agenda, the Communications Strategy (*IGM-SPG/15/07-App.1*) was devised and endorsed at the 14th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting in March 2009. This Communications Strategy was also developed to facilitate continuity and to advance APN efforts in:

- Demonstrating its work within and outside the region;
- Effectively communicating the outcomes of the projects it supports;
- Strategically disseminating the results and outputs of its activities to the global change (GC) community, including scientists, decision-makers and the public through various platforms; and
- Enhancing communications among the APN organs and with the wider GC community.

Progress and plans in implementing the APN's Communications Strategy

- APN continues to produce and improve the appearance and quality (in terms of conciseness and clarity) of its publications to make them more interesting and effective in providing information to the broader scientific community, policy-makers and the public. Publications produced since the 14th IGM/SPG Meeting are enumerated under Item Paper *IGM-SPG/15/02: Major Activities in 2009-2010*.

Planned publications for 2010/2011 and beyond:

Regular Publications

- 15th IGM/SPG Meeting Proceedings
- 2009-2010 Annual Report
- 2010 Project Bulletin, Volume 6
- APN 2010 General Brochure also to be translated in other member country languages
- Quarterly issue of the APN Newsletter (soft/electronic copy only)

Special/New Publications

- Book and Synthesis Reports from climate synthesis activities
- Report of the Evaluation of the APN's Second Strategic Phase
- 3rd Strategic Plan
- Press/News releases: The news releases (web-based format) that were produced from August 2009 are mostly event releases. Please refer to *IGM-SPG/15/07-App.2* for a list of these releases. They were posted on the website and circulated through the electronic mailing list (EML). To attract favourable media attention and increase publicity/visibility, APN needs input from the members. *National Focal Points (nFPs) and Scientific Planning Group (SPG) Members are encouraged to provide contact details of editors at the newspapers, magazines, radio stations, television stations and/or television networks in their respective countries.*
- Policy brief: This tool is usually said to be the most common and effective written communication tool in a policy campaign. However, in balancing all the criteria of an

effective policy brief that serves its intended purpose, many analysts also find the brief the most difficult policy tool to write. Please refer to *IGM-SPG/15/07-App.3* appended to this paper which gives clear policy brief description, lists some criteria for an effective policy brief that serves its intended purpose, provides the most common elements of a policy brief and explains how these elements are characterised.

- To increase the number of “hits” on the APN website and attract more visitors who access information on GC issues, thus increasing APN visibility, the website is continuously being improved and revamped with a new interface and dynamic features and will be timely launched as the APN enters its 3rd Strategic Phase from April 2010. For more details about the revamped website and its development in the future, please refer to the presentation and *IGM-SPG/15/07-App.4* and *IGM-SPG/15/07-App.5* appended to this paper.
- A Strategic Information System Plan (*IGM-SPG/15/07-App.5*) is devised to help in implementing the endorsed Communications Strategy, particularly in improving communications tools. This system consists of four major components: web content management system, automated electronic mailing list, online library, and online collaboration and networking.
- APN continues to organise outreach activities and disseminate APN materials to further promote the network in the region and to encourage involvement of more stakeholders in APN activities. A number of new activities will be proposed on Day 3 under Item 14.
- APN continues to establish/strengthen partnerships with the GC programmes and other key organisations. Long-term plans includes stronger collaboration with the Core Projects of the GC programmes. Online forums would also be explored through more advanced communication software to promote stronger collaboration among groups of APN people with mutual concerns. More information is provided in *IGM-SPG/15/07-App.5* appended to this paper.
- APN maximises every opportunity to raise its visibility in the region including the expansion of more substantive APN activity to and supportive of policy-making. More activities supportive of this strategy will be organised and conducted as APN enters its 3rd Strategic Phase from April 2010.
- APN continues to empower the members by using appropriate platforms in engaging them to be more actively involved in APN activities. For instance, conducting the Proposal Development Training Workshops back-to-back with the Sub-Regional Cooperation Meetings (to be presented on Day 3 under Item 14) is a way of empowering members so they would learn more about the APN Proposals Process then go back to their respective countries and impart their knowledge. The Secretariat is also diligent in reminding the Project Leaders to report the progress and outcomes of their activities to the nFPs and SPG Members in their respective countries/sub-regions.

Formulation of the 3rd Strategic Plan

To realise its mission, the APN's Third Strategic Plan (2010-2015) was developed based on the evaluation of its second strategic phase, which ran from 2005 to 2010, and on the discussions at the 13th Steering Committee (SC) Meeting, Augmented SC Meeting and Writing Workshop that convened in August 2010.

The 3SP focusses on two main agendas: Science Agenda and Institutional Agenda.

- Under the **Science Agenda**, APN will focus on scientific research, scientific capacity development and science-policy interactions via activities organised within the APN, such as syntheses, workshops and assessments; and projects selected from the two main scientific pillars of the APN, which is the Annual Regional for Research Proposals (ARCP) and Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programmes.
- Under the **Institutional Agenda**, APN will look at the involvement of its member countries; alignment with programmes of the global change community; financial resources; communications and outreach to the science and non-science communities; and developing the network and its institutional arrangements.

Draft 3rd Strategic Plan

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Message from the Director

It is my honour to present the APN's Third Strategic Plan (2010-2015).

Societies' ability to respond to global and climate change depends on the resilience of human and environmental systems in the face of these changes. Improving understanding of the interactions and feedback of physical climate systems with human and environmental systems, improving predictions of longer-term causes and trends, and preparing nations for future events are grand challenges.

The Asia Pacific Network for Global Change Research (APN) continues its mission to enable countries in the Asia-Pacific region to address these challenges successfully. Projects funded by the APN are aimed at integrating across the natural, social and political science disciplines to find solutions to global change problems that are of major concern in the region.

To realise its mission, the APN's Third Strategic Plan (2010-2015) was developed based on the evaluation of its second strategic phase, which ran from 2005 to 2010, and focusses on two main agendas: Science Agenda and Institutional Agenda.

Under the Science Agenda, APN will focus on scientific research, scientific capacity development and science-policy interactions via activities organised within the APN, such as syntheses, workshops and assessments; and projects selected from the two main scientific pillars of the APN, which are the ARCP and CAPaBLE Programmes.

Under the Institutional Agenda, the APN will look at the involvement of its member countries; alignment

with programmes of the global change community; financial resources; communications and outreach to the science and non-science communities; and developing the network and its institutional arrangements.

With the support from its members and key partners and guided by the strategies stipulated in the present document, the APN will continue to enhance collaborative scientific research capacity in the Asia-Pacific region, particularly in developing countries. The APN is also determined to bridge and close the gap among scientists and policy-makers by creating opportunities for them to interact effectively and by providing robust scientific input to policy decision-making and scientific knowledge to the public and other non-science communities.

Tetsuro Fujitsuka

Secretariat Director

Asia-Pacific Network for Global Change Research (APN)

Rationale

Countries within the Asia-Pacific region support more than half of the world's population, and changes in the Earth's bio-geophysical system are clearly impacting the societies and economies of these countries.

Recent research and supporting observations have provided new insights into some of these changes and their impacts but have, at the same time, opened a number of new and challenging scientific issues and questions. APN seeks to identify these scientific issues to promote, as well as encourage, regional cooperative global change research.

APN defines "*global change*" as the set of natural and human-induced processes in the Earth's physical, biological, and social systems that, when aggregated, are significant at a global scale. APN strives to enable the developing countries of the region to participate increasingly in, and to benefit fully from, cooperative research in the region. APN assures that the research results contribute to the development of sound science-based response strategies and measures, policy- and decision-making processes, and scientific capacity development to address these important issues.

Finally, recognising the interactive role of regional processes in the overall Earth system, the APN also aims to link the initiatives it sponsors with related projects conducted in other regions and under the aegis of global-scale programmes.

1. VISION, MISSION, GOALS AND CORE STRATEGIES

Vision

Enable countries in the Asia-Pacific region to successfully address global change challenges through science-based response strategies and measures, effective science and policy linkages, and scientific capacity development.

Mission

The mission of the APN is to enable investigations of changes in the Earth's life support systems and their implications for sustainable development in the Asia-Pacific region. The APN, therefore, supports investigations that will:

1. Identify, explain and predict changes in the context of both natural and anthropogenic 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.

Goals

- Goal 1.** Supporting regional cooperation in global change research on issues particularly relevant to the region
- Goal 2.** Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public
- Goal 3.** Improving the scientific and technical capabilities of nations in the region, including the transfer of know-how and technology
- Goal 4.** Cooperating with other global change networks and organisations

Core Strategies

The core strategies of the APN are to:

1. Promote and encourage research that can improve understanding of global change and its implications for the region, and contribute to sound scientific basis for policy formulation and decision-making;
2. Promote and encourage activities that will develop scientific capacity and improve the level of awareness on global change issues specific to the region; and
3. Identify and help address, in consultation with policy-makers and other end-users, present and future needs and emerging challenges.

2. ACTIVITIES

In order to achieve its mission, APN has identified the four goals mentioned above. Each goal may be achieved through APN-funded activities outlined below. These activities are selected from the Annual Regional Call for Research Proposals (ARCP) process, as well as the APN's scientific capacity development programme, CAPaBLE.

Goal 1. Supporting regional cooperation in global change research on issues particularly relevant to the region

This is the highest priority goal of APN. It addresses the APN's core belief that international cooperation is essential to identify the causes and address the impacts of global change.

Key Investment Instrument: Underpinning knowledge creation

Examples of activities that may be conducted under this goal include:

- a. Facilitating and supporting collaborative global change research projects in the region;
- b. Organising regional meetings to highlight global change research and its possible implications for policy-making; and
- c. Systematically identifying key scientific priorities and emerging scientific issues for the region.

Goal 2. Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public

As APN is an inter-governmental network, a high priority goal is to produce sound scientific results that can be made available as a supportive tool for policy-making processes. Accordingly, the APN will support research where knowledge gaps exist and where research outcomes can be used to support policy

development. APN recognises that policy decisions are made in a complex environment where many factors must be considered; there is often no guarantee that the results of research can always be appropriately translated into policy. The APN's approach is, therefore, to focus on strengthening appropriate links between the science and policy communities. In addition, the APN realises the importance of raising public awareness of global change issues based on sound science. Accordingly, the APN will use public fora to raise public awareness of global change issues when appropriate opportunities arise.

Key Investment Instrument: Facilitation of appropriate science-policy interaction

Examples of activities that maybe conducted under this goal include:

- a. Seeking out existing or creating new fora for discussion between scientists and policy-makers;
- b. Supporting training workshops for scientists to develop skills and techniques in providing science-based tools to support policy development;
- c. Providing scientific information to policy-makers in a suitable format;
- d. Identifying and maintaining databases of key policy bodies for the region;
- e. Improving communications and exchange of information with relevant governmental fora in the region and relevant inter-governmental bodies;
- f. Cooperating with other organisations to provide scientific information to the public;
- g. Improving access to APN products and activities through media by providing frequent press releases and enhancing communications with media groups; and
- h. Facilitating communications and interactions among APN members and the Secretariat.

Goal 3. Improving the scientific and technical capabilities of nations in the region, including the transfer of know-how and technology

It is vital that APN member countries have the capacity to conduct high quality research regarding global change that provides underpinning scientific support for policy-makers and policy-making processes. APN believes that research must involve local scientists and that they must be given the capacity to develop and continue their research as well as analyse and utilise their research outcomes.

Key investment instrument: Indigenous capacity development

Examples of activities that may be conducted under this goal include:

- a. Supporting global change research and other activities, particularly by developing country scientists;
- b. Providing financial support for capacity development projects, particularly in developing member countries;
- c. Cooperating with international capacity development programmes; and
- d. Providing opportunities for all APN member countries, especially developing member countries, to participate in APN-sponsored projects.

Goal 4. Cooperating with other global change networks and organisations

It is vital that the APN continues to develop strong partnerships with other global change networks and organisations and, as a network, be aware of current and emerging research and related activities in the region and throughout the world. This goal supports each of the first three goals above and enables the APN to operate efficiently and effectively within the global change community.

Key Investment Instrument: Defining regional context of global issues

Examples of activities that may be conducted under this goal include:

- a. Organising collaborative projects in areas of common interest;

- b. Inviting other global change research organisations to be involved in APN meetings and committees and for the APN to be represented at relevant meetings organised by others;
- c. Exchanging publications with relevant organisations; and
- d. Setting common agendas and initiating cooperative arrangements where appropriate.

3. APN SCIENCE AGENDA

3.1 Scientific Research Agenda

APN enables activities that generate and transfer knowledge on the physical, biological and human dimensions of change in the Earth's system with a focus on:

1. Climate Change and Climate Variability;
2. Ecosystems, Biodiversity, and Land Use;
3. Changes in the Atmospheric, Terrestrial and Marine Domains; and
4. Resources Utilisation and Pathways for Sustainable Development.

The above themes are interrelated and involve the interface of natural, social and political sciences. Thus, APN will also support research on crosscutting issues, science-policy linkages and the human dimensions of global change.

APN supports a range of research topics and other scientific activities as shown in the examples listed, although not exhaustive, in Section 7 'Endnotes.'

APN serves the scientific and decision-making communities and other users in the Asia-Pacific region. APN will invest in the identification of existing methodologies and the development of new methodologies and tools to improve the effectiveness of necessary scientific knowledge transfer to decision-makers in Asia-Pacific communities.

Examples of activities that APN might support are:

- a. Promoting and strengthening global change research, including addressing and identifying gaps via syntheses and assessment work, particularly under the four thematic areas identified in the Scientific Research Agenda. This will be across all communities of natural, socio-economic and political sciences, and non-science stakeholders including decision-makers, managers and the public.
- b. Identifying and developing existing methodologies and developing new methodologies and tools for improving the effectiveness of scientific knowledge transfer to user communities;
- c. Strengthening the interface of policy- and decision-making processes and society in general for mainstreaming environmental concern, in order to develop pathways and effective mechanisms to approach economic and industrial planning processes, adaptation strategies, and enhancing practical research activities, in keeping pace with progress in international policy processes;
- d. Encouraging initiatives from developing countries, especially for place-based (site-specific) integrative research that includes interdisciplinary analyses of the effects and consequences of development pathways, and potential coping strategies pertinent to the region; and
- e. Aligning with global change scientific programmes (refer to Section 4 under 'Alignment with Programmes of the Global Change Community').

3.2 Scientific Capacity Development Agenda

The Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries programme (CAPaBLE), which was launched in April 2003, is an initiative to realise parts 107 to 114 of the

Johannesburg Plan of Implementation (JPOI) for the World Summit on Sustainable Development (WSSD) and is registered as a WSSD Type II Partnership Initiative.¹

The CAPaBLE programme is enhancing scientific capacity in developing countries to improve decision-making relating to issues that are directly linked to their sustainable development. This effort is being achieved through a two-track process of *capacity enhancement* for experienced leading scientists and *capacity development* for early-career scientists. An evaluation of Phase One of CAPaBLE (2003-2006) was conducted in 2008, the results of which reaffirmed the urgency and need for a programme like CAPaBLE as an integrated pillar of APN activities focussing on scientific capacity development, particularly for developing countries.

The APN's strategies are to:

1. Strengthen the profile of the CAPaBLE programme to ensure that it continues to be a strong pillar of APN activities that stands alone from the first pillar (the ARCP programme);
2. Recognise that scientific capacity development is needed for both the science and non-science communities;
3. Establish specific criteria and a set of metrics for evaluating successful capacity development for short- and long-term outcomes;
4. Widen its scientific capacity development activities in the broader context of global change and the scientific themes identified in the present Strategic Plan;
5. Continue its scientific capacity development efforts in science and education at all levels from the local and community levels (grass roots), to the national, regional and global levels, particularly in developing countries. This is distinct from the APN's ARCP programme, where activities must involve the participation of at least three APN-approved countries in the Asia-Pacific region; and
6. Commit the necessary time and funds to attract investment into the CAPaBLE programme. The "partnership" approach of the CAPaBLE programme will be used as the major key for seeking and securing investment from other stakeholders. In so doing, the APN will endeavour to show current investors that there is a good reason to continue investing in the CAPaBLE programme.

3.3 Science-Policy Agenda

The APN is committed to achieving its second goal of strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public and other non-science communities. One important role of science is to provide the underpinning information for policy- and decision-making, so it must respond to the needs of policy-makers and decision-makers. Conversely, it is important that those stakeholders indicate what their needs are. The APN will continue to develop effective methodologies and procedures in its science thematic areas identified under its Scientific Research Agenda, and transfer this knowledge and information to the science, non-science (public, civil society, etc.) and decision-making communities. The APN will strive to achieve an excellent track record of strengthening appropriate science-policy interactions by the end of the period covered by the present Strategic Plan.

The APN's strategies are to:

1. Strengthen science-policy interactions/linkages for ARCP and CAPaBLE projects funded under the annual Calls for Proposals. In so doing, develop a set of metrics for science-policy interactions/linkages and define specific criteria for successful science-policy linkages.
2. Encourage projects to adopt interdisciplinary approaches that include natural, social, economic and political sciences.
3. Continue to empower APN members, who represent their governments, in APN activities, by

¹ Of particular relevance to the CAPaBLE programme is part 111 of JPOI: *Establish regular channels between policy-makers and the scientific community for requesting and receiving science and technology advice for the implementation of Agenda 21, and create and strengthen networks for science and education for sustainable development, at all levels, with the aim of sharing knowledge, experiences and best practices, and developing scientific capacities, particularly in developing countries.*

seeking their guidance on best practices and opportunities to promote science and policy interactions.

4. Increase the number of policy publications, including policy-briefs, synthesis reports and assessments, etc. In so doing, APN will disseminate scientific results to non-science audiences in order for policy-makers, end-users and the public to have a better appreciation of global change issues.
5. Cooperate with other institutions and bodies (e.g. the global change programmes, Association of Southeast Asian Nations [ASEAN], Intergovernmental Panel on Climate Change [IPCC], United Nations Framework Convention on Climate Change [UNFCCC] and Subsidiary Body for Scientific and Technological Advice [SBSTA], etc), who, like the APN, address or face issues relating to science-policy interactions. Provide increasing opportunities for interactions between scientists and policy-makers, and through policy-based workshops where participants include policy-making groups and a cross-section of stakeholders.

4. APN INSTITUTIONAL AGENDA

Involvement of Member Countries

It is important that each member continues to recognise the APN as an inter-governmental network that belongs to all of its members and is actively involved in addressing regional and national global change research priorities.

The APN's strategies are to:

1. Continue to strengthen member countries' sense of ownership and assist them in facing the challenges presented by global change;
2. Encourage member countries' representatives to play an active role in promoting the APN programmes at the national, regional and international levels; and
3. Enhance year-round communications among all APN stakeholders.

Alignment with Programmes of the Global Change Community

The APN believes that working in partnership with other organisations involved in global change research and policy development is essential to maximise available resources and to deliver the best possible results. Currently, APN's key partners include: **1)** APN's sister organisation - Global Change SysTem for Analysis, Research and Training (START); **2)** The International Council for Science (ICSU)'s Global Change Programmes – the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP), the International Programme of Biodiversity Science (DIVERSITAS), the World Climate Research Programme (WCRP) and their Earth System Science Partnership (ESSP), and the ICSU Regional Office for Asia and the Pacific (ICSU-ROAP); **3)** APN's sister network(s) – the Inter-American Institute for Global Change Research (IAI) and, potentially, the African Network for Earth System Science (AfricanNESS); and **4)** Global Earth Observations. Moreover, opportunities inside and outside the Asia-Pacific region are constantly emerging for the APN to find new synergies (for funding, research, and network building, etc.).

The APN's strategies are to:

1. Communicate and collaborate closely with organisations in the global change community to achieve shared goals. Such collaboration will include joint research projects, scientific capacity development activities, science-policy interfacing, enabling Asia-Pacific participation at international conferences, scoping workshops and developing and strengthening networks of scientists and policy-makers. In order to build momentum, whenever possible, the APN will plan joint activities using a multi-year timeframe (e.g. two to three years);

2. Encourage APN-initiated and APN-funded projects to proactively seek collaboration with institutes and organisations that provide co-sponsorship and in-kind contributions. APN will also seek the active involvement of host institutions;
3. Consider entering into formal arrangements with partners, where appropriate; and
4. Consider establishing partnerships with institutions outside the Asia-Pacific region that have an interest in global change research and scientific capacity development being conducted inside the region.

Financial Resources

The APN's strategies are:

1. The Steering Committee will coordinate resources development and will look into diversifying APN funding resources, encouraging more financial and in-kind contributions from members, and strengthening the matching-fund mechanism.
2. With continued generous support (financial and in-kind contributions) from the Hyogo Prefectural Government, the APN Secretariat will remain in Kobe. APN will also continue to extend its relationship with Hyogo Prefecture in areas of common interest.

Communications and Outreach

The APN will implement its Communications Strategy including developing new communication tools, organising outreach activities, establishing/strengthening partnerships, and raising APN visibility.

Developing the Network and Institutional Arrangements

The APN will develop mechanisms that will strengthen the engagement/involvement of non-member countries and organisations in APN activities in an effective and efficient manner.

The Framework document will be updated as appropriate to address the development of APN.

5. ACKNOWLEDGEMENTS

The APN gratefully acknowledges the following for their generous support and valuable input to develop the present Strategic Plan:

- National Focal Points (nFPs) and Scientific Planning Group (SPG) Members from each member country.
- Project leaders/collaborators, scientific experts, and lead reviewers who contributed to the APN's scientific review and in the Augmented Steering Committee Meeting (August 2009).
- Global change programmes and international organisations (DIVERSITAS, ESSP, Global Change Impact Studies Centre [GCISC], ICSU-ROAP, IGBP, IHDP, Monsoon Asia Integrated Regional Study [MAIRS], START, UNFCCC, WCRP, World Health Organisation [WHO], and World Meteorological Organisation [WMO]).
- Individuals and organisations in the wider global change community who responded to the evaluation questionnaires.

6. ACRONYMS

AfricanNESS	African Network for Earth System Science
APN	Asia-Pacific Network for Global Change Research
ARCP	Annual Regional Call for Research Proposals

ASEAN	Association of Southeast Asian Nations
CAPaBLE	Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries programme
DIVERSITAS	International Programme of Biodiversity Science
ESSP	Earth System Science Partnership
GCISC	Global Change Impact Studies Centre
GEO	Global Earth Observations
IAI	Inter-American Institute for Global Change Research
ICSU	International Council for Science
ICSU-ROAP	ICSU Regional Office for Asia and the Pacific
IGBP	International Geosphere-Biosphere Programme
IHDP	International Human Dimensions Programme on Global Environmental Change
IPCC	Intergovernmental Panel on Climate Change
JPOI	Johannesburg Plan of Implementation
MAIRS	Monsoon Asia Integrated Regional Study
NFP	National Focal Point
OMZ	Oxygen Minimum Zones
SBSTA	Subsidiary Body for Scientific and Technological Advice
SPG	Scientific Planning Group
START	Global Change SysTem for Analysis, Research and Training
UNFCCC	United Nations Framework Convention on Climate Change
WCRP	World Climate Research Programme
WHO	World Health Organisation
WMO	World Meteorological Organisation
WSSD	World Summit on Sustainable Development

7. ENDNOTES

APN supports a range of research topics and other activities that help achieve its objectives. Without prejudice to the APN's decisions, the following list of indicative topics provides examples of the range of research that may be of interest to the APN.

The information outlined below is not in any order of priority and is not exhaustive. It is provided, essentially, to facilitate in-country discussions and to assist those interested in working with the APN. Please refer to the APN website (www.apn-gcr.org) for accurate and extensive information of projects that APN has funded in the past.

1. Climate Change and Climate Variability

- Regional scenarios for climate change including climate extremes
- Implications of global change for predictability and stability of the Asian Monsoon, and societal consequences
- Synergies between adapting to current natural climate variability and that of future human-induced climate change
- Adaptation measures in the Asia-Pacific region
- Aerosols, clouds, climate, and human health
- Mitigation options and their implications for sustainable development
- Climate change and climate variability in cryosphere and water and food security

2. Ecosystems, Biodiversity, and Land Use

- Changes in the carbon cycle and the water cycle

- Research and information networks for land system change
- Assessment and enhancement of land use sustainability
- Nature, extent, causes and impacts of land use change
- Regionality of ecosystem services and their changes
- Global change and mountain systems
- Coastal marine ecosystem
- Freshwater ecosystems, lakes and rivers
- Agriculture ecosystems, forests, rangelands, watersheds
- Water quality and quantity, water reuse
- Bioenergy technology to offset fossil fuel consumption
- Applied agricultural technology
- Natural resources and environmental management
- Urban land use change
- Fish-stock/live-stock assessments, natural and cultured
- Invasive species
- Climate change and biodiversity

3. Changes in the Atmospheric, Terrestrial and Marine Domains

Atmospheric Change:

- Air quality changes at various spatial and temporal scales and their impacts
- Source and sink fluxes of greenhouse gases
- Impacts of increasing atmospheric carbon dioxide and air pollutants on agricultural and natural ecosystems in the Asia-Pacific region
- Downscaled climate change scenarios
- Uncertainty analysis
- Climate impacts on pollution

Changes in the Oceans and Coastal Systems:

- Structure and composition of the marine food web and its response to physical forcing and chemical regimes in coastal up-welling systems
- Aspects of physical and biogeochemical cycles and ecosystems in oxygen minimum zones (OMZ)
- Ocean acidification
- Decline and degradation of marine biodiversity, e.g., mangroves and coral reef ecosystems
- Impacts of developmental activities on the ecology and socio-economic systems of the Asia-Pacific region
- Understanding regional ocean climate variability and implications for fisheries and aquaculture
- Extreme weather events and water ocean hazards

4. Resources Utilisation and Pathways for Sustainable Development

- Environmental implications of regional policy aimed at energy security and carbon limited society
- Renewable energy systems and sources
- Economic impacts of global change on the Asia-Pacific region through the food trade chain
- Transfer of environmental burden (external cost) associated with enhancing regional material/products flow
- Environmental implications of trans-boundary trade of resources and wastes
- Regional strategies and initiatives to reduce, reuse and recycle materials
- Regional water resource issues related to international river flows
- Biofuels and bioenergy
- Risk management

- Prediction, analysis and responding to extreme events
- Climate change and hydrology and water resources at regional/provincial levels
- Risks assessment of coastal ecosystems
- Climate change and food systems
- Holistic assessment involving several issues in the same ecosystem
- Global environment change and land use planning

Crosscutting Concerns

Research on these topics transcend beyond disciplinary and thematic issues, thus APN also encourages proposals that address crosscutting issues covering research topics such as:

- Integrated assessment techniques
- Interactions between global change and regional change
- Global change impacts and sustainable development
- Global change and water, food and health management
- Institutional dimensions of global change
- Sustainable management of urban areas, coastal zones, etc.
- Globalisation (lifestyle, consumption patterns, transport systems, etc.) and global change
- Global change impacts of multilateral financial institutions
- Technology or equipment that are environmentally friendly (recyclables, biodegradable materials, life cycle analysis of materials, etc.)
- Global change implications of urban sprawl/urban development

APN recognises the importance of linkages between science and policy, i.e., two-way communications between the communities that use scientific information (policy-makers and decision-makers in society) and scientific communities. These are:

- Research of best practices in science-policy interface options potentially appropriate for APN (e.g., IPCC, science briefings, publications)
- Development of additional science-policy interface approaches potentially appropriate for the APN
- Publication of guidelines for APN scientists based on this knowledge/experience
- Training and capacity development for science-policy interfacing
- Science-policy interfacing relating to global change
- Transforming scientific knowledge to policy (e.g., communicating science, translating scientific knowledge into decision making processes, knowledge brokers, stakeholder involvement)

Parallel Session: Sub-Regional Cooperation

This paper provides a brief update on the activities of the APN sub-regional committees and the procedure for the Parallel Session.

SRC Update

The 1st South Asia (SA) SRC Meeting and the 2nd Southeast Asia (SEA) Sub-Regional Committee (SRCom) Meeting convened successfully on 27-28 July 2009, in Colombo, Sri Lanka and on 19-20 August 2009, in Bangkok, Thailand, respectively. Highlights of these meetings were presented at the 13th Steering Committee (SC) Meeting held on 24-25 August 2009 in Kobe, Japan. Mr. M.A.R.D. Jayatilake, national Focal Point (nFP) for Sri Lanka delivered the presentation on behalf of the SA group while Dr. Subra Moten, Scientific Planning Group (SPG) Member for Malaysia and nFP alternate for Malaysia at the 13th SC Meeting gave the presentation on behalf of the SEA group.

At the 13th SC Meeting, it was suggested to establish a mechanism that non-member countries would be welcomed to attend the SRC meetings but they have to shoulder their own travel expenses. It was further stressed that the proposal to establish a regional headquarter might not be the most effective way to enhance the communication among the nFPs, SPG members and project leaders/collaborators in the sub-region as there are numerous ways of transferring information electronically. The sub-regional committees were advised to take advantage of the technology available to facilitate communication at the sub-regional level.

The success of holding the two SRC meetings clearly demonstrates the increasing cooperation among the Global Change SysTem for Analysis, Research and Training (START), the International Council for Science (ICSU), and the APN sub-regional committees. This very positive interaction assures that there is no duplication of efforts. Continued endeavours are encouraged by the SC.

For the information of the members, the highlights of the 1st SA-SRC Meeting and the 2nd SEA-SRCom Meeting are appended to this paper.

Procedure for Parallel Session

The SA and SEA SRCom members will group into their respective sub-regions to discuss the issues of mutual importance and brainstorm on the way forward. A draft agenda, together with all necessary documents, will be provided by the Secretariat to both sub-regional groups for their consideration.

Each sub-regional group should prepare a summary of the discussion (WORD FILE) for submission to the Secretariat on the following day. Under Item 13 on Day 2, a representative from each of the SA and SEA sub-regional committees will give a brief presentation/report (12-15 minutes) on the conclusion/outcomes of the discussion on Day 1 before opening the floor for further discussion. (*The SRCom representatives should hand their presentation and report to Lizhier Coralde/Erdene Nyamjav of the Secretariat by 9:00 am on Day 2, 18 March 2010.*)

Those who are not involved in SRC discussions are requested to engage in the informal networking session.

Member countries for the SA and SEA sub-regional group

South Asia: Bangladesh, India, Nepal, Pakistan, Sri Lanka

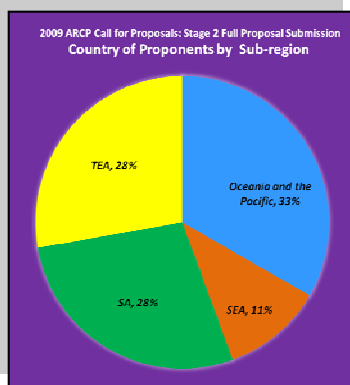
Southeast Asia: Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Viet Nam

Update on Activities involving the Scientific Planning Group (Supplement to the Report by the SPG)

Activities Conducted in 2009/10

1. Projects Funded

19 projects are currently being supported under the Annual Regional Call for Research Proposals (ARCP) Programme. ARCP Projects supported in 2009/10 are summarised in Volume 5 of the Project Bulletin, published March 2010, of which both hard and soft copies are available. A summary sheet of projects is appended as [IGM-SPG/15/10-App.1](#).



2. Proposals Submitted & Reviewed

With regards to the Annual Regional Call for Research Proposals launched in June 2009, 33 summary proposals were received and, following review by the SPG Sub-Committee, 18 proponents were requested to submit full proposals, which were reviewed by the SPG. SPG recommendations for funding will be discussed separately on Day 3 under Item 19 of the 15th IGM/SPG agenda. Please also refer to Item 19 in your folders for a summary spreadsheet of the 18 full proposals.

3. Other activities to be conducted at the Pre-Meeting on 16th March and reported to the 15th IGM on Day 2

3.1. 2SP Evaluation/3rd Strategic Phase

Report on the main scientific outcomes of the APN's Second Strategic Phase Evaluation (2005-2010) and the formulation of the new Science Agenda and implementation of Third Strategic Phase. The draft evaluation report is appended as [IGM-SPG/15/05-4](#) under Item 5 of the 15th IGM/SPG Agenda.

3.2. APN Climate Synthesis

Report on the main highlights of work to date on the two-year synthesis on *APN and Climate Change: Perspectives from Asia and the Pacific*. More information on this item will be reported under Item 12 of the 15th IGM/SPG Agenda.

3.3. Review of APN's Institutional Policy on Data Sharing & Management

As the APN becomes increasingly involved in the development and deployment of new observing systems that will collect increasing amounts of data that will provide needed input to research, we need to aim to ensure that all of the data that is collected using APN funds is shared on a full and open flow and exchange of all such scientific data. The SPG is asked to review the current policies in place with a view to strengthening and encouraging the improvement of these policies and their fullest possible application. **The results of the discussion will be presented to the IGM in the SPG report.**

a. APN Terms of Agreement attached to Project Leader Contracts

VII. Accessibility to Data: When an APN-funded project/activity generates new data or datasets and/or collects existing data or datasets, the Project Leader must make the said data/datasets available to the APN within twelve (12) to twenty-four (24) months of project/activity completion in order that the APN can freely disseminate the said data/datasets.

b. Criteria in the Annual Regional Call for Research Proposals (ARCP)

Criterion #10. Meeting standardised data collection and user needs, and open access to data and research sites: In the interests of the greatest benefit in the shortest time for the greatest number of countries in the region, the best proposals will promote *better data collection, analysis and dissemination, open access to existing and new datasets, and access to research material and sites.*

3.4. Review of APN's Institutional Policies:

3.4.1. Data Sharing & Management

As the APN becomes increasingly involved in the development and deployment of new observing systems that will collect increasing amounts of data that will provide needed input to research, we need to aim to ensure that all of the data that is collected using APN funds is shared on a full and open flow and exchange of all such scientific data. The SPG is asked to review the current policies in place with a view to strengthening and encouraging the improvement of these policies and their fullest possible application. **The results of the discussion will be presented to the IGM in the SPG report.**

3.4.2. Conflict of Interest Policy

The time has come to revisit the APN's Conflict of Interest Policy for SPG members and for external experts who review proposals submitted to the APN. As the APN will enter into its 3rd strategic phase from April 2010, the SPG is asked to review the current policy and suggest changes, if needed.

During the 7th IGM a revised Conflict of Interest policy was approved, which is outlined below. An additional review made in 2005 following the 10th IGM, did not result in any changes.

Before reviewing the proposals assigned to you, please read the points below very carefully. Should any of points 1 to 5 apply, you **MUST** declare a Conflict of Interest (CI). Furthermore, if "CI" is present in your area of the **Reviewer Matrix**, a conflict of interest has been noted and you are asked not to review the proposal.

1. Reviewers should not review, seek to review, or be seen to influence the review of their own proposals.
2. Reviewers should declare a conflict of interest if any of the following applies:
 - a) they are a collaborator in the project or have collaborated directly with the proponent in the past four years;
 - b) the reviewer is employed by the same organization or institution as the proponent or has a similar connection (e.g. board member or advisor of that organization); or
 - c) the proponent is a family member or business partner.
3. When a reviewer declares a conflict of interest, the Secretariat will decide whether the declared conflict might preclude or might be perceived to preclude the reviewer from providing an unbiased review.
4. If the reviewer disagrees with the decision the reviewer may appeal the Secretariat's decision to the Scientific Planning Group, which shall review the decision; reach a conclusion; and so inform the reviewer and the Secretariat.
5. Reviewers in doubt as to whether they should review a proposal may consult the APN Secretariat for advice.

Note: The fact that a proposal involves, or has originated from, the country of a reviewer is not considered, in and of itself, to be a conflict of interest.

SPG Activities in 2010/11 and Beyond

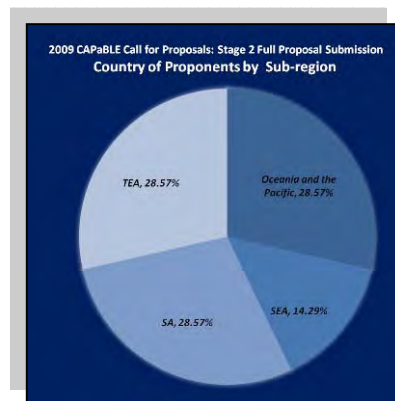
- Launch an Annual call for proposals for ARCP activities
- Conduct, upon 15th IGM approval as a proposed new activity:
 - Call for Proposals: Research & Capacity Development for scientists and stakeholders to advance their knowledge and understanding on *forestry and REDD-plus issues*.
 - Call for Proposals: Research & Capacity Development for scientists and stakeholders to advance their knowledge and understanding on *resource cycling issues*.

Update on Capacity Development & the CAPaBLE Programme (Report from the Capacity Development Committee)

Activities Conducted in 2009/2010

1. Projects Funded

14 projects are currently being supported under the CAPaBLE Programme (2 comprehensive research projects and 12 capacity building projects). CAPaBLE Projects supported in 2009/10 are summarised in Volume 10 of the Project Bulletin, published March 2010, of which both hard and soft copies are available. A summary sheet of projects is appended as [IGM-SPG/15/11-App1](#).



2. Proposals Submitted & Reviewed

With regards to the CAPaBLE Calls for Proposals launched in June 2009, 37 summary proposals were received and, following review by the CDC, 21 proponents were requested to submit full proposals. Recommendations for funding will be discussed separately on Day 3 under Item 18 of the 15th IGM/SPG agenda. Please also refer to Item 18 in your folders for a summary spreadsheet of the 21 full proposals.

3. Update on Special Call for Proposals for a Focused Activity: Scientific Capacity Building for Climate Change Impact and Vulnerability Assessments (SCBCIA)

a. Projects Funded

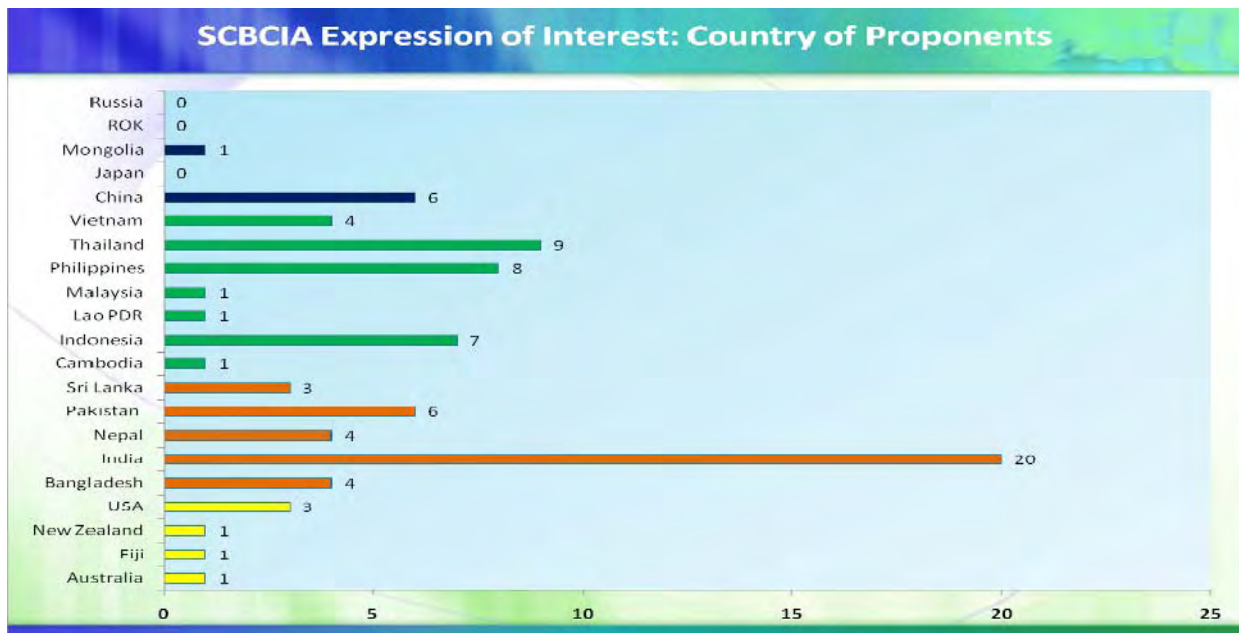
Following the 20% increase in budget in the fiscal year running from April 2009 to March 2010 and upon approval of the 14th IGM, the APN launched a Special Call for Proposals for a Focused Activity: Scientific Capacity Building for Climate Change Impact and Vulnerability Assessments (SCBCIA) in which seven projects are currently being funded. Summaries of the projects are published in Volume 16, Issue 1 (Winter Edition) February 2010. A brief list of project reference numbers, titles and project leaders is appended as [IGM-SPG/15/11-App2](#).



b. Proposals Submission and Review

Eighty two (82) Expressions of Interest (EOI) were submitted to the APN Secretariat for funding consideration. Following consultation with the members of the CDC and SPG-SC, it was agreed that the Secretariat would pre-screen the 82 EOIs in an attempt to reduce the number for Stage 1 review by the review team (CDC and SPG-SC) by at least 50%. This task was completed over 2 weeks. Thirty-four (34) EOIs have been pre-selected for consideration at Stage 1. After Stage 1 Review, successful 12 EOIs were then requested to submit full proposals in which 7 were recommended by SPG-SC and CDC to the Steering

Committee (SC) for funding in November 2009. The SC endorsed the recommendations. All projects have received their first instalment of funding (80%) by 23th February 2010.



4. Evaluation Report Recommendations for Capacity Development and Future Work Expected for the CDC

Please refer to document [IGM-SPG/15/11-App3](#) in your folder for the evaluation report recommendations. Please note that the text was extracted from the draft 2SP Evaluation Report.

Specifically, the CDC is requested to discuss the recommendations and suggest ways to strengthen the area of capacity development. This information is provided as food for thought until the 2SP evaluation and 3rd strategic plan are endorsed by the 15th IGM. Meantime, suggestions are welcomed via an open discussion that will be documented by the Secretariat.

Activities in 2010/11 and Beyond

- Launch an annual call for proposals for capacity building activities
- Conduct, upon 15th IGM approval as a proposed new activity:
 - Call for Proposals: Research & Capacity Development for scientists and stakeholders to advance their knowledge and understanding on *forestry and REDD-plus issues*.
 - Call for Proposals: Research & Capacity Development for scientists and stakeholders to advance their knowledge and understanding on *resource cycling issues*.
- Implement the 3-year Phase III of the comprehensive research element of the CAPaBLE programme

APN Climate Synthesis and Scoping Meeting Overview

The two-year Synthesis kicked-off at the APN Climate Synthesis Scoping Meeting held at the APN Secretariat in Kobe on 10-11 November 2009. The Meeting was attended by a number of reputable scientists in the region namely Dr. Lance Heath from the Climate Change Institute, The Australian National University; Prof. Kanayathu Koshy from Centre for Global Sustainability Studies Universiti Sains Malaysia; Dr. Michael Manton from School of Mathematical Sciences, Monash University; and Dr. James Salinger from School of Environment, University of Auckland.



The purpose of this activity is to undertake a synthesis and review of all APN supported projects in which climate is featured as a major theme. This will allow for the identification of knowledge gaps and help prioritize research goals and programmes relating to climate in the Asia-Pacific region as well as provide knowledge on climate issues for policy- decision-making. The expected outcomes of this project are a synthesis report and an academic book which are expected to be published in 2011 and 2012 respectively; prior to the publication of Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC AR5). The results of the synthesis are also expected to be cited in the IPCC-AR5.

The current Climate Synthesis is the third APN synthesis activity. The two previous syntheses are on “Land-Use Cover Change: An Initial Synthesis (2003)” and “Global Change and Coastal Zone Management: A Synthesis Report (2004)” The latter synthesis resulted in a number of citations in the IPCC Fourth Assessment Report (AR4) as well as the publication of APN’s first book on “Integrated Coastal Zone Management” published by Springer in 2006.

This APN activity is part of its stronger effort to contribute, from the science perspective, to the development of policy options for appropriate responses to global change that will also contribute to sustainable development.

Key Deliverables to date (refer to Appendices 1-6)

- Outlined scope of the work to be undertaken & defined methodology
- Established timeline and key deliverables
- Identified synthesis team and individual roles
- Devised Climate Synthesis Authors Guidelines
- Devised an outline for the Synthesis report & for the Climate Book
- Devised a tentative agenda for the Synthesis Workshop

Concept Paper for New Activities Focussed Under Scientific Research Themes 2 and 4 of the APN's 3rd Strategic Plan

I. INTRODUCTION

1. Background

The Ministry of the Environment Japan (MOEJ) has announced that there will be an approximate 50% increase in budget in the fiscal year running from April 2010 to March 2011 for APN activities. Following a meeting to discuss the areas of activities where the budget could be used, it was agreed that the APN Secretariat would develop a concept paper for further discussion at the 15th IGM to provide funds for regional scientific research and scientific capacity development activities at local/national/regional levels. Essentially, this concept paper outlines potential new activities that could be classified as follows:

- Capacity building activities through a call for proposals that are in line with the key objectives of the APN's CAPaBLE programme.
- Regional research activities through a call for proposals that are in line with the key objectives of the ARCP programme
- APN activities initiated/organized and undertaken by the APN Secretariat, in cooperation with other national and international institutions, particularly programmes of the global change community.

2. Rationale

In celebrating the completion of the APN's Second Strategic Phase and moving dynamically into its Third Strategic Phase, the scientific research and capacity development activities are expected to be undertaken in two of the four new scientific themes highlighted in the (currently draft) Third Strategic Plan (3SP) as follows:

- **Key Concept 1**
 - **Theme 2: Ecosystems, Biodiversity and Land Use**
 - Key Focus Areas: Forestry and REDD-Plus
- **Key Concept 2**
 - **Theme 4: Resources Utilization and Pathways for Sustainable Development**
 - Global change implications of efficient resource utilization
 - Action to establish international sound material cycle society

3. Activities

The kinds of activities that may be supported under the above themes include:

- a. Promoting and strengthening *interdisciplinary regional global change research*, particularly addressing novel research, and/or identifying key gaps via synthesis and assessment work.
- b. Identifying and developing existing and/or new methodologies for capacity development, particularly in *effective transfer of scientific know-how and technology* to user communities, both science and non-science.
- c. *Strengthening interfaces between science and policy* communities and society in general for effective pathways to sustainable development.
- d. *Encouraging initiatives from developing nations* for place-based, integrative research activities.
- e. *Aligning with other programmes of the global change community.*

Information on selected recent/ongoing projects funded under the ARCP and CAPaBLE programmes in 2008/09 and 2009/10 relevant to the themes outlined above are listed in **Appendix 1**.

II. KEY CONCEPT 1

1. Background

In recent years the Asia-Pacific Network for Global Change Research (APN) has funded scores of global change research projects with a focus on *land-use and land-cover change* (LUCC) in the Asia-Pacific region. Many of the projects have individually produced important results relating to land-use and land-cover changes to the carbon cycle, trace gas emissions, biodiversity and ecosystem dynamics, forest management, human dimensions and drivers of land-cover change, and data and information systems. This has all been for the benefit of the nations in the region of the Asia-Pacific, particularly developing nations. One APN synthesis product outlining the issue of LUCC in the region was published in 2002. The **APN LUCC Synthesis** also outlines critical areas for land-use and land-cover change in the region where further global change research is needed, particularly in developing countries. One of the most important sectors highlighted is forests.

Since the publication of the **APN LUCC Synthesis**, the APN's capacity development programme, CAPaBLE, for global change and sustainable development, which was launched in April 2003, has grown to become a very important and integral part of the APN's activities primarily in recognizing the needs of the region in areas of technology transfer, among others, for sustainable socio-economic development, particularly in light of the growing vulnerability of developing countries in a rapidly changing global environment. The CAPaBLE programme's most recent publication **CAPaBLE In-Review** showcases the importance of the capacity development programme and the activities undertaken in climate change and how these have benefited the region.

It is from the work undertaken in the CAPaBLE programme that we have become to realise that issues of global environmental change and sustainable development are very much inter-related and it is a holistic perspective, which provides for interdisciplinary research of socio-economics with those of the natural and social sciences, that will be vital for effective and sustainable global environmental change, especially to provide the relevant and underpinning information needed for decision-making in the region.

In the APN, scores of activities under the Scientific Theme: **Ecosystems, Biodiversity and Land-Use**, have been conducted and the APN, who takes a dynamic approach in conducting its activities in the region, sees the opportunity for sustainable development through holistically looking at forest ecosystems, the impacts of global change on these ecosystems and the importance of forest ecosystems for sustainable development, not only in the forest sector but in other sectors of the Asia-Pacific region as well (such as water, agriculture, disaster prevention, etc.) With this strategic approach, the APN sees the emerging issue of REDD and REDD-plus as being crucial for the overall sustainable management of forests as well as the protection of the region's richly biodiverse forest ecosystems. It is therefore crucial for REDD to be implemented effectively in the region and the APN, through its unique network of scientists and policy-makers in the region, is in the perfect position to integrate REDD activities into its larger scientific theme of **ecosystems, biodiversity and land-use**.

2. Reducing Emissions from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Management of Forest, and Enhancement of Forest Carbon Stocks (REDD-plus)

In the Copenhagen Accord at the Conference of the Parties (COP) at its fifteenth session, the crucial role of reducing emissions from deforestation and forest degradation and the need to enhance removals of greenhouse gas emission by forests was recognized, and the need to provide positive incentives to such actions through the immediate establishment of a mechanism including REDD-plus was agreed. While previous approaches to curb global deforestation have so far been unsuccessful, REDD-plus provides a new framework to allow developing countries to break this historic trend. A methodological guidance for

activities relating to REDD-plus was also adopted at COP15 which invites relevant international organizations to enhance capacity-building in relation to using the most recent IPCC guidance and guidelines.

According to the Little REDD (and REDD-plus) Books, a future REDD-plus mechanism has the potential to deliver much more. **REDD-plus could simultaneously address climate change, while conserving biodiversity and sustaining vital ecosystem services, all issues of which are considered areas of relevance under the current scientific agenda of the APN.**

With the activities of REDD-plus being largely policy-driven and the work entailed requiring broad scientific undertaking and understanding, the APN, as an inter-governmental network in the region with a mandate for promoting scientific research and policy decision-making, sits in that very niche for which opportunities for REDD-plus can be promoted, undertaken and advanced in the region for developing countries and to ensure environmental sustainable development in the future.

3. Specific Activities

If REDD-plus is to work effectively, it needs to address carbon emissions and removals, biodiversity, ecosystem services and rural poverty alleviation all at the same time. Above all else, it must help assure sustainable livelihoods for forest-dependent communities.

The APN through its proven capabilities as a unique, successful and growing inter-governmental network of decision-makers and scientists, can provide a platform, where currently no other exists, to develop and implement scientific research and capacity building activities in order to establish effective REDD-plus frameworks, activities and projects for countries in the region.

Perhaps a vital statement in the APN-funded publication *Critical States* worthy of attention is, “*How and by whom forests are governed is what really matters to the people who live in and near them, or otherwise benefit from them*”.

Theme 2: Ecosystems, Biodiversity and Land Use: Key area – Forestry & REDD-plus

3-1. Activity 1: Call for Proposals: Research & Capacity Development

It is expected that approximately **US\$360,000** will be available for new research and capacity development for scientists and stakeholders to advance their knowledge and understanding on forestry and REDD-plus issues.

Activities will be in two areas: (i) regional research, and (ii) capacity development and a call for proposals will be launched independently from the annual calls for proposals. While capacity building activities would be expected to run for one year, the APN envisages that research-based activities be planned for up to two years. Projects envisaged might include:

- Understanding the basic concepts of REDD-plus, and understanding the methodologies for developing REDD-plus projects (e.g. identification of drivers of deforestation and forest degradation, identification of REDD-plus activities, establishment of forest reference emission levels and forest reference levels) and for implementing REDD-plus activities;
- Building capacities to use the most recent IPCC guidance and guidelines as a basis for estimating anthropogenic emissions and removals, and establishing robust and transparent national forest monitoring systems;
- Using a combination of remote sensing and ground-based forest carbon inventory approaches;
- Other related areas of forest carbon sequestration and dynamics, sustainable forest management practices, engagement of indigenous peoples and local communities in forest monitoring and reporting, forest conservation and biodiversity, etc.

The approach to funding specific activities may be considered as follows, although will be subject to further streamlining with the Capacity Development Committee and the SPG, before submitting to the 15th IGM for approval:

1. By identifying current proposals submitted under the 2009 ARCP and CAPaBLE annual calls for proposals and moving some of them to the present focus group.
2. By launching an independent call for proposals as soon as possible following the 15th IGM and to provide funding from September 2010 for focused activities.
3. As well as other forestry-related activities, REDD-plus activities are considered highly appropriate.
4. Local-level capacity building activities of policy-makers (provincial/city-level) are also considered appropriate.
5. At the latest, it is expected that proposals that have been approved will begin work in this focus area from September/October 2010.

Budget US\$360,000 (US\$210,000 for research and US\$150,000 for capacity building)

3-2. Activity 2: Scoping Workshop in Japan

A scoping workshop for a possible synthesis on ecosystems and biodiversity will be organized that involves key APN member countries, researchers and other stakeholders and conducted for the entire Asia-Pacific Region. Echoing the scientific needs, which are expected to be identified at COP10 of the Convention on Biodiversity (CBD) in October 2010 in Nagoya, Japan, the workshop would conduct an initial scoping exercise that will further identify the need for a possible APN synthesis report. This scoping workshop could be held in Japan a few months after CBD COP10. Other key players would include DIVERSITAS, ASEAN ACB and members of AP-BON.

Budget US\$60,000

3-3. Activity 3: Partner with Oxford University's Environmental Change Institute and Kobe University in a September 2010 symposium, to be held in Kobe on Forestry Governance.

The proposed seminar exemplifies the goal of the Kobe Institute to promote collaboration and exchange between academic and industrial partners, not only in Asia and Europe but also North America and critical tropical forest countries of the Global South. It also aims to foster academic study and research by facilitating the international exchange of ideas and best practices on the critical role of forest policy in mitigating climate change and providing vital ecosystem services and livelihood needs. The intensive seminar setting will lead not only to publications but to long-term collaborative partnerships to reduce deforestation and improve sustainable forest economies through better governance. This seminar will further knowledge, understanding and exchange of forestry science and policy between Britain, Japan and other countries worldwide. Japan is a most appropriate setting for this conference, as its traditions of scientific forestry date back centuries and were developed independently from those of Europe and other regions.

Budget US\$30,000

III. KEY CONCEPT 2

1. Background

Since the launch of the APN's CAPaBLE programme in March, 2003 in conjunction with the partnership initiative introduced at the World Summit for Sustainable Development (WSSD), the APN emphasized its commitment to sustainable development in the Asia-Pacific region by registering the CAPaBLE programme as a partnership initiative to realize parts 107-114 of the Johannesburg Plan of Implementation. Through the success of the CAPaBLE programme in its early years, the APN underscored its commitment to this programme by including it as an integral part of APN activities standing next to the main pillar of activities, which is the regional research programme (ARCP).

With the successful completion of the APN's Second Strategic Phase (2005-2010) and the launch of the APN's Third Strategic Phase (2010-2015) from April 2010, the Ministry of Environment, Japan is providing

approximately **US\$265,000** for activities for Theme 4 of the APN Science agenda “Resources Utilisation and Pathways for Sustainable Development”. In particular, activities focusing on sound material cycles, the 3Rs initiative and material flow are of particular interest.

2. Resources Utilization & Pathways for Sustainable Development: Sound Material Cycle (e.g., 3Rs of reduce, recycle, reuse) and Material Flow

With the advancement of economic and social activities and globalization, the Asia-Pacific region, including both developed and developing countries is faced with the many challenges presented in resource utilization that is sustainable and in harmony with the vulnerable Earth System. Without looking at these challenges head on, we are creating a highly vulnerable society and placing great stress on the Earth System that further exacerbates the current impacts being seen in terms of global and climate change, particularly through the increased release of greenhouse gases (GHG). If change does not happen now, the tipping point of no return may have devastating consequences for future generations.

In an effort to promote the effective use of the earth’s limited resources and to reduce the vulnerability and impacts of mass resource utilization, the Japanese government launched the 3R initiative (reduce, recycle, re-use) at the G8 Seas Island Summit in 2004. Since then, the importance of this initiative, which was further underscored at the Environment Ministers’ Meeting in Kobe in 2008, prior to the Toyako G8 summit, has been recognized internationally.

In particular, Asian countries are facing the problems on huge resource consumption and environmental degradation caused by it and it is really necessary to establish sound material cycle society with improving resource productivity and efficiency. In order to promote 3R activities in Asia, the Regional 3R Forum in Asia was established in November 2009.

In countries within the Asia-Pacific region, scientific knowledge, which is accepted these days as being the main basis to underpin policy- and decision-making, is important to realize the objective of establishing sound material cycle society, particularly for resource utilization that promotes sustainable, green growth. However, in order to undertake such an initiative, decisions must be made on sound scientific evidence, much of which is lacking in the Asia-Pacific region, particularly in developing countries. It is with this, that the APN wishes to promote scientific research and capacity development in this key thematic area (Theme 4) under the APN’s Scientific research Agenda stipulated in the APN’s 3rd Strategic Plan (currently in draft format).

3. Specific Activities

In order to enhance the effective use of resources and reduce environmental impacts, the APN wishes to implement activities with the key objectives of:

- a. Understanding the current status of scientific research activities and needs regarding material cycle, efficient resources utilization, and resource and material management
- b. Support regional scientific research and capacity development activities, particularly in developing countries
- c. Promote specific scientific activities that might encompass:
 - i. Understanding of regional and transboundary flow of materials, resources and wastes
 - ii. Development and analysis of material flow accounting in developing countries and/or Asia and the Pacific region
 - iii. Estimation and analysis of indicators on sound material cycle such as resource efficiency, resource productivity in developing countries and/or Asia and the Pacific region
 - iv. Understanding the current status and its effect on environment, economic and society of 3R activities and policies in Asia and the Pacific
 - v. Understanding the effect for the sound material cycle of Asian traditional concepts and practices such as “Mottainai”
 - vi. Understanding of extended producer responsibility (EPR) in Asia and the Pacific region

Activity 1: Call for Proposals: Research & Capacity Development

It is expected that approximately **US\$215,000** will be available for new research and capacity development for scientists and stakeholders to advance their knowledge and understanding on resource cycling issues.

- Activities will be in two areas: (i) regional research, and (ii) capacity development and a call for proposals will be launched independently from the annual calls for proposals. While capacity building activities would be expected to run for one year, the APN envisages that research-based activities be planned for up to two years.

The approach to funding specific activities may be considered as follows, although will be subject to further streamlining with the Capacity Development Committee and the SPG, before submitting to the 15th IGM for approval:

1. By identifying current proposals submitted under the 2009 ARCP and CAPaBLE annual calls for proposals and moving some of them to the present focus group.
2. By launching an independent call for proposals as soon as possible following the 15th IGM and to provide funding from September 2010 for focused activities.
3. Local-level capacity building activities of policy-makers (provincial/city-level) are also considered appropriate.
4. At the latest, it is expected that proposals that have been approved will begin work in this focus area from September/October 2010.

Budget US\$215,000 (US\$115,000 for research and US\$100,000 for capacity development)

Activity 2: Scoping Workshop/International Symposium

This symposium would focus on material flow accounting and resource productivity. The details of the symposium will be developed for further consideration.

Budget US\$50,000

Appendix 1

Recent (2008 and 2009) Activities funded by the APN:

Theme 2: Ecosystems, Biodiversity and Land-Use

1. Project Title: *Training in Science-Policy Interfacing to Promote the Application of Scientific Knowledge on Adaptation of Forests and Forest Management to Climate Change.*

Project Summary: This project is a short-term training measure in science-policy interfacing to promote the application of scientific knowledge on adaptation of forests and forest management to climate change. More specifically, the training was aimed at strengthening the capacity of forest scientists in developing countries in the region on how to plan, conduct and organize research activities so that results can more quickly and easily be transformed into usable information for problem-solving and policy-making. Two scientific events were conducted: a three-day training workshop followed by a one-week scientific conference.

The training workshop was held at the Swedish University of Agricultural Sciences, Umea, Sweden (SLU) from 22-24 August 2008. This was followed by the "International Conference on Adaptation of Forests and Forest Management to Changing Climate with Emphasis on Forest Health" jointly organized at the same venue by SLU, IUFRO and FAO. The workshop focused on science-policy interfacing in the context of global climate change. Experts from the Swedish Forest Research Institute, the GCOE Program for Ecosystem Management Adapting to Global Change of Tohoku University (Japan), the Institute of Statistics and Mathematics (Japan), BSMR Agriculture University (Bangladesh), the Swedish University of Agricultural Sciences, and the Tropical Agriculture Research and Higher Education Centre (Costa Rica) contributed to the workshop by sharing their experience and research results. Four workshop sessions were organized: lecturing on international and national policy frameworks; introduction to best practices of science-policy interactions; group discussions on the evaluation of forest research projects, and wrap-up discussions

with a panel of experts from international organizations and local university. Twenty-two scientists from 16 developing countries participated in the workshop and conference. Eight scientists from the Asia-Pacific region were sponsored through this CAPaBLE Project.

2. Project Title: *Regional Participation in the U.S.-Japan Workshop on Monsoon Asia Tropical Forest Carbon Dynamics and Sustainability.*

Project Summary: The project provided travel grants to researchers in Southeast Asian countries (Thailand, Indonesia, Malaysia) that enabled their participation in the “USA-Japan Workshop on Monsoon Asia Tropical Forest Carbon Dynamics and Sustainability” held in Khon Kaen, Thailand from 8-11 January 2009. A total of fifty-seven (57) researchers and graduate students attended the Workshop, including 45 participants from Thailand, Indonesia, the United States, Japan, and Korea, and twelve (12) local observers (predominately graduate students) from Khon Kaen University. The project played a critical role in enhancing communication among the Southeast Asian, Japanese and American participants on the Workshop theme of carbon dynamics in tropical forests and its relation to local human activities. Such enhanced communication was realized through presentations and group discussions in multiple plenary and break-out sessions, and through informal discussions during coffee breaks and meals. The APN-sponsored participants were actively engaged throughout the Workshop and their involvement was integral to the Workshop’s overall success. The Workshop concluded with a consensus on recommended research priorities and plans to develop and propose one or more new, bilateral or multilateral collaborations that will engage the community of Southeast Asian researchers and students represented at the Workshop on a set of priority issues. These issues will address both natural and anthropogenic dimensions of tropical forest carbon dynamics in the Monsoon Asia Region. A workshop report will be prepared and submitted for publication in one or more international scientific newsletters to apprise the broader research community of the Workshop and the specific recommendations and plans that emerged from it.

3. Project Title: *Developing Smallholder Agro-Forestry Carbon Offset Protocols for Carbon Financial Markets – Twinning Sustainable Livelihoods and Climate Mitigation.*

Project Summary: Land-use change, particularly deforestation, is responsible for approximately 20% of all anthropogenic CO₂ emissions. Replacement of lost vegetation can sequester atmospheric CO₂, offsetting emissions. Carbon financial markets are now an accepted mechanism for trading such offsets. Governments, industries, communities, and individuals are actively participating in carbon abatement through both compulsory and voluntary carbon markets. Forestry-related projects, unfortunately, have lagged behind other mitigation projects in these markets, and small-holder agro-forestry carbon offset projects are almost non-existent. This project is developing small-holder agroforestry protocols for the Chicago Climate Exchange working directly with farmers and communities in Lao PDR, Thailand, and Viet Nam. The expected project outcomes include the development of at least three prototype small-holder agroforestry projects and the drafting of related agroforestry protocols that define the measuring, monitoring, and validation methods for carbon sequestration.

4. Project Title: *Assessment of Role of Community Forests (CFs) in CO₂ Sequestration, Biodiversity, and Land Use Change.*

Project Summary: Community Forestry (CF), a successful program for protecting and rehabilitating the forest has received highest priority from Government of Nepal since 1978. However, the studies on CO₂ sequestration, species diversity, and land-use change relevant to CFs are limited. Therefore, this study aims to estimate CO₂ sequestration and document species diversity in selected CFs and analyse the role of CF in land-use changes. The major project activities include: review of relevant literature; Focus Group Discussion (FGD) and Participatory Rural Appraisal (PRA) in selected CFs regarding the process of land-use change and knowledge of biodiversity among the locals; survey of vegetation in selected CFs, interpretation of satellite images for mapping the land-use change; analysis of biodiversity; estimation of carbon deposit; sharing of relevant information and knowledge from collaborating countries; organisation of stakeholder meeting and workshop in Kathmandu; and writing a report. The key outcomes from the project are: 1) preparation of a background paper with empirical evidence to support policy process; 2)

documentation of the role/contribution of CFs in CO₂ sequestration; and 3) evaluation of the impact of CFs on land-use/cover change. In addition, the project outcomes are expected to be used in preparing the CF operational plan which describes action plan, management strategy and providing a guideline to operate a particular CF and in raising the awareness in carbon trading among the users and management authorities.

5. Project Title: *Integrated Prediction of Dipterocarp Species Distribution in Borneo for Supporting Sustainable Use and Conservation Policy Adaptation.*

Project Summary: Borneo's lowland rain forest dominated by dipterocarps species has been subject to exploitations under different policy regimes leading to degradation and deforestation. Nevertheless, crucial information on the species distribution in both regimes are seriously lacking for sustainable management and conservation efforts. The project involves collaborations between scientists and researchers from various institutions such as universities and government agencies in the Asia-Pacific region. This project aims at filling the gap of missing information about the 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 integrated approach aims at deriving crucial information on the distribution of the dipterocarps, the most important timber species in Borneo. The project will also design hybrid mechanism that combine incentive and market mechanisms to examine the local people's willingness to participate in keeping the forest carbon.

6. Project Title: *Quantifying the Role of Dead Wood in Carbon Sequestration.*

Project Summary: Dead woody debris in the world's forests contains between 40 and 60 petagrams (Pg; billion metric tons) of carbon, with almost 3 Pg C per year being returned to the atmosphere from this pools as CO₂. This return of carbon to the atmosphere is controlled by fungal decomposition of lignin, a particularly resistant bio-polymer. The biology and genomics of fungal lignin decomposition have been extensively studied because of their roles in damaging built (wooden) structures, and their ability to "liberate" cellulose for bio-energy processes. These studies have identified a large number of physical, chemical and biological "control points" with the potential to slow fungal ligninolysis. Detailed examinations of wood decomposition have shown a ten-fold or greater variation in rates, even after controlling for the factors considered to have the strongest effects (temperature, moisture content and wood density). Therefore, in forest wood decomposition, additional factors are in play with the potential to be modified. However, no study has previously attempted to alter wood decomposition in forests beyond changing water content and soil contact area. This APN-funded research project main goal is to quantify the role of dead wood in carbon sequestration, coupled with woody material manipulations in a variety of Asian forests, and under a wide range of soil conditions.

7. Project Title: *Project Scoping and Training Workshop for REDD in Indonesia, Cambodia and Lao PDR.*

Project Summary: Land-use change, particularly deforestation, is responsible for approximately 20% of all anthropogenic CO₂ emissions. Nearly 90% of all CO₂ emissions in Indonesia are from deforestation, ranking it third in terms of annual CO₂ emissions. Deforestation rates in Indonesia and Lao PDR have remained consistently high between 1990–2000 and 2000–2005; the rate in Cambodia has increased (FAO FRA 2005). Market opportunities are emerging to support interventions that reduce deforestation rates under "Reduced Emissions from Deforestation and Degradation" (REDD) projects. The protocols and methods for establishing REDD projects are complex. The objectives of this project are: 1) training and capacity building in understanding REDD and methodologies for implementing REDD activities and; 2) initial identification of potential REDD activities in each of the three countries.

Publications:

- Rony Bishry. 2010. "Reducing Emissions from Deforestation and Degradation: A New Commitment or Financial Resources?" (Invited paper), Centre for Environment Education and Technology (CEET) Conference on Climate Change, Kottayam - Kerala – India; February.
- Skole, D.L., W.H. Chomentowski, M.A. Cochrane, (submitted). Forest Fragmentation, Biomass Collapse and Carbon Flux in the Brazilian Amazon, *Science*.

8. Project Title: *Scaling-Up Agroforestry Promotion towards Mitigating Climate Change in Southeast Asia.*

Project Summary: Recognizing the potentials of agroforestry in climate change mitigation and adaptation, the Philippine Agroforestry Education and Research Network (PAFERN) conceived this project which is a regional collaboration of the five (5) member countries of the Southeast Asian Network for Agroforestry Education (SEANAPE), namely: Indonesia, Thailand, Lao PDR, Viet Nam and the Philippines. The overall goal is to fostering closer collaboration among the five country networks and the project aims to: 1) provide capability-building programmes about the roles of agroforestry in mitigating climate change, among the junior agroforestry lecturers in the five participating universities; 2) develop relevant teaching materials about the multifunctional uses of agroforestry in climate change mitigations; and, 3) create awareness among the different stakeholders, including the policy-making bodies about the relevance of agroforestry in sustainable development. The project has been conducting activities to achieve its goal and the following have been successfully undertaken: 1) conducted the Consultative Meeting-Workshop of the five country representatives comprising the Project Facilitating Team; 2) organized the multi-sectoral taskforces in each of the five participating countries; 3) conducted the Regional Training-Workshop on Scaling-Up Agroforestry Promotion for Climate Change Mitigation and Adaptation in Southeast Asia; 4) produced the brochure/information material about the potentials of agroforestry in climate change mitigation and adaptation; 5) organized the National Agroforestry Roadshows in the Philippines; 6) developed plans for the implementation of National Agroforestry Roadshows in the four member-countries; and 7) disseminated information about the project in newsletters and uploaded the same in the PAFERN and SEANAPE websites

Theme 4: Resources Utilisation and Pathways for Sustainable Development

1. Project Title: *Role of Experiments in Sustainability Transitions in Asia: Towards a Conceptual Framework for Alternative Development Trajectory.*

Project Summary: This project will hold two scoping workshops to develop an international research program on the role of innovative development project-level experiments in 'sustainability transitions' in Asia. Workshops are intended to bring together an international group of academics and practitioners engaged in this unique field to develop a collaborative research strategy for inventorying, classifying and analysing sustainability experiments in an international context. The ultimate aim is to understand how experiments can come to influence Asian development pathways and transform some of the unsustainable systems of provision (mobility, energy, food, water, housing) as well as to identify opportunities and barriers for policy-makers and practitioners who facilitate the setting up of such experiments. The scoping activities will prepare ground not only for the development of a research programme on opportunities and barriers for sustainability experiments but also on their governance at a local level as compared to the Organisation for Economic Cooperation and Development (OECD) context. The research strategy will built upon and make use of the existing knowledge in the field of system innovation studies. That particularly involves an analysis of the developments and transformations: 1) within the existing 'systems' providing specific need for society; 2) outside of these systems, at a higher, international level; and 3) how these posed barriers or created opportunities for sustainability experiments.

2. Project Title: *Biochar for Carbon Reduction, Sustainable Agriculture and Soil Management (BIOCHARM).*

Project Summary: Biochar is a by-product of the combustion of biomass in zero or low-oxygen environments. Depending on the fuel stock used, a large proportion of biochar is made up of elemental carbon. As such, biochar is a potentially highly valuable way of storing carbon in soils in a form that will not rapidly mineralise and be released back to the atmosphere as CO₂. Biochar addition to agricultural soils has been reported to have some important agronomic benefits. This project is aimed at original research on biochar in Cambodia, the Philippines and India for carbon storage (carbon credits) and agricultural benefit. Although some results have emerged from various parts of the world regarding the benefits of using biochar for soil amendment, many scientific and socio-economic questions remain

unanswered. The expected outcome of the project is a better understanding of the role of biochar for carbon storage and agricultural improvements in a range of environmental, socio-economic and material contexts in three countries which themselves reflect a range of circumstances and policy conditions. Policy recommendations for further development of biochar as a component of national climate change, sustainable energy and agricultural policies are expected to emerge from the project.

3. Project Title: *Promoting Sustainable Use of Waste Biomass in Cambodia, Lao PDR and Thailand: Combining Food Security, Bio-Energy and Climate Protection Benefits.*

Project Summary: This project aims to promote the use of waste biomass for food and energy production, and identify viable approaches for utilising biomass conversion technology in the target countries - Cambodia, Lao PDR, and Thailand. At the start of this project, it was endeavoured to involve relevant stakeholders such as national governments, local governments, private sector actors and non-governmental organisations, who are important for sustaining the project activities in the target countries. The project reviewed laws, regulations, notifications and relevant documents on biomass management in the target countries. In addition to field surveys, difficulties facing the operation of the waste treatment facilities as well as local government policies on waste-related issues were discussed intensively with officers-in-charge. Based on the project's reviews and surveys, composting, biogas generation and gasification were found to be viable technologies for converting waste biomass to a useful resource. These technologies are being used for agricultural waste such as rice straw, manure and wood waste, but the application for urban organic waste is not yet widely practiced. Conversion of urban organic waste to compost is found in Bangkok and Rayong, Thailand, and in Phnom Penh, Battambang, and Siem Reap, Cambodia. Biogas generation from urban organic waste is found only in Rayong Thailand. A project using biomass from urban waste does not exist in Lao PDR. Therefore, local governments in the country are requesting the project to implement a pilot project for their learning. There is a high potential for shared learning and technology transfer between these neighbouring countries. However, piloting of transferred technology is required to ensure successful implementation.

4. Project Title: *Quantification of Land Use Urbanization Level in Three Developing Asia Countries Based on the Analysis of Scale Effects in Landscape Pattern.*

Project Summary: Initial results of the project showed that the desakota region of three cities has different characteristics and stages of urbanisation, in which Metro Manila was found in the highest stage of urbanisation and earliest stage of suburb urbanisation. Shanghai demonstrated a high degree of urbanisation and obvious suburb urbanisation and Hanoi had a lower level of urbanisation and unobvious suburb urbanisation. Urbanisation, as a major driving force of land use and land cover change (LUCC), is a significant cause of global change. The project quantified the level of urbanisation from the aspect of land use and connecting land use patterns with urbanization processes to integrate natural and social sciences in LUCC activities. Other project outputs included training on advanced methods of remote sensing technology and GIS and urban landscape pattern analysis for five young scientists from China, Philippines and Viet Nam, which was conducted from 11-14 May 2008. An integrated technical report has been written and will be distributed to stakeholders and policy-makers.

Selected Publications:

Eight peer-reviewed papers have been published to date. Selected publications include:

- Huang, J.S., Li, J.L., Hilario, F.D., Hoang, M.H., et al. Urbanization Study and Comparison of Three Asian Megacities: Shanghai, Metro Manila and Hanoi. *International Journal of Sustainable Development & World Ecology*, 15 (2009):484-495
- Huang, L., Li, J.L., et al. *Scale Impacts of Land Cover and Vegetation Corridors on Urban Thermal Behavior in Nanjing, China*. *Theor. Appl. Climatol.*, 2008, 94(3-4):241-257.

Peri-Urban Development and Environmental Sustainability: Examples from China and India.

Project Summary: Large-scale urban development is likely to be one of the primary sources of environmental change in Asia over the next decades, and 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 in crafting policies and institutions to manage it properly. Comparative analysis of these processes within and between different countries is an indispensable prerequisite to such an understanding. This study has assembled remote sensing, demographic, environmental and other

data over a period of 20-30 years for a systematic comparison of urbanising regions in China and India. Data on trajectories of urban development in parallel samples of ten (10) Chinese and ten (10) Indian cities are being compared to examine how urban forms have changed and in the consequences of environmental change. The analysis has revealed strikingly different transformations of urban form in 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 higher external investment, such as Mumbai and Hyderabad. Indian patterns of peri-urban expansion also appear more irregular than corresponding Chinese patterns. The ongoing analysis is examining the sources of these variations in different land market institutions, policy-making structures, national policy, infrastructure investment, transnational investment flows and patterns of rural-urban migration. Detailed qualitative and quantitative case studies in several paired urban regions of China and India have begun to scrutinise these dynamics more closely. Fieldwork will provide ground-truth checks and aid data collection. The first in a series of meetings with stakeholders has provided lessons for policy and aided the analysis.

Publications (to date and/or pending):

- Han, S.S. 2009. Urban expansion in contemporary China: What can we learn from a small town? *Land Use Policy* (forthcoming).
- Huang, J., Sellers, J. and Lu, X.X. 2009. *Chinese Urban Form in the Past Three Decades: Pattern and Process*. Presented at Shanghai Planning Conference, July.
- Uttam, K., Muhopadhyay, C., and Ramachandra, T.V. 2009. *Spatial data mining and modeling for visualization of rapid urbanization* (Invited article under review).
- Sellers, J., Han, S.S. and Ramachandra, T.V. 2009. Institutional Infrastructures and Patterns of Urban Development in China and India. Working paper, University of Southern California.

Proposal Development Training Workshops back-to-back with APN Sub-regional Committee Meetings

1. Introduction

It is vital that countries in the Asia-Pacific region have the capacity to conduct high quality research that provides underpinning scientific support for policy-makers and policy-making processes. Under the CAPaBLE programme early-career scientists are provided with opportunities to develop their knowledge and capabilities in global change research. Since 2008, the APN has been conducting Proposal Development Training Workshops in various parts of the region. Most recently, these were held in Shanghai, New York and Kobe back to back with other important meetings that brought together international participants.

2. SRCs

In order not to lose momentum, to ensure stakeholder participation among scientists and national Focal Points within the Region, the APN Secretariat seeks input from the members for holding PDTW back to back with annual SRC meetings. Lately, meetings have taken place in South Asia and Southeast Asia.

3. Proposed Activity

Conduct, back to back with APN SRC committee meetings, Proposal Development Training Workshops.

4. Target Audience

Developing country early-career and established scientists and decision-makers from the Asia-Pacific region in the respective sub-regions regions of the Asia-Pacific.

5. Relevance to the APN

One of APN's 5 goals is *improving the scientific and technical capabilities of nations in the region*. It is vital that APN member countries have the capacity to conduct high quality research regarding global change that provides underpinning scientific support for policy-makers and policy-making processes. The APN believes that research must involve local scientists and that they must be given the capacity to continue their research, and analyze and utilize their research outcomes. The APN aims to develop this capacity mainly through its CAPaBLE programme.

6. Experts/Trainers

- SPG members and national Focal Points from the respective sub-regions.
- Expert project-funded recipients' familiar with APN proposals processes.
- One member from the Secretariat Science section.
- Young scientists from the country and/or neighbouring countries where the PDTW(s) and SRC meeting(s) are to take place.

7. Time requested

Two days (minimum 1-1/2 days) at the back side of each SRC meeting (which will be held for 1-1/2 to 2 days)

8. Expected Outcomes

Raised awareness of the APN and increased capacity to submit proposals to the APN and compete effectively in its competitive annual calls for proposals (for research and capacity development) in key scientific areas for sustainable development in the Asia-Pacific region. Furthermore, empowerment of members to 1) Provide their knowledge on the APN proposal submission process; and 2) Learn about the APN Proposals Process so that they might go back to their respective countries and impart their knowledge.

9. Budget: US\$10,000 for each PDTW.

Proposed New Activities with Funding from Hyogo Prefecture Government, Japan

For Fiscal Year 2010/11, the Hyogo Prefecture Government, host of the APN Secretariat, will provide **US\$50,000** to the APN for earmarked activities in global change research. With this in mind and, particularly, considering that 2010 is the International Year of Biodiversity (with UNCBD10 being held in Nagoya, Japan).

Activity 1: International Symposium and Public Dialogue on Biodiversity Issues synthesised over 3 years of APN/Hyogo International Symposia

Activity 2: Side Event at CBD COP10

Activity 3: Exhibit at CBD COP10

The APN, in partnership with the Hyogo Government, would like to conduct an International Symposium and Public Dialogue that engages the Local community in Hyogo Prefecture on the results of the 3 international symposia held in Kobe in 2008 and 2009. The symposium will discuss the synthesis of the symposia topics, among other related and important local biodiversity issues, in order that a message from the Public can be taken to Nagoya in October 2010 in time for CBD10. With this, the symposium is expected to be held August 28th or August 29th, 2010, providing six weeks to collate the message and hold a side-event and exhibit booth back to back with the UNCBD10. The side event in Nagoya will provide the outputs of the synthesis and the public dialogue and deliver a key message via press releases and policy briefs.

Budget US\$50,000: for International Symposium (US\$25K), Side Event (US\$20K) and Exhibit Booth (US\$5K).

Approved Budget Plan for FY 2010/2011

	Proposed Budget FY 2010	Approved Budget FY 2009	Changes in Budget FY 2009 vs 2010		Interim Financial Report FY 2009
			US\$	%	
<i>Resources Available</i>					
Operative Assets from FY 2009	188,000	78,000	110,000	241.0	45,000
Japan					
Ministry of the Environment	2,142,000	1,342,000	800,000	159.6	1,342,000
Hyogo Prefecture	339,000	322,000	17,000	105.3	322,000
USA					
NSF/USGCRP	560,000	480,000	80,000	116.7	480,000
New Zealand					
Ministry for the Environment	18,000	14,000	4,000	128.6	0
Republic of Korea					
Ministry of Environment	30,000	10,000	20,000	300.0	10,000
Total Resources Available	3,277,000	2,246,000	1,031,000	146.0	2,199,000

<i>Use of Resources</i>					
Science, Policy, Institutional Activities					
ARCP	875,000	720,000	155,000	121.5	720,000
CAPaBLE					
CRP	120,000	180,000	▲ 60,000	67	180,000
CBA	490,000	330,000	160,000	148.5	305,000
SCBCIA	0	150,000	▲ 150,000	0	150,000
Ecosystems, Biodiversity and Land-Use:					
- Call for Proposals	360,000	0	360,000	--	--
- Scoping Workshop	60,000	0	60,000	--	--
- Kobe-Oxford Symposium	30,000	0	30,000	--	--
Resources Utilisation and Pathways for Sustainable Development:					
- Call for Proposals	215,000	0	215,000	--	--
- Scoping Workshop/International Symposium	50,000	0	50,000	--	--
Climate Synthesis	80,000	50,000	30,000	160.0	9,000
17 th United Nations Commission for Sustainable Development (UNCSD) and Proposal Development Training Workshop (PDTW)	0	20,000	▲ 20,000	0	18,000

Proposal Development Training WS	20,000	0	20,000	--	--
UNFCCC SBSTA	10,000	10,000	0	100.0	4,000
Other Int'l Fora and Activities	44,000	0	44,000	--	--
Hyogo Activities	50,000	50,000	0	100.0	48,000
Sub-Regional Cooperation	40,000	25,000	15,000	160.0	20,000
IGM/SPG and SC Meetings	110,000	100,000	10,000	110.0	105,000
Posts (Science, Policy, Institutional)	330,000	290,000	40,000	113.8	312,000
Programme Fellowship	54,000	55,000	▲ 1,000	98	35,000
Travel	50,000	35,000	15,000	142.9	29,000
Publication & Website	40,000	32,000	8,000	125.0	31,000
Reserve	38,000	14,000	4,000	128.6	0
Sub Total Science, Polisy, Institutional Activities	3,066,000	2,061,000	1,005,000	148.8	1,966,000
Administrative/Operative Costs					
Posts (Administration)	67,000	65,000	2,000	103.1	58,000
General Operational Costs, including Supplies Materials and Equipment	80,000	80,000	0	100.0	71,000
Sub Total Administrative/Operative Costs	147,000	145,000	2,000	101.4	129,000
Reimbursement for Services					
IGES Overhead (3% of MOEJ contribution)	64,000	40,000	24,000	160.0	40,000
Sub Total Reimbursement for Services	64,000	40,000	24,000	160.0	40,000
Total Use of Resource	3,277,000	2,246,000	1,031,000	146.0	2,135,000

All figures are shown in US\$.

Exchange Rates Applied:

FY 2009: US\$ 1 = JPYen 100

NZ\$ 1 = US\$ 0.55

FY 2010: US\$ 1 = JPYen 95

NZ\$ 1 = US\$ 0.72

Approval of the Evaluation Report, 3rd Strategic Plan and Resources Development Strategy

This paper provides the procedure for the approval of the ER, 3SP and the RDS and highlights the revisions made on the documents that were discussed at the 14th Steering Committee (SC) Meeting and on Day 1 of the 15th IGM/SPG Meeting under Items 5, 6 and 8.

Procedure

The APN Secretariat Director, Mr. Tetsuro Fujitsuka will present the revisions made on the ER, 3SP and the RDS. Following the presentation, the members may ask questions for clarification. The Chair of the Meeting will note any changes to the documents then a member should propose the endorsement of the ER, 3SP and RDS.

Revisions made based on the discussions on Day 1

Evaluation Report (refer to IGM-SPG/15/05-4)

1. Page 6, 3rd paragraph should read as:
On other institutional arrangements, the APN Framework Document was amended three times at the 12th, 14th and 15th IGMs.
2. Will include under '1.2 Highlights of the Second Phase' that:
 - ***A Resources Development Strategy was devised and endorsed at the 15th IGM in March 2010.*** It will be appended in the report as 'Appendix c' such that 'APN Financial Summary 2001-2010' becomes 'Appendix d'.
 - ***Bhutan was endorsed as a new member at the 15th IGM/SPG Meeting.***
3. Framework Document Amendments – SPG Sub-Committee membership, CDC co-opted members, APN membership in Appendix 1 and order of listing the APN Secretariat members in Appendix 2:
 - ***The SPG Sub-Committee Members are:***
 - a. ***two SPG Co-Chairs (ex officio)***
 - b. ***three other SPG Members, elected by the SPG at its meeting in the previous year***
 - c. ***the SPG Sub-Committee may invite additional representatives to attend its meeting as observers***
 - ***the CDC may co-opt up to four experts as members to participate in CDC activities for a term of one-year (renewable) among members with strong link to the International Organisations (such as DIVERSITAS, IAI, IGBP, IHDP, START, WCRP, etc.) and regional programmes that are involved in capacity development activities***
 - ***add Bhutan in the list of current APN member countries***
 - ***The order of listing the APN Secretariat members should not be in alphabetical order but rather in this order: Director, Executive Manager, Scientific Officer, Administrative Manager, Programme Officer for Communications and Development, Coordinator, Administrative Assistant, Support Staff, Programme Fellows***

Note that the Secretariat and the SC will further discuss offline how the APN Framework Document could be further revised so it would well reflect the role and operation of the APN based on the 3SP. Suggested revisions will be finalised at the 16th SC Meeting for amendment's approval at the 16th IGM/SPG Meeting.

3rd Strategic Plan (refer to IGM-SPG/15/08-3)

Under '3.3 Science-Policy Agenda', the 5th strategy should read as:

Cooperate with other institutions and bodies (e.g. the global change programmes, Association of Southeast Asian Nations [ASEAN], Intergovernmental Panel on Climate Change [IPCC], United Nations Framework Convention on Climate Change [UNFCCC] and other UN bodies such as the United Nations Environment Programme [UNEP], United Nations Commission for Sustainable Development [UNCSD] and United Nations Education, Scientific and Cultural Organisation [UNESCO], and the Subsidiary Body for Scientific and Technological Advice [SBSTA], etc), who, like the APN, address or face issues relating to science-policy interactions. Provide increasing opportunities for interactions between scientists and policy-makers, and through policy-based workshops where participants include policy-making groups and a cross-section of stakeholders.

Certain scientific topics/areas need to be mentioned in the main text and not only in the endnote. Details will be provided in the presentation.

Resources Development Strategy (refer to IGM/15/06)

The paper was endorsed as proposed with no further changes.

CAPaBLE Review Information

The task of the IGM is to review the recommendations made by the SPG (who meet on the 16th March) for continuing multi-year projects who wish to continue funding for one more year and for new CAPaBLE projects from step 2 of the second stage review process of the 2009 CAPaBLE Call for Proposals.

1. Available Budget for 2010/11

The proposed budget plan for the fiscal year 2010/11 indicates that **US\$490,000** is available for capacity building activities in FY 2010/2011. Of this amount, **US\$60,000** is earmarked for continuing multi-year projects and, should these projects be recommended for approval, there will be a minimum of **US\$430,000** for new CAPaBLE capacity development projects. There is also an additional amount of **US\$120,000** available for CAPaBLE comprehensive research projects (in the 3rd Phase), subject to the same conditions for approval. This brings the total amount for CAPaBLE activities for 2010/11 to **US\$610,000**.

2. Multi-Year CAPaBLE Capacity Development Projects

2-1. Capacity Building Projects

Of the 2009/10 CAPaBLE CBA projects, 2 are multi-year projects that wish to continue project activities for a further year in 2010/11. These are 2 capacity building projects moving into their second and final year of activities.

Reference:	Funding Requested:	Progress Report
CBA2009-11NMY-Sang-arun	US\$30,000	Secretariat
CBA2009-12NMY-Togtohyn	US\$30,000	Secretariat

Total Funding being requested for continuing multi-year projects for 2010/11 is US\$60,000 (from an available budget of **US\$490,000**)

2-2. CAPaBLE Comprehensive Research Projects

Of the 2009/10 CAPaBLE CRP projects, 2 are multi-year projects that wish to continue project activities for a further year in 2010/11. These are 2 comprehensive research projects moving into their second and final year of activities.

Reference:	Funding Requested:	Progress Report
CRP2009-01NMY-Weber	US\$50,000	Secretariat
CRP2009-02NMY-Pereira	US\$70,000	Secretariat

Total Funding being requested for continuing multi-year projects for 2010/11 is US\$120,000 (from an available budget of US\$180,000 - note that the additional US\$60,000 was added to the Capacity Development Budget)

Summary details for both capacity building and comprehensive research projects are outlined in the spreadsheet ([IGM-SPG/15/18-App.1](#)). Progress reports are also available from the APN Secretariat for further information.

3. Review and Recommendation of New CAPaBLE Projects

Summary details of the 21 full proposals received under the annual call for CB proposals being considered for funding recommendation by the SPG are presented in the attached spreadsheet [IGM-SPG/15/18-App.2](#) for your information. Proposals selected by the SPG for recommendation to the IGM for funding will be presented on day 3 under the present Item 18.

Please note that, during the presentation made by the SPG Co-Chairs under Item18, the spreadsheets will be re-distributed in ranking order highlighting recommendations and SPG comments.

ARCP Review Information

The task of the IGM is to review the recommendations made by the SPG Pre-Meeting (who met on the afternoon of the 16th March) for continuing multi-year projects who wish to continue funding for one more year and for new ARCP projects from step 2 of the second stage review process of the 2009 Annual Regional Call for Proposals.

1. Available Budget for 2010/11

The proposed budget plan for the fiscal year 2010/11 indicates that **US\$875,000** is available for ARCP projects. Of this amount, **US\$239,380** is earmarked for continuing multi-year projects and, should these projects be approved, there will be a minimum of **US\$635,620** for new ARCP projects.

2. Review and Recommendation of Multi-Year Projects

Of the 2009/10 ARCP projects, **7** are multi-year projects that wish to continue project activities for a further year in 2010/11. Six (6) of the 7 are seeking additional funding for **one more year** in 2010/11. Summary details are outlined in the spreadsheet ([IGM-SPG/15/19-App.1](#)).

Progress reports are available in electronic format from Kristine Garcia or Linda Stevenson of the Secretariat.

Reference:	Funding Requested:	Progress Report
ARCP2009-13NMY-Sthiannopkao	USD40,000	Available
ARCP2009-14NMY-Phua	USD39,650	Available
ARCP2009-15NMY-Marambe	USD40,000	Available
ARCP2009-16NMY-Wang	USD40,000	Available
ARCP2009-18NMY-Schaefer	USD39,730	Available
ARCP2009-19NMY-Bai	USD40,000	Available

3. Review and Recommendation of New ARCP projects

Summary details of the 18 proposals received and being considered for funding recommendation by the SPG are presented in the attached spreadsheet ([IGM-SPG/15/19-App.2](#)) for your information. Proposals from this summary sheet selected by the SPG for recommendation to the IGM for funding will be presented on day 3 under the present Item 19.

Please note that, during the presentation made by the SPG Co-Chairs under Item 19, the spreadsheets will be re-distributed in ranking order highlighting recommendations and SPG comments.

Brainstorming/Open Discussion: Science-Policy, Partnership, Media Links, Etc

This guidance paper aims to:

- Highlight the science-policy and partnership sections of the APN 3rd Strategic Plan (3SP)
- Solicit specific suggestions from, and confirm the commitment of, the members (national Focal Points [nFPs] and Scientific Planning Group [SPG] members) and key partner organisations in the global change (GC) community in implementing the broad strategies in many science-policy and partnership aspects that are highlighted in the APN 3SP (At the time of writing, the APN 3SP is in draft format)

Excerpt from the APN 3SP under:

- Goals (2 and 4) and Activities
- APN Science Agenda (focus on the Science-Policy Agenda)
- APN Institutional Agenda
 - Alignment with programmes of the global change community
 - Communications and outreach

Goal 2. Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public

As APN is an inter-governmental network, a high priority goal is to produce sound scientific results that can be made available as a supportive tool for policy-making processes. Accordingly, the APN will support research where knowledge gaps exist and where research outcomes can be used to support policy development. APN recognises that policy decisions are made in a complex environment where many factors must be considered; there is often no guarantee that the results of research can always be appropriately translated into policy. The APN's approach is, therefore, to focus on strengthening appropriate links between the science and policy communities. In addition, the APN realises the importance of raising public awareness of global change issues based on sound science. Accordingly, the APN will use public fora to raise public awareness of global change issues when appropriate opportunities arise.

Key Investment Instrument: Facilitation of appropriate science-policy interaction

Examples of activities that maybe conducted under this goal include:

- a. Seeking out existing or creating new fora for discussion between scientists and policy-makers;
- b. Supporting training workshops for scientists to develop skills and techniques in providing science-based tools to support policy development;
- c. Providing scientific information to policy-makers in a suitable format;
- d. Identifying and maintaining databases of key policy bodies for the region;
- e. Improving communications and exchange of information with relevant governmental fora in the region and relevant inter-governmental bodies;
- f. Cooperating with other organisations to provide scientific information to the public;
- g. Improving access to APN products and activities through media by providing frequent press releases and enhancing communications with media groups; and
- h. Facilitating communications and interactions among APN members and the Secretariat.

Goal 4. Cooperating with other global change networks and organisations

It is vital that the APN continues to develop strong partnerships with other global change networks and organisations and, as a network, be aware of current and emerging research and related activities in the region and throughout the world. This goal supports each of the first three goals above and enables the APN to operate efficiently and effectively within the global change community.

Key Investment Instrument: Defining regional context of global issues

Examples of activities that may be conducted under this goal include:

- a. Organising collaborative projects in areas of common interest;
- b. Inviting other global change research organisations to be involved in APN meetings and committees and for the APN to be represented at relevant meetings organised by others;
- c. Exchanging publications with relevant organisations; and
- d. Setting common agendas and initiating cooperative arrangements where appropriate.

3.3 Science-Policy Agenda

The APN is committed to achieving its second goal of strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public and other non-science communities. One important role of science is to provide the underpinning information for policy- and decision-making, so it must respond to the needs of policy-makers and decision-makers. Conversely, it is important that those stakeholders indicate what their needs are. The APN will continue to develop effective methodologies and procedures in its science thematic areas identified under its Scientific Research Agenda, and transfer this knowledge and information to the science, non-science (public, civil society, etc.) and decision-making communities. The APN will strive to achieve an excellent track record of strengthening appropriate science-policy interactions by the end of the period covered by the present Strategic Plan.

The APN's strategies are to:

1. Strengthen science-policy interactions/linkages for ARCP and CAPaBLE projects funded under the annual Calls for Proposals. In so doing, develop a set of metrics for science-policy interactions/linkages and define specific criteria for successful science-policy linkages.
2. Encourage projects to adopt interdisciplinary approaches that include natural, social, economic and political sciences.
3. Continue to empower APN members, who represent their governments, in APN activities, by seeking their guidance on best practices and opportunities to promote science and policy interactions.
4. Increase the number of policy publications, including policy-briefs, synthesis reports and assessments, etc. In so doing, APN will disseminate scientific results to non-science audiences in order for policy-makers, end-users and the public to have a better appreciation of global change issues.
5. Cooperate with other institutions and bodies (e.g. the global change programmes, Association of Southeast Asian Nations [ASEAN], Intergovernmental Panel on Climate Change [IPCC], United Nations Framework Convention on Climate Change [UNFCCC] and Subsidiary Body for Scientific and Technological Advice [SBSTA], etc), who, like the APN, address or face issues relating to science-policy interactions. Provide increasing opportunities for interactions between scientists and policy-makers, and through policy-based workshops where participants include policy-making groups and a cross-section of stakeholders.

Alignment with Programmes of the Global Change Community

The APN believes that working in partnership with other organisations involved in global change research and policy development is essential to maximise available resources and to deliver the best possible results. Currently, APN's key partners include: **1)** APN's sister organisation - Global Change SysTem for Analysis, Research and Training (START); **2)** The International Council for Science (ICSU)'s Global Change Programmes – the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP), the International Programme of Biodiversity Science (DIVERSITAS), the World Climate Research Programme (WCRP) and their Earth System Science Partnership (ESSP), and the ICSU Regional Office for Asia and the Pacific (ICSU-ROAP); **3)** APN's sister network(s) – the Inter-American Institute for Global Change Research (IAI) and, potentially, the African Network for Earth System Science (AfricanNESS); and **4)** Global Earth Observations. Moreover, opportunities inside and outside the Asia-Pacific region are constantly emerging for the APN to find new synergies (for funding, research, and network building, etc.).

The APN's strategies are to:

1. Communicate and collaborate closely with organisations in the global change community to achieve shared goals. Such collaboration will include joint research projects, scientific capacity development activities, science-policy interfacing, enabling Asia-Pacific participation at international conferences, scoping workshops and developing and strengthening networks of scientists and policy-makers. In order to build momentum, whenever possible, the APN will plan joint activities using a multi-year timeframe (e.g. two to three years);
2. Encourage APN-initiated and APN-funded projects to proactively seek collaboration with institutes and organisations that provide co-sponsorship and in-kind contributions. APN will also seek the active involvement of host institutions;
3. Consider entering into formal arrangements with partners, where appropriate; and
4. Consider establishing partnerships with institutions outside the Asia-Pacific region that have an interest in global change research and scientific capacity development being conducted inside the region.

Communications and Outreach

The APN will implement its Communications Strategy including developing new communication tools, organising outreach activities, establishing/strengthening partnerships, and raising APN visibility.

Bhutan and its Environment

G. Karma Chhopel, National Environment Commission

Introduction

Bhutan is a small Himalayan kingdom bordered by the Tibetan autonomous region of China (in the north) and the Indian states of Arunchal Pradesh (in the east), Sikkim (in the west) and West Bengal and Assam (in the south). Bhutan's population is estimated to be 700,000, with 79% of the population living in rural villages and dependant on agriculture for their livelihoods. The country covers approximately 38,394 square kilometres of mountainous terrain, varying in elevation from 97 metres to 7,553 metres and characterised by high-rising rugged mountains and an intricate network of deep valleys, ravines and depressions, glacial lakes and moraine. Climatic conditions vary considerably across the terrain.

Most of the country's natural resources are still in their natural form. However, Bhutan's rapid pace of development, including agricultural modernisation, hydropower, mineral development, industrialisation, urbanisation, infrastructure development, and population growth (estimated at 2.12% in 2004) are increasing pressures on Bhutan's environment.

The majority of the country's land mass is forest (72.5%), with the remaining territory split amongst agriculturally cultivable land (7.8%), urban areas, rugged mountains, open pastures and glaciers. More than 51% of the total land area is formally protected, protecting some of the richest biodiversity in the world.

The country is governed by stringent environmental standards and a strong conservation ethic. Since the 1970s, the RGoB has put in place a comprehensive environmental policy and regulatory framework. The country has adopted a "middle path" approach, balancing conservation and economic development and ensuring that the spiritual, cultural and social needs of the society are carefully considered.

Despite the country's unique environmental status, a number of factors threaten Bhutan's environment, including the accelerating pace of Bhutan's own development, the high population growth rate, and the recent rise in rural-urban migration, which has led to challenges with urban waste management, air and water pollution, and urban planning. The main impacts of these threats include increasing loss of biological diversity, reduction of forest area, degradation of ecosystem services and reduction in air and water quality. Climate change and associated natural disasters compound these threats and present additional challenges for Bhutan's environment.

Institutionally, the environment is strongly represented in Bhutan. The National Environment Commission Secretariat (NECS) is the focal agency for all environmental issues. Its responsibilities include the overall formulation and monitoring of environmental policy and legislation.

Bhutan is divided administratively into 20 *dzongkhags* (districts) and 201 *geogs* (blocks). A geog is the smallest administrative unit within a district. The Ninth FYP emphasises decentralising national environmental policy tasks, such as development planning, allocation of resources, and framing and implementing rules and regulations to the *dzongkhag* and *geog* levels. This will empower officials at the local level, and will provide both opportunities and constraints for effectively and efficiently protecting the environment.

Significant Achievements in Meeting MEA Obligations

Bhutan has participated in major international environmental events since 1992. The country has contributed to, and ratified, several key agreements on environmental issues. It has also participated in numerous regional and bilateral programmes for environmental cooperation. In order to enhance our own commitments, and to ensure sustained flows of resources for environmental management, the following steps have been taken to implement these international agreements.

- **Strengthening the National and International Environment Policy Framework**

Bhutan expanded its participation in global environment management by acceding to several international environmental Conventions. They are: the United Nations Convention to Combat Desertification; the Cartagena Protocol on Biosafety; the Kyoto Protocol; the Vienna Convention and Montreal Protocol; the Basel Convention on Transboundary Movements of Hazardous Waste and their Disposal; and the Convention on International Trade in Endangered Species of Fauna and Flora. As a designated national focal agency, NEC has met all the required national obligations as a Party to these Conventions.

- **United Nations Framework Convention on Climate Change (UNFCCC)**

Significant progress has been made in carrying out required activities under the UNFCCC. A pilot Clean Development Mechanism project in the energy sector (Chendebji micro hydropower plant) has been commissioned which benefited 50 households and a school. In addition, an afforestation project in Paro has been initiated to assess the costs and benefits of carbon trading.

- **National Adaptation Programmes of Action Developed**

A National Adaptation Programmes of Action (NAPA) on Climate Change has been completed. NAPA provides a framework for implementation of immediate and urgent adaptation needs to address adverse impacts of climate change.

- **United Nations Convention on Biological Diversity (CBD)**

The Royal Government of Bhutan signed the convention on Biological Diversity on 11 June 1992 and ratified it on 25 August 1995 after the endorsement of the National Assembly. NEC has continued to be the national focal institution for the CBD and is an effective inter-institutional linkage between the National Biodiversity Centre and other agencies involved in biodiversity conservation. The national Biodiversity Action Plan is already in place and is under implementation.

- **Biosafety Framework Developed for Bhutan**

Bhutan acceded to the Cartagena Protocol on Biosafety on 26 August 2002 during the World Summit on Sustainable Development (WSSD) at Johannesburg, South Africa. The Biosafety Protocol is a global system governing the exports and imports of living modified organisms (LMOs). The framework will ensure safe transfer, handling and use of living modified organisms that may have an adverse impact on biodiversity.

- **Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol on Substances that Deplete the Ozone Layer**

After ratification of the Vienna Convention and the Montreal Protocol by the 82nd session of the National Assembly in 2004, the NEC carried out a nationwide survey of Ozone Depleting Substances (ODS) consumption, and finalised the Country Programme and Refrigerant Management Plan including drafting licensing rules and regulations for the control of ODS. Technicians and customs officials have also been trained. In accordance with the Montreal Protocol, chlorofluorocarbons (CFC) have been reduced by 50% before the deadline of December 2005.

- **Disposal of Outdated Pesticides**

Taking advantage of Bhutan's accession to the Basel Convention, NEC initiated and managed to dispose of approximately 33 tons of outdated pesticides collected in Paro. In appreciation of Bhutan's speedy accession to the Basel Convention, the Swiss Agency for Development and Cooperation extended both financial and technical support for safe disposal of the pesticides in Switzerland.

- **Male Declaration on Control and Prevention of Air Pollution and its likely Trans-boundary Effects for South Asia**

Under the declaration (agreed during the 7th Governing Council meeting of SACEP in Maldives on 22 April 1998) the establishment of transboundary air pollution monitoring station in Bhur, Gelephu has been completed. The technicians were provided with training on data collection and reporting. Data is now being generated and sent to UNEP on a regular basis. As per details of analysis of data, air pollutants are below detectable levels.

Hosting of Inter-Governmental Meetings

The process of seeking potential IGM hosts usually starts by sending a letter from the APN Secretariat Director to member countries asking for their willingness to host. A list of all former IGM locations is provided below for your information.

Locations of IGM (and associated meetings) since 1996

1. 1996 – **Chiangmai, Thailand (SEA)**
 - 1st IGM, 25-26 March
2. 1997 – **Tokyo, Japan (TEA)**
 - 2nd SPG Meeting, 24-26 March
 - 2nd IGM, 27-28 March
3. 1998 – **Beijing, China (TEA)**
 - 3rd IGM, 11-13 March
4. 1999 – **Kobe, Japan (TEA)**
 - 4th IGM, 18-20 March
5. 2000 – **Islamabad, Pakistan (SA)**
 - 5th SPG Meeting, 26-27 March
 - 5th IGM, 29-30 March
6. 2001 – **Jeju Island, Republic of Korea (TEA)**
 - Small Group Meeting, 18 March
 - 6th SPG Meeting, 19-20 March
 - 6th IGM, 22-23 March
 - SC Meeting, 24 March
7. 2002 – **Manila, Philippines (SEA)**
 - Small Group Meeting, 17 March
 - 7th SPG Meeting, 10-11 March
 - 7th IGM, 13-14 March
 - SC Meeting, 15 March
8. 2003 – **Hanoi, Viet Nam (SEA)**
 - Small Group Meeting, 9 March
 - 8th IGM and SPG Meeting, 10-14 March
 - 1st Ad Hoc RDC Informal Meeting, 12 March
9. 2004 – **Canberra, Australia (Oceania)**
 - Small Group Meeting, 21 March
 - 9th SC Meeting, 25 March
 - 9th IGM/SPG Meeting, 22-24 March
10. 2005 – **Kobe, Japan (TEA)**
 - 11th SC Meeting, 10 April
 - 2nd CSC Meeting, 11 April
 - 10th IGM/SPG Meeting, 12-14 April
 - 1st SC Meeting, 14th April (in the second strategic phase)
11. 2006 – **Bangkok, Thailand (SEA)**
 - 1st SPG-SC Meeting, 20 March (in the second strategic phase)
 - 4th CDC Meeting, 21 March
 - 3rd SC Meeting, 21 March
 - 11th Joint IGM/SPG Meeting, 22-24 March
 - 1st SPG Meeting, 22 March (In the second strategic phase)

12. 2007 – **Honolulu, USA (Pacific)**
 - 5th SC Meeting, 17 March
 - 2nd SPG-SC Meeting, 18 March
 - 5th CDC Meeting, 19 March
 - 2nd SPG Pre-Meeting, 20 March
 - 12th Joint IGM/SPG Meeting, 21-23 March
 - 6th SC Meeting 23 March
13. 2008 – **Relocated from Sri Lanka to Kobe, Japan (TEA)**
 - 3rd SPG-SC Meeting, 15 March
 - 7th CDC Meeting, 16 March
 - 3rd SPG Pre-Meeting, 17 March
 - 8th SC Meeting, 17 March
 - 13th Joint IGM/SPG Meeting ,18-20 March
 - 9th SC Meeting, 20 March
14. 2009 – **Kuala Lumpur, Malaysia (SEA)**
 - 4th SPG-SC Meeting, 16 March
 - 8th CDC Meeting, 16 March
 - 4th SPG Pre-Meeting, 17 March
 - 11th SC Meeting, 17 March
 - 14th Joint IGM/SPG Meeting, 18-20 March
 - 12th SC Meeting, 20 March
15. 2010 – **Busan, Republic of Korea (TEA)**
 - 5th SPG-SC Meeting, 15 March
 - 9th CDC Meeting, 15 March
 - 5th SPG Pre-Meeting, 16 March
 - 14th SC Meeting, 16 March
 - 15th Joint IGM/SPG Meeting, 17-19 March
 - 15th SC Meeting, 19 March

Locations of other APN Meetings

1. 1st SPC Meeting – **Tokyo, Japan** (25-26 January 1996)
2. 1st SPG Meeting – **Kuala Lumpur, Malaysia** (29-30 August 1996)
3. 3rd SPG Meeting – **Canberra, Australia** (19-21 January 1998)
4. 4th SPG Meeting – **Jakarta, Indonesia** (2-4 February 1999)
5. 1st SC Meeting – **Honolulu, USA** (3-4 December 2000)
6. 4th SC Meeting – **Manila, Philippines** (16-17 December 2001)
7. 6th SC Meeting – **Kuala Lumpur, Malaysia** (9-10 December 2002)
8. 8th SC Meeting – **Wellington, New Zealand** (11-12 December 2003)
9. 2nd SC Meeting – **Tokyo, Japan** (19-20 November 2005)
10. 3rd CSC Meeting – **Tokyo, Japan** (18-19 November 2005)
11. 4th SC Meeting and Workshop on the New Liaison Model – **Jakarta, Indonesia** (24-26 August 2006)
12. 1st SEA Sub-Regional Committee Meeting – **Jakarta, Indonesia** (20-21 August 2007)
13. 7th SC and 6th CDC Meeting – **Kobe, Japan** (4-5 October 2007)
14. 10th SC Meeting – **Manila, Philippines** (6-7 October 2008)
15. 1st SA Sub-Regional Cooperation Meeting – **Colombo, Sri Lanka** (27-28 July 2009)
16. 2nd SEA Sub-Regional Committee Meeting – **Bangkok, Thailand** (19-20 August 2009)
17. 13th SC Meeting, Augmented SC Meeting (ASCM) and Writing Workshop – **Kobe, Japan** (24-27 August 2009)

Host of the 16th IGM

On 29th September 2009, Sri Lanka responded to the Secretariat positively by offering to host the 16th IGM/SPG Meeting in 2011.

Host of the 17th IGM

The APN welcomes interested member countries to host future IGMs, particularly the 17th IGM in 2012.

Sub-regions

SA – South Asia

SEA – Southeast Asia

TEA – Temperate East Asia

APN Groups/Committees

CDC – Capacity Development Committee

CSC – CAPaBLE Standing Committee

RDC – Resources Development Committee

SC – Steering Committee

SPC – Scientific Planning Committee

SPG – Scientific Planning Group

SPG-SC – Scientific Planning Group Sub-Committee

SECTION IV

Winning Poster and Presentations



**15th Inter-Governmental Meeting/
Scientific Planning Group Meeting**

**Busan, Republic of Korea
17-19 March 2010**

The relationships between absorbing aerosols and snow cover/snow water equivalent over the Himalayas and the western Tibetan Plateau during boreal spring.

Woo-Seop Lee¹, Maeng-Ki Kim², KM Lau³, Kyu-Myong Kim³ and Sung Kim³

¹ Department of Atmospheric Sciences, Kongju National University, Gongju, 314-701, Korea

² Laboratory of Atmospheres, NASA Goddard Space Flight Center, Greenbelt, MD 20771, USA

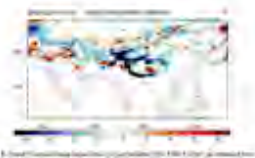
³ Goddard Earth Sciences and Technology Center, University of Maryland Baltimore County, Baltimore, MD 21228, USA



1. Introduction

Many factors besides greenhouse warming could have led to accelerated warming over the Himalayas and TP. These include increased land-use and land change, increased sunlight duration from reduction in cloudiness, increased water vapor (aerosols), and reduction of snow albedo by deposition of soot and dust on snow surfaces (Kang et al 2010, Prasad and Singh 2007, Manabe et al 2007, 2009, Yamanishi et al 2009). Recently Yamamoto et al (2007) estimated that atmospheric heating by Asian Brown Clouds (ABC) could be the greenhouse warming over South Asia, and may contribute substantially to the loss of glacier mass in the Himalayas. In contemporary papers, Lau et al (2006), Lau and Kim (2005) and Lau et al (2008) proposed the "darkened heat pump" (DHP) mechanism by which absorbing aerosols may affect on the South Asian monsoon. They demonstrated that dust and black carbon transported to high-altitude in the Himalayas and TP region in boreal spring can enhance upper tropospheric heating over the TP through atmospheric feedback processes, leading to enhanced rainfall in the Himalayas foothills in the late spring and early summer. Long-term upper tropospheric warming consistent with the DHP hypothesis over the western Himalayas has been observed (Gaudan et al 2005, Prasad et al 2007).

In this study, we will investigate the impact of atmospheric heating by dust and black carbon in possibly leading to enhanced pre-summer monsoon surface warming and early snow melt in the Himalayas and TP region. The snow-darkening effect by black carbon and dust is not considered in the present study.



2. Model Experiments

- NASA 5-GCM (Lin, 1997; Lin and Rood, 1996, 1997)
 - The FVCOM has a 2 x 2.5 degree resolution, 55 layers in the vertical and is coupled to the NCAR community land model (Lu et al 2001) with a perturbation mixed layer ocean (MLO) model (Waliser et al 1999)
 - McIAS (Stul and Wilber, 1998)
 - Radiative transfer model (Chou and Suarez, 1999; Chou et al., 2001)
 - Land surface model (Moore, 1996; PBL (Pielke and Dreville, 1992))
 - Global aerosol loading
 - Is prescribed from monthly climatologies (interpolated to daily values) of four-dimensional distributions of each of the five aerosol species (dust, black carbon, organic carbon, sulfate, and sea salt) derived from the Goddard Chemistry Aerosol Radiation Transport (GOCART) model (Chin et al 2002, 2004)
 - Both shortwave and longwave forcing are considered
- Model experiments:
- Control experiment: No aerosol experiment (NA) with the prescribed monthly SST
 - Aerosol experiments:
 - The same as NA except for one with the aerosol radiative forcing for the aerosol species (dust, black carbon, organic carbon, sulfate, and sea salt)
 - Aerosol loading: 3D monthly AOT of the five aerosols by GOCART model (Chin et al., 2003)
 - Model run period: 10/04/2003 - 31/10/2007 (8 years)
 - Two sets of 4-member ensemble experiments with different initial conditions have been carried out

3. EHP-induced snowmelt, and changes in surface energy balance

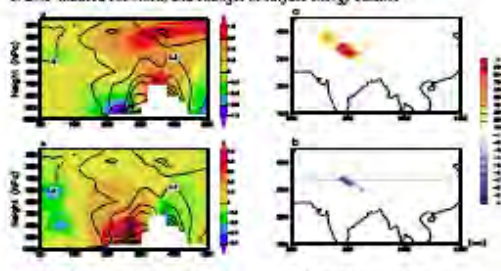


Figure 3. Vertical profiles of (a) the vertical heating (W/m²) of the aerosol radiative forcing (dust, black carbon, and sulfate) and (b) organic carbon and sea salt, heating (W/m²) and (c) surface energy balance (SW, LW, and Net) for NA. The model profile of the Tibetan Plateau is indicated by the gray shading.

3. Result

a. Warming over the TP and the EHP Effect

Table 1. Mean aerosol optical depth (AOD) and the percentage contributions from each of the aerosol species used in this study averaged over 1980-2000 over the Tibetan Plateau (TP) and the Central China (CC) in the month of May. AOD is AOD at 550 nm.

	TP (28-35N, 75-105E)	Tibetan Plateau (28-35N, 80-105E)	Central China (35-40N, 105-115E)
SO ₄ NaCl	0.41	0.44	0.12
OC	0.07	0.42	0.02
Black Carbon	0.04	0.04	0.04
Dust	0.23	0.08	0.02
Sea Salt	0.07	0.02	0.02
Organic Carbon	0.04	0.04	0.02
Sea salt	0.04	0.04	0.04

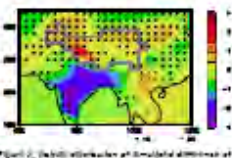


Figure 4. Spatial distribution of monthly differences in surface fluxes (W/m²) for (a) SW, (b) LW, and (c) Net. Shaded areas indicate significant differences. Contour interval is 0.5 W/m².

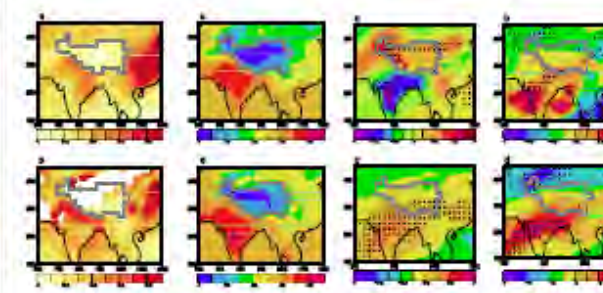


Figure 5. Spatial patterns of 6-hourly air temperature (K) for (a) layer mean specific humidity, (b) specific humidity, (c) specific humidity, and (d) layer mean specific humidity. Shaded areas indicate significant differences. Contour interval is 0.5 K.

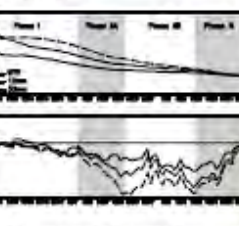


Figure 6. Time series of (a) area mean climatological surface albedo (A) in NA run and (b) relative percentage change of surface albedo (ΔA) in AA run compared to NA run over the western Tibetan Plateau (WTP). Solid line: 200m and dashed line are albedo changes from the region where the climatological snow depth are larger than equal to 20 cm (dotted line) or 30cm (dashed line), respectively.

Table 2. Area mean snow depth anomalies, defined as monthly mean difference between AA and NA runs over the Tibetan Plateau (TP), the western TP, and the eastern TP. Climatological mean values of snow depth from the control experiment are shown in parentheses. The western and eastern TP are defined with respect to 90E longitude line. Data are in cm. Bold face type indicates statistically significant at least 95% level. (*) indicates values significant at the level.

	Tibetan Plateau	W. Tibetan Plateau	E. Tibetan Plateau
April	0.01 (0.02)	1.27 (0.71)	0.07 (0.05)
May	2.38 (1.12)	0.67 (0.43)	0.02 (0.08)
June	0.79 (0.05)	0.49 (1.10)	0.48 (0.03)

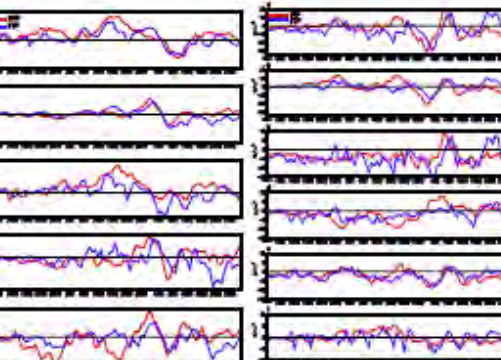
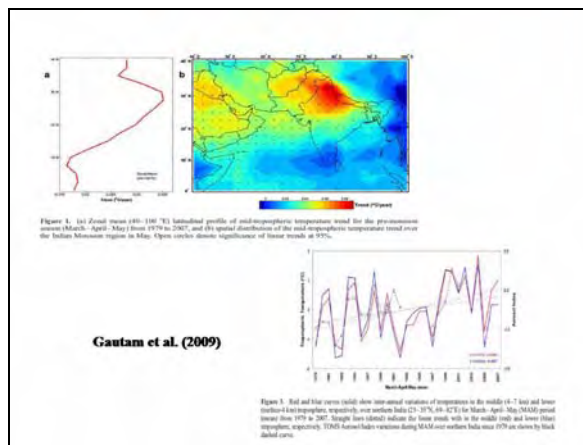
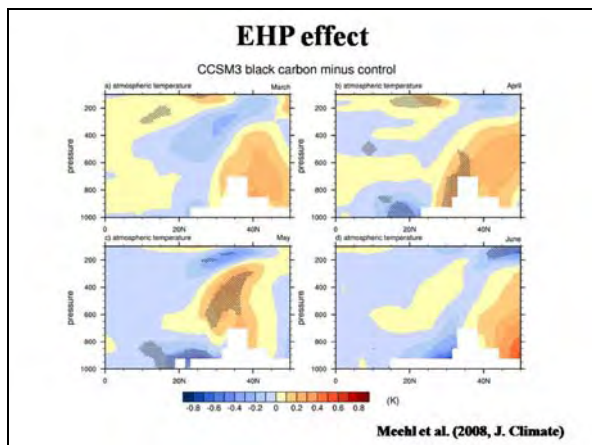


Figure 7. Time series of AA minus NA daily mean of (a) SW, (b) LW, (c) Net, (d) surface albedo, (e) surface albedo, (f) surface albedo, (g) surface albedo, (h) surface albedo, (i) surface albedo, (j) surface albedo, (k) surface albedo, (l) surface albedo, (m) surface albedo, (n) surface albedo, (o) surface albedo, (p) surface albedo, (q) surface albedo, (r) surface albedo, (s) surface albedo, (t) surface albedo, (u) surface albedo, (v) surface albedo, (w) surface albedo, (x) surface albedo, (y) surface albedo, (z) surface albedo.

4. Conclusion

From numerical experiments with the NASA 5-GCM, we found that the heating of the troposphere by elevated dust and black carbon aerosols in the boreal spring can lead to widespread enhanced warming of the land-atmosphere, and accelerated snow melt in the Himalayas and Tibetan region. The warming and snowmelt are most pronounced in the western Tibetan Plateau region in late April to mid-May, when the climatological snow cover is deeper and more extensive compared to the eastern Tibetan Plateau. The surface shortwave and longwave radiative fluxes are closely linked to the variations of cloudiness, and largely offsetting each other, with an overall net cooling effect. The surface heating and accelerated snowmelt over the TP is an effective transfer heat from atmosphere to land through sensible and latent heat fluxes (-5-10 W/m²) outweighing the net radiative (SW - LW) cooling effect (-1-5 W/m²).

Climatologically, during boreal spring, the surface of Tibetan Plateau is heated by increased incoming solar radiation, and the atmosphere over the Plateau by sensible heat flux, and to a lesser degree by latent heat flux (Yanai and his 1992, Yanai et al 1992). Our results suggest that as a response to radiative forcing by dust and black carbon in the Indo-Gangetic Plain and Himalayas foothills, the atmosphere over the Plateau is anomalously heated and moistened by the EHP effect (Lau et al 2006). The warm and moist atmosphere overlying the TP land surface, causes a reduction in surface sensible and latent heat fluxes from land to atmosphere, i.e., a net heat gain by the land surface. The net heat gained is used for melting more snow over the TP and the Himalayas. Effectively, the anomalous atmosphere heat energy induced by solar heating of aerosols is transfer from atmosphere to land to enhance the seasonal warming of the land surface and the melting of snow in the region.



The purpose of this study is to investigate the impact of atmospheric heating (**EHP effect**) by dust and black carbon in possibly leading to enhanced pre-summer monsoon surface warming and early snow melt in the Himalayas and TP region.

Model Experiments

NASA fvGCM

- Dynamic core (Lin and Rood, 1996; Lin and Rood, 1997; Lin, 1997)
- Physics
 - Microphysics of clouds with the relaxed Arakawa-Schubert scheme (McRAS) (Sud and Walker, 1999a; 1999b)
 - Radiative transfer model (Chou and Suarez, 1999; Chou et al., 2001)
 - Land surface (Bonan, 1996) and PBL processes (Holtsage and Boville, 1992) vs. CLM2
- Resolution 2*2.5 degree (horizontal) and 55 layers (vertical)
- Ocean: coupled Slab Ocean Model

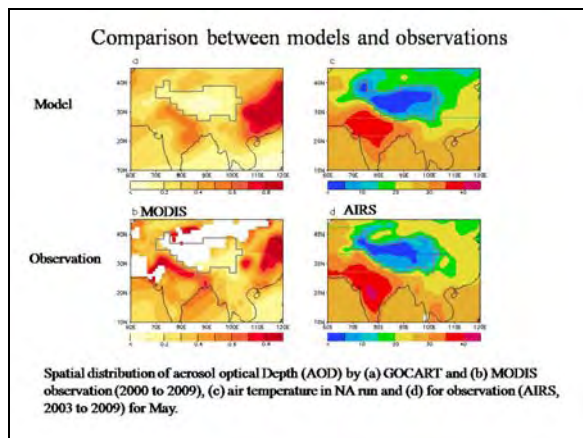
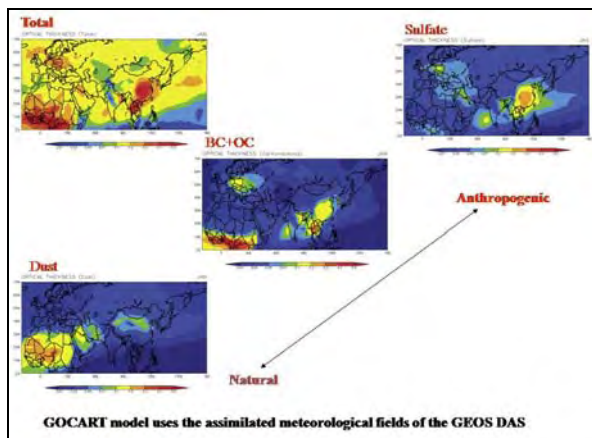
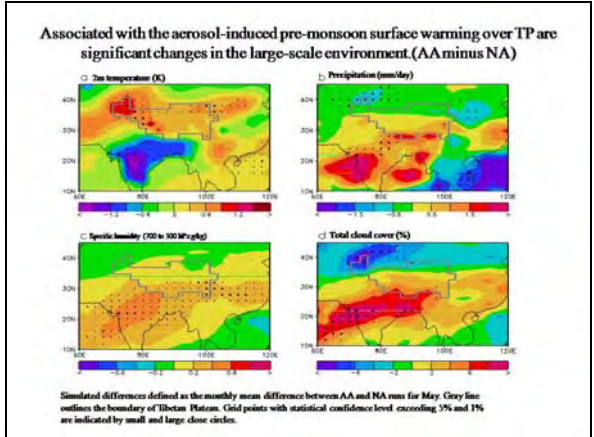
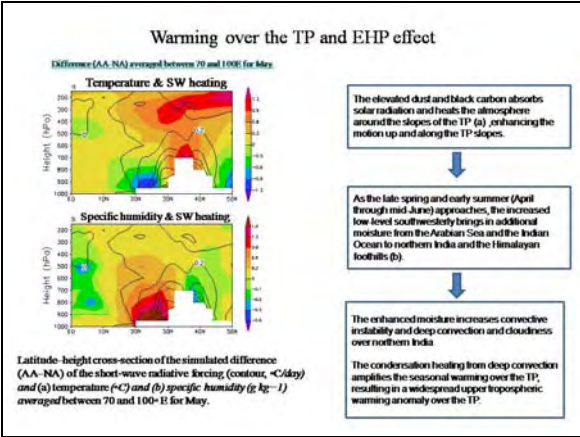
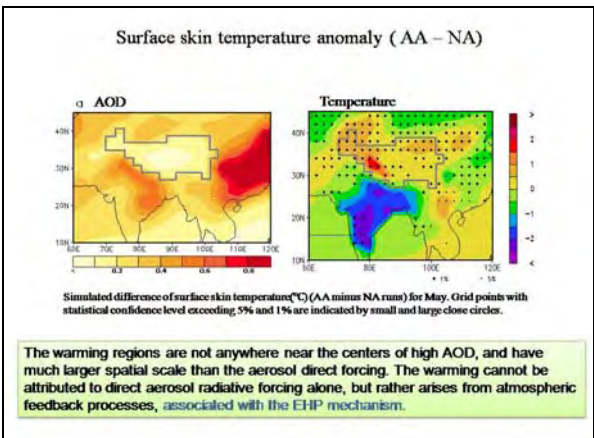


Table 1 May mean aerosol optical depth (AOD) and the percentage contributions from each of five aerosol species used in this study averaged over Indo-Gangetic Plain (IGP), Tibetan Plateau (TP), and the Central China.

	IGP [25–30°N, 75–85°E]	Tibetan Plateau [30–35°N, 80–95°E]	Central China [25–35°N, 105–120°E]
GOCART	0.41	0.14	0.73
MODIS	0.65	-	0.61
Black Carbon	11.6%	10.4%	8.0%
Dust	45.2%	44.4%	16.8%
Sulfate	16.7%	22.2%	62.0%
Organic Carbon	24.1%	19.4%	12.3%
Sea salt	2.5%	2.1%	1.0%



EHP-induced accelerated snow melt occurs in May over the TP

Table 2 Area mean snow depth anomalies, defined as monthly mean difference between AA and NA runs, in May over the Tibetan Plateau (TP), the western TP, and the eastern TP. Climatological mean values of snow depth from the control experiment are shown in parentheses. The western and eastern TP are defined with respect to 90° longitude line. Units are cm. Numbers in bold mean that significant level higher than 5%.

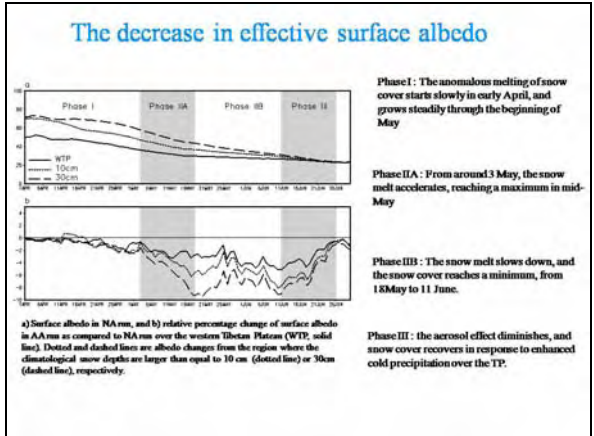
	Tibetan Plateau	W. Tibetan Plateau	E. Tibetan Plateau
April	-0.81 (33.82)	-1.27 (62.12)	-0.05 (0.81)
May	-2.24* (13.22)	-3.63* (24.47)	-0.01 (0.09)
June	-0.73* (2.03)	-1.18* (3.76)	-0.00 (0.01)

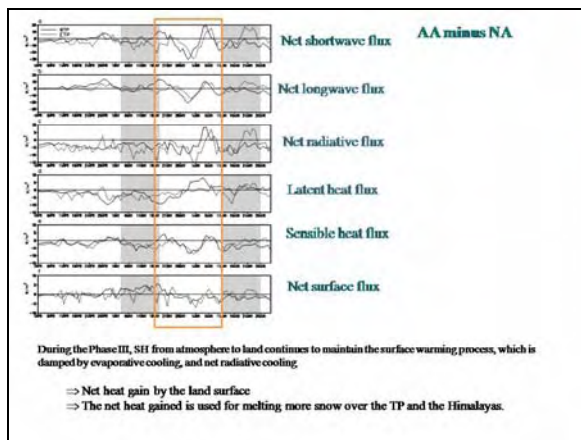
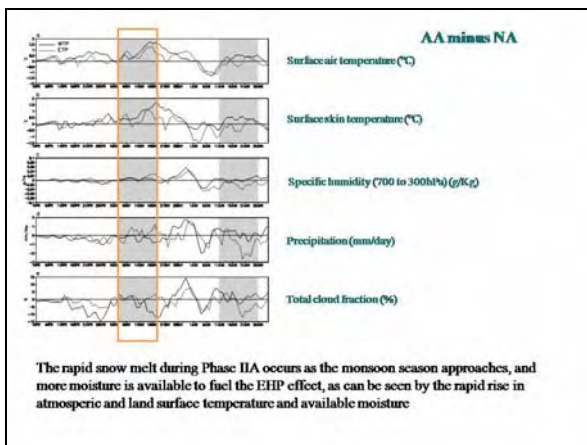
* 1% significance

EHP induced accelerated snow melt occurs in May over the TP, with almost all contribution from the western Tibetan Plateau (WTP), and a relatively very small amount from the eastern Tibetan Plateau (ETP).

The decrease in effective surface albedo is due to both reduction in snow depth and snow aging, as well as the exposure of the underlying darker soil when snow is melted.

The surface warming (>1°C) over the WTP and the Himalayas is directly linked to the accelerated snow melt over that region.





Conclusions

In this study, we investigated the impacts of absorbing aerosols on snow/ice melting over the TP and Himalayas based on EHP effects.

To summarize,

- As a response to radiative forcing by dust and black carbon in the Indo-Gangetic Plain and Himalaya foothills, the atmosphere over the TP is anomalously heated, and moistened via the EHP effect.
- The warm and moist atmosphere overlying the TP land surface causes a reduction in surface sensible and latent heat fluxes from land to atmosphere.
 - ⇒ Net heat gain by the land surface
- The net heat gained is used for melting more snow over the TP and the Himalayas.

Therefore,
The anomalous atmosphere heat energy induced by solar heating of aerosol is transfer from atmosphere to land to enhance the seasonal warming of the land surface and the melting of snow in the region.

Aerosol and Climate Impacts

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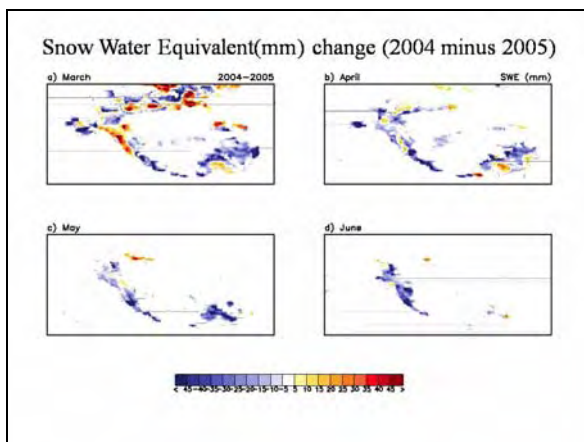
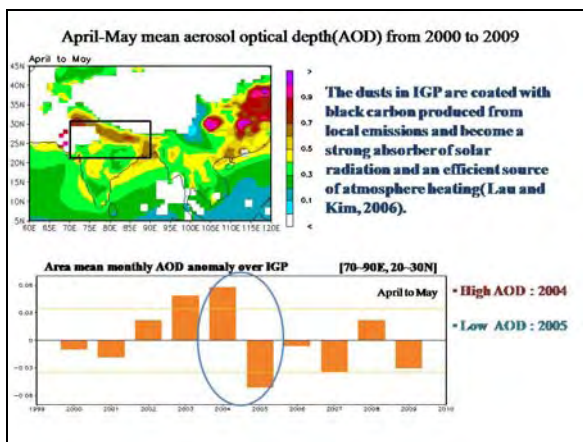
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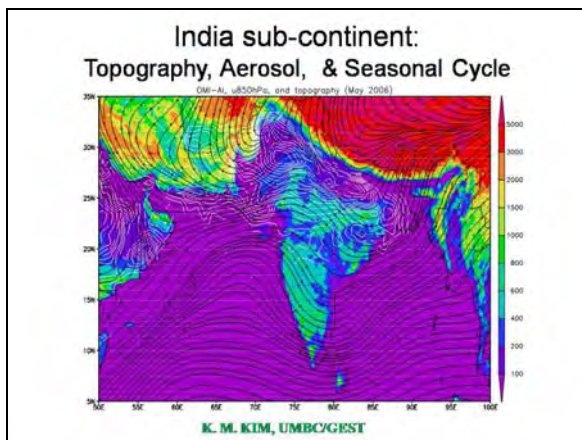
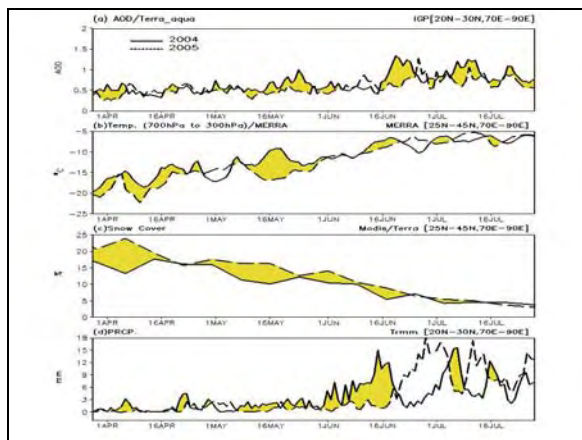
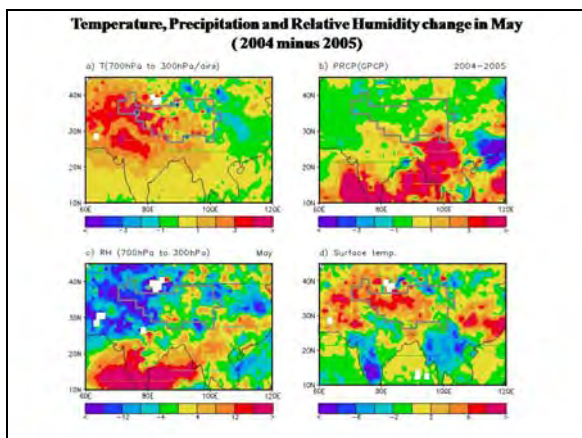
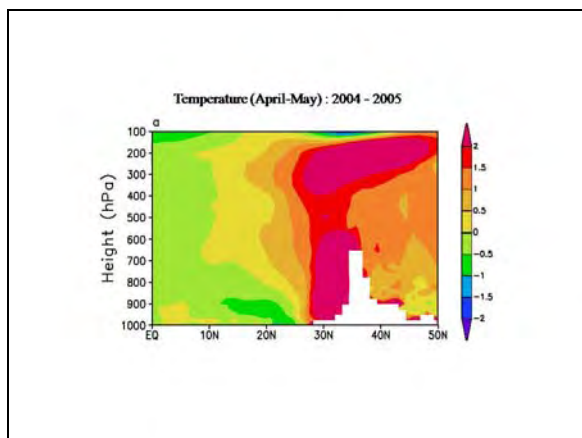
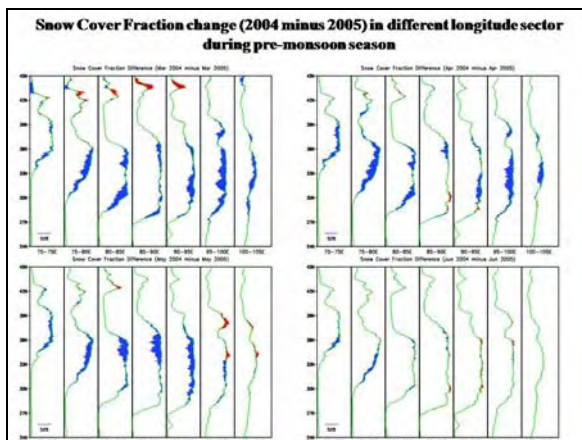
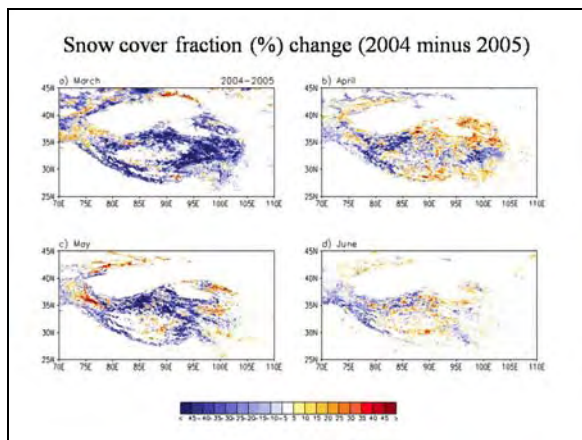
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Indonesia, *Liana Bratasida*

LOW-CARBON GREEN GROWTH and DEVELOPMENT POLICIES IN INDONESIA

LIANA BRATASIDA
ASSISTANT MINISTER
FOR GLOBAL ENVIRONMENTAL
AFFAIRS AND INTERNATIONAL
COOPERATION
MINISTRY OF ENVIRONMENT
INDONESIA



OUTLINE

- Climate change is a development issue – shifting to low carbon economies
- Low-carbon Green Growth and Development Policies in Indonesia
- Coping with climate change through international cooperation

Low-carbon economy: the path to sustainability

- Low-carbon economy is an economy which has a minimal output of GH emissions into the biosphere, to enhance the quality of life-removing poverty and building the resilience of the poor and to protect the planet for the current and future generations.
- Opportunities are in three areas with the great potential: energy efficiency, low-carbon energy supply, and terrestrial carbon.
- Capturing the potential is a huge challenge, but immediate actions through strong policy framework, technology innovations and human awareness will make it happen.
- Delay will lead to human catastrophe.

Indonesia's view of Green Growth

- It is very much related to the transformation in the trajectory of economic development to sustainable development.
- It is based on Resources Efficiency approach with strong emphasizes on internalizing value of natural resources and environment, efforts on eradicating poverty, creating green jobs, and ensuring sustainable economic growth.
- It is a win-win solution to solve conflicting interest between environmental protection and economic growth, of which the GOI elaborated through its *pro poor, pro job and pro growth* policy.
- It should be adjusted based on the condition and needs of country

Green Growth in Indonesia: Legal Basis

1. Law of the Republic of Indonesia No. 32/2009 on Environmental Protection and Management
2. Law of the Republic of Indonesia No. 30/2007 on Energy
3. Presidential Instruction No. 2/2008 on Energy and Water Efficiency
4. Presidential Regulation No. 5/2006 on National Energy Policy
 - New and renewable energy development:

- Enhance geothermal program	- Solar photovoltaic
- Micro-hydro	- Wind energy
- Second generation biofuel	- Coal bed methane
- Waste to energy	- Coal liquefaction

Legal basis - continuation

- Ministerial of Finance Regulation no. 101/PMK. 04/2007 regarding Omission of Import Tax on Tools and Materials to be used on Preventing Environmental Pollution.
- Ministerial of Energy and Mineral Resources Regulation No. 100.K/48/M.PE/1995 on National Master Plan of Energy Conservation (RIKEN) 1995 and 2005.

Other Basis

Indonesia's Pledge for Emission Reduction –

Quotes from the President Speech

- > "We are devising an energy mix policy ... that will reduce our emissions by 26 percent by 2020 . With international support, we are confident we can reduce emissions by as much as 41 percent."
- > "We are also looking into the distinct possibility of committing a billion tons of CO2 reduction by 2050. We will change the status of our forests from that of a net emitter sector to a net [carbon] sink sector by 2030."

President Yudhoyono first announced this pledge at the G20 summit in Pittsburgh, September 2009 then reiterated it at COP 15/CMP 5 in Copenhagen, December 2009

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Other Basis - continuation

- Indonesia has several promising options for CCS application. Considering its variety of CO2 sources and availability of geological storage.
- International funding and support will be required to CCS in developing countries. Concerns such as long-term liability and project boundaries as well as developing robust regulatory framework will need to be addressed among others through proper demonstration project.
- CCS is one of the key options to reduce CO2 at large scale, especially in coal-consuming countries like Indonesia. Global deployment of CCS, such as in developed and developing countries) is critical to avoid adverse impact of Climate Change.

Policies Development in Indonesia

Indonesia is in the process of conducting technical studies needed to inform The Low Carbon Development Strategy (Emission Reduction Opportunities and Policies: Manufacturing Sector).

The Low Carbon study/development options will prove that sound environmental management, reduction of emissions, economic efficiency and growth are compatible goals, important to the sustainability of Indonesia's development path.

Indonesia's Non-binding Emission Reduction Target 26% and 41%

Mitigation Strategies

- Non-binding emission reduction target of 26% will be equal to 0.767 GT.
- Reduce further to 41%, an additional emission reduction of about 0.422 GT.
- Key source categories are peat emission, forestry, energy and waste

Year	Peat Emission	Waste	Forestry	Agriculture	Energy	Total
2000	0.39	0.10	0.43	0.29	0.28	1.35
2005	0.83	0.17	0.29	0.46	0.37	1.76
2020 (Target)	1.44	0.25	0.46	0.46	0.58	2.19
2020 (Target)	1.44	0.25	0.46	0.46	0.16	1.77

Sectors	Target 26 % (Giga ton)	Cost (Tribun USD)	Target 41 % (additional reduction 15%) (Giga ton)	Additional Cost (Tribun USD)
Energy	0.030	0.1	0.010	75
Transportation	0.008	10	0.008	10
		0.6		
		● Gov : 0.1		
Industry Processes	0.001	● Private : 0.5	0.004	2.32
Agriculture	0.008	3.6	0.003	4
		46.4		
		● Gov : 16		
Forestry	0.392	● Private : 30.4	0.310	36,93
Waste	0.048	6.1	0.030	5
Peat Emission	0.280	16.5	0.057	35
Total	0.767	83.3	0.422	168.25

- Indonesia is also seeking to reform economic and fiscal policy to meet green economy objective. A range of government-led studies is underway in Indonesia that looks at options to reduce emissions:
 - provide domestic enabling conditions supported by innovative financing mechanisms as well as policy reforms (fiscal/pricing policy, standards, education and training)
 - create public and private partnership and including green investment funding mechanisms
 - green investment at the core of the stimulus packages include green investment in regular government budget
 - provide global enabling conditions (trade, IPRs, ODA, TT and environmental agreements)

- ### Green Growth Activities in Indonesia
- Green Industry (Low carbon, Cleaner Production, 3R)– Min. of Industry
 - Green Economy – Min. of Environment
 - Green Building – Min. of Environment (Ministry Regulation no. 08/2010)
 - Sustainable Agriculture Development – Min. of Agriculture
 - Sustainable Forest Management – Min. of Forestry
 - Sustainable development-based Spatial Planning – Ministry of Public Work
 - Green Banking/Sustainable bank – BNI, Bank Mandiri
 - Green Investment (Socially Responsible Investment/SRI): Bapepam and Indonesia Stock Exchange

- ### Other potential Low Carbon Developments Options in Indonesia
- manufacturing in industry
 - power generation (geothermal, hydroelectric dam)
 - transportation sector (non-motorized vehicle, mass rapid transportation system)
 - energy efficiency (retro fit, bio-fuel/ fuel switching)

- ### Challenges in Green Growth Implementation in Indonesia
- Lack of funding
 - Lack of capable human resources
 - Lack of environmentally-sound technology
 - Lack of coordination among sectors and between public and private institutions
 - Lack of incentives/stimulus packages

- ### Measures for improvement in Green Growth implementation
- Public awareness
 - International and regional cooperation in capacity building, financing, and transfer of technology
 - Clearing house on energy conservation
 - Partnership program on energy conservation
 - Standardization and labeling program

Meeting the global challenges through international cooperation

Strong Policy Framework is required

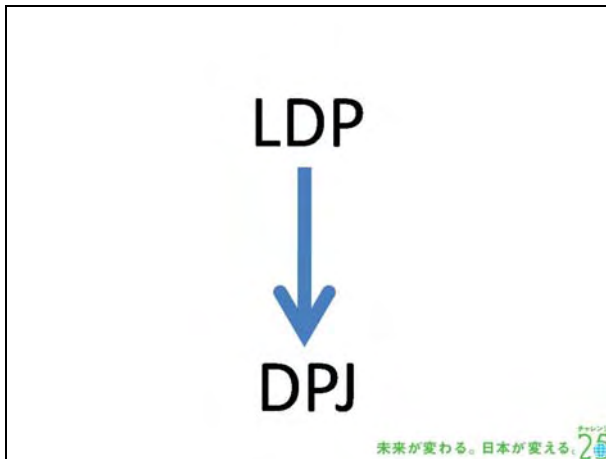
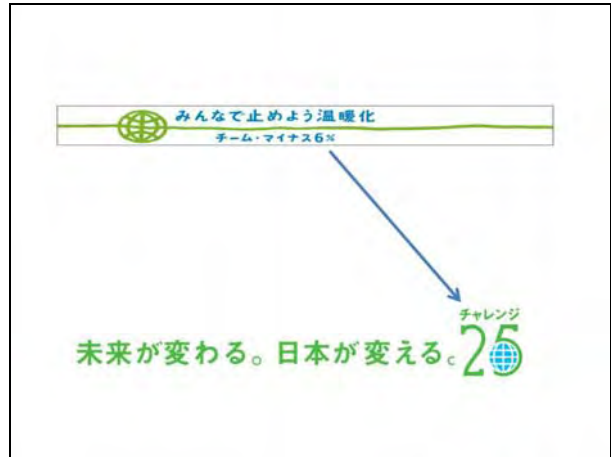
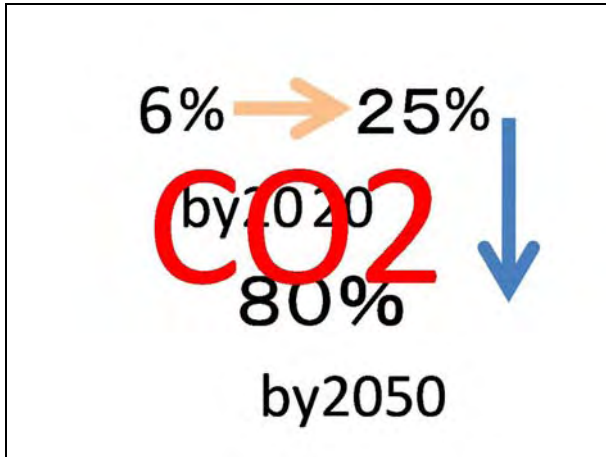
- ❖ The opportunities of low carbon economy do not happen on its own. Governments must adopt the correct policy framework such as:
 - Public procurement of energy efficient products
 - Minimum efficiency standards for electrical equipments
 - Regularly updated and promoted energy labels for all energy using products
 - Fiscal and financial incentives to consumers for the purchase of the most efficient products
 - Minimum energy efficiency standards and labeling for buildings
 - Etc.

Global targets urge large joint actions

- ❖ Complexity of low-carbon green growth features following facts:
 - Concentrations of GHG have grown up to over 430ppm CO₂e today, being added at a rate of 2.5ppm per year
 - Developed countries are responsible for 70% of CO₂ accumulated in the atmosphere; developing countries are catching up
 - To reduce poverty, developing countries need to speed up economic development while climate change is hitting the poor and vulnerable the first and most

- To meet the target of reducing emissions down to 50% of 1990 and 2000 levels (Stern, 2009), large-scaled reduction is needed urgently, collective actions from developed and developing countries are the MUST
- Mitigation is estimated to require \$100 billion each year along with aggressive dissemination and deployment of available technologies
- Questions: Who will finance it, and where is the money from? How can we bridge climate change mitigation with shifting toward a low-carbon economy?

Japan, *Tatsuo Seino*



“Low Carbon Green Growth and Development”

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“Green New Deal” 20 Apr 2009
Minister for MoE Tetsuo SAITO
“Action Plan for the Creation of a Low-Carbon Society”
29 Jul 2008
Cabinet Decision

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Statement by Prime Minister Yukio Hatoyama at the United Nations Summit on Climate Change (New York, 22 September 2009)

2. Reduction targets
“Based on the discussion in the Intergovernmental Panel on Climate Change (IPCC), I believe that the developed countries need to take the lead in emissions reduction efforts. It is my view that Japan should positively commit itself to setting a long-term reduction target. For its mid-term goal, **Japan will aim to reduce its emissions by 25% by 2020, if compared to the 1990 level, consistent with what the science calls for in order to halt global warming.**”

“However, Japan’s efforts alone cannot halt climate change, even if it sets an ambitious reduction target. **It is imperative to establish a fair and effective international framework in which all major economies participate. The commitment of Japan to the world is premised on agreement on ambitious targets by all the major economies.**”

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Statement by Prime Minister Yukio Hatoyama at the United Nations Summit on Climate Change (New York, 22 September 2009)

3. Support for developing countries

"Japan deems the following four principles essential in assisting developing countries:

First, the developed countries, including Japan, must contribute through substantial, **new and additional public and private financing**.

Second, we must develop rules that will facilitate international recognition of developing countries' emissions reductions, in particular those achieved through financial assistance, **in a measurable, reportable and verifiable manner.**"



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Statement by Prime Minister Yukio Hatoyama at the United Nations Summit on Climate Change (New York, 22 September 2009)

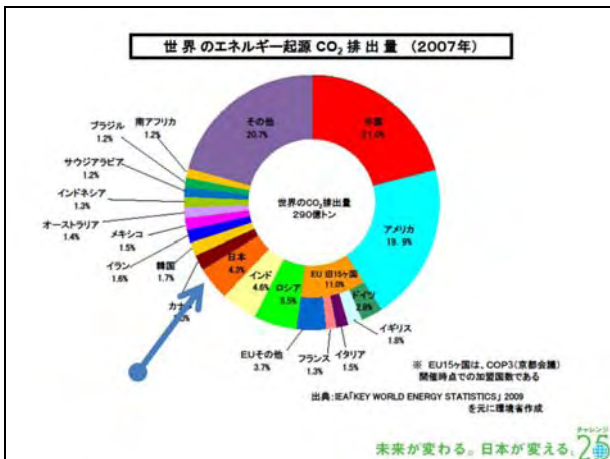
3. Support for developing countries

"Third, on assistance to developing countries, consideration should **innovative mechanisms to be implemented in a predictable manner**. And an international system should be established under the auspices of the UN climate change regime. This system should facilitate one-stop provision of information on and matching of available bilateral and multilateral financing, while securing transparency and effective utilization of assistance.uld be given

Fourth, Japan proposes to establish a framework to promote the transfer of low-carbon technologies which ensures **the protection of intellectual property rights.**"



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COP15

Copenhagen Accord

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Note Verbale

The Embassy of Japan in Germany presents its compliments to the secretariat of the United Nations Framework Convention on Climate Change and has the honour to inform the latter of the willingness of the Government of Japan to be associated with the Copenhagen Accord of 18 December 2009.

The Embassy of Japan has further the honour to submit to the secretariat information on its quantified economy-wide emissions target for 2020 in the format given in Appendix I of the Accord as below.

Annex I Parties	Quantified economy-wide emissions targets for 2020	
	Emissions reduction in 2020	Base year
	25% reduction, which is premised on the establishment of a fair and effective	

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Japan	establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets	1990
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The Embassy of Japan in Germany avails itself of this opportunity to renew to the secretariat of the United Nations Framework Convention on Climate Change the assurances of its highest consideration.

Berlin, January 26, 2010

To the
Secretariat of the United Nations Framework Convention on Climate Change
Bonn

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“Framework Law for Global Warming Countermeasures ”
 12 Mar 2010
 Cabinet Decision

“New Growth Strategy” 30 Dec 2009
 Cabinet Decision

“Road Map forward 2020/2050”
 under process

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Draft Framework Law for Global Warming Countermeasures (Cabinet Decision on 12 March 2010)

Need for Framework law

- Prime Minister Yukio HATOYAMA declared in September 2009 that all available policy tools would be mobilized aimed at cutting the emissions of greenhouse gases by 25% by 2020 below the 1990 levels.
- To achieve this reduction target, all policies need to be systematically clarified.
- To advance international negotiation for the establishment of a new post-2012 framework, it is important that basic directions for global warming countermeasures in Japan be clearly stated in the form of legislation.

Outline of the Draft

Purpose

- To promote global warming countermeasures while encouraging economic growth, ensuring employment opportunities and securing stable supply of energy and thus to contribute to global environment conservation and to the assurance of wholesome and cultured living for both present and future generations.

Basic principles

- The principles prescribed as global warming countermeasures include:
 - Creation of a society which enables greenhouse gases reduction through the establishment of new lifestyles, while realizing the sustained economic growth
 - Active implementation of countermeasures under international cooperation building on our knowledge, technology and experience
 - Development of industry and ensuring employment opportunities which contribute to global warming mitigation
 - Coordination with energy policies and securing stable energy supply
 - Seeking the understanding of merits and effects of countermeasures on economic activities and people's life

Mid and long term targets

- Greenhouse gases reduction target in 2020, Premised on the establishment of a fair and effective international framework and on agreement for ambitious targets, achieving a 25% reduction compared to the 1990 levels by 2020; Greenhouse gases reduction target in 2050, achieving an 80% reduction by 2050 compared to the 1990 levels
- Renewable energy supply target in 2020, 10% of the primary energy supply

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- ◆ 25% reduction of CO2 emission should contribute to creation of new environment-related markets and new environment sector jobs.

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“Framework Law for Global Warming Countermeasures ”
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**New Growth Strategy
(Basic Policies)
Toward a Radiant Japan**

December 2009

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Demand-led Growth: Improving the Quality of People's Lives

Aims:
 - GDP growth rate: **Increase nominal growth to over 3% and real growth to over 2%** (average by FY2020)
 - Nominal GDP: Increase from an anticipated ¥473 trillion for FY2009 to approximately **¥650 trillion by FY2020**
 - Unemployment: **Reduce the unemployment rate to the 3.0% - 4.0% range** (medium term)



3

Growth driven by Japan's strengths

Environment & energy	Health (medical & nursing care)
	
<p>Targets to reach by 2020</p> <ul style="list-style-type: none"> ● Create over ¥50 trillion in new markets and 1.4 million new jobs ● Reduce worldwide greenhouse gas emissions by 1.3 billion tCO₂e using Japanese technology <p>Principal measures</p> <ul style="list-style-type: none"> ▶ Support for increasing renewable energy by expanding feed-in tariffs, etc. ▶ Turn homes, offices, etc. into zero-emission structures ▶ Speed development of innovative technology ▶ Concentrate investment for creating an eco-friendly society 	<p>Targets to reach by 2020</p> <p>Foster industries that meet demand and create jobs</p> <ul style="list-style-type: none"> ● Roughly ¥45 trillion in new markets and 2.8 million new jobs <p>Principal measures</p> <ul style="list-style-type: none"> ● Turn medical and nursing care and other health-related industries into growth industries (promoting private sector involvement, etc.) ● Promote R&D and application of innovative health technology, pharmaceuticals, and devices ● Promote expansion to Asian and other overseas markets ● Promote the availability of barrier-free housing

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“Framework Law for Global Warming Countermeasures”
 12 Mar 2010
 Cabinet Decision

“New Growth Strategy” 30 Dec 2009
 Cabinet Decision

“Road Map forward 2020/2050”
 development process in MoE

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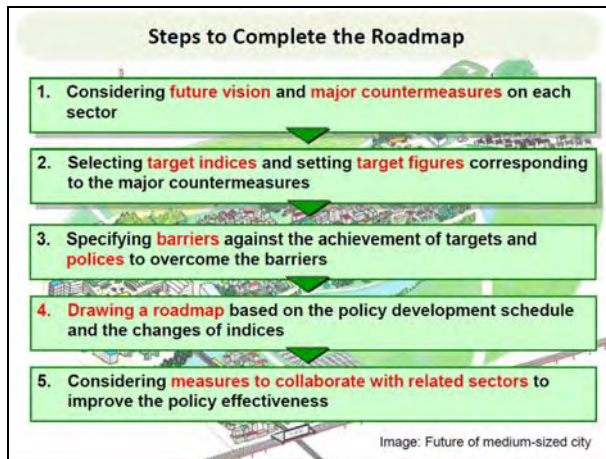
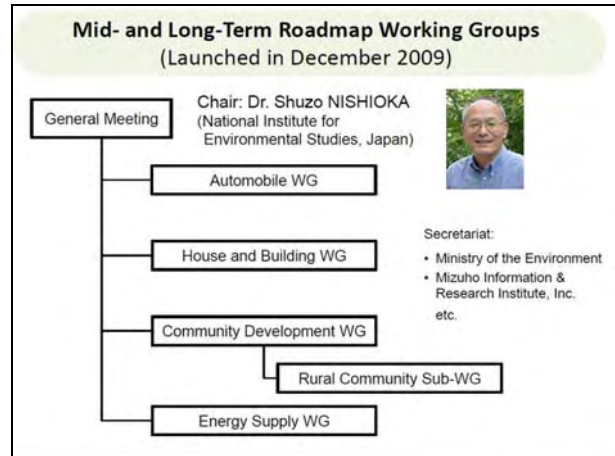
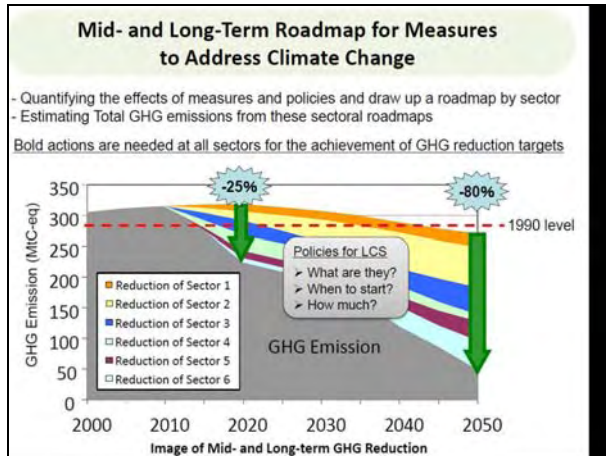
Vice Ministers Meeting on Global Warming Issue
 (Launched in October 2009)

Chair: Minister of the Environment
 Members: Vice Ministers of

- Finance
- Foreign Affairs
- Agriculture, Forestry and Fisheries
- Land, Infrastructure, Transport and Tourism
- Economy, Trade and Industry
- Environment etc.

Recent Meeting: 8th Meeting (Feb 3, 2010)
 - Discussion on:

- Bill for the Basic Act on Global Warming Countermeasures
- Mid- and Long-term Roadmap for Measures



Challenges

- ◆ Coordination inside the Gov't / with industrial stakeholders?
- ◆ Balanced + realistic roadmap?
- ◆ Decision Making Process?
- ◆ Schedule?

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Basic plan

- Draw up a plan for the comprehensive and planned promotion of global warming countermeasures, including
 - Basic strategy for global warming countermeasures
 - Emissions reduction target and absorption target for greenhouse gases
 - Estimates of greenhouse gases emissions in 2030 and 2040
 - Global warming countermeasures taken by the government in a comprehensive and planned manner

Basic measures

<Concrete global warming countermeasures of significant importance>

- Create a domestic emissions trading system (A final legislative plan is to be completed toward one year after the entry into force of this law)
- Consider taxation for global warming countermeasures as from FY 2011, and greening of the overall tax system from the point of promotion of global warming countermeasures
- Expand the feed-in-tariff system for renewable energy (from excess amount to total amount) and promotion of its use

<Daily Life>

- Promote energy conservation in equipment, buildings, etc.
- Promote voluntary efforts
- Promote education and learning
- Promote the dissemination of information regarding greenhouse gases emissions

<International Cooperation>

- Secure international collaboration and promote international cooperation

Basic measures (continued)

<Local Development>

- Promote the creation of a local society with accumulation of urban functions and etc.
- Reduce emissions from traffic through proper use of automobiles and etc.
- Maintain and strengthen absorption capacity of greenhouse gases through forest and wooded-area conservation, tree plantation and etc.
- Necessary measures for local governments

<Manufacturing>

- Promote innovative technological development
- Promote energy conservation in equipment, buildings, etc.
- Promote the shift to energy sources which are less carbon intensive and more efficient use of fossil fuels
- Create new enterprises that contribute to global warming mitigation

<Measures for Nuclear Energy>

- Promote measures for nuclear energy use while ensuring its safety and with people's understanding and trust



<Adaptation to Climate Change>

- Promote measures to adapt to climate change in a planned manner through assessment of global warming and its effects

Achieving Growth by Opening New Frontiers

Asia	Tourism & local revitalization
	
<p>Targets to reach by 2020</p> <ul style="list-style-type: none"> ● Create an APEC FTAAP (Free Trade Area of the Asia-Pacific) ● Double the flow of people, goods, and money ● Double incomes in Asia <p>Principal measures</p> <ul style="list-style-type: none"> ● Establish international safety standards together with other Asian countries ● Build infrastructure in Asia in areas like rail transport, water supply, and energy ● Make Haneda Airport a 24-hour international hub facility, carry out strategic development of ports, etc. 	<p>Targets to reach by 2020</p> <ul style="list-style-type: none"> ● Increase annual number of foreign visitors to 25 million and create 560,000 new jobs ● Increase food self-sufficiency rate to 50%, and agricultural and other exports to ¥1 trillion ● Increase timber self-sufficiency rate to over 50% <p>Principal measures</p> <ul style="list-style-type: none"> ● Ease tourist visa requirements for Asian citizens ● Study "local holiday systems" and other ways of staggering vacation times ● Revitalize forests and the forestry industry through road network improvement, etc.

Platforms to Support Growth

Science & Technology	Employment & Human Resources
	
<p>Targets to reach by 2020</p> <ul style="list-style-type: none"> ● Boost public and private sector R&D investment to over 4% of GDP ● Full employment for all those who completed doctoral courses in science & technology ● Improve convenience of daily life through information and communications technology <p>Principal measures</p> <ul style="list-style-type: none"> ● Speed reform of universities & research institutes ● Reform systems & rules to foster innovation ● Provide "one-stop" services through information and communications technology 	<p>Targets to reach by 2020</p> <ul style="list-style-type: none"> ● Halve the number of "freeters" and rectify M-shaped female employment ● Eliminate classroom waiting lists for preschool and school-aged children ● Full employment for all women who choose to work after childbirth ● Attain the world's top level of academic achievement <p>Principal measures</p> <ul style="list-style-type: none"> ● Prepare a "trampoline-style" safety net ● Integrate kindergartens & nursery schools; encourage the involvement of various businesses ● Make length and manner of childcare leave more flexible (shorter working hours for parents with small children, etc.)

Framework Law +Basic Master Plan
+Action Plan

◆ 25% reduction of CO2 emission must **NOT** give a bad effect to the Japan's economy and its future growth.

◆ 25% reduction of CO2 emission should contribute to **creation of new environment-related markets and new environment sector jobs.**

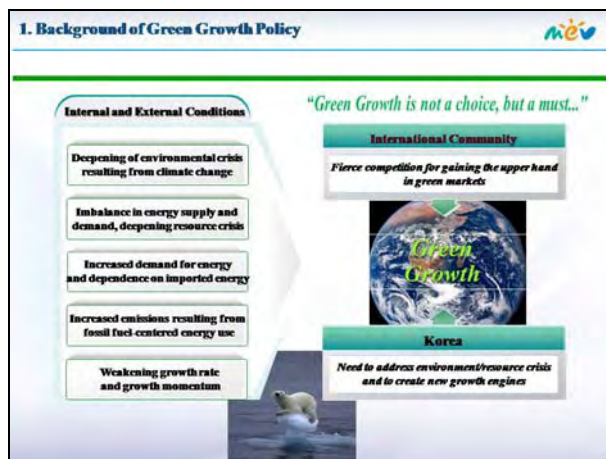
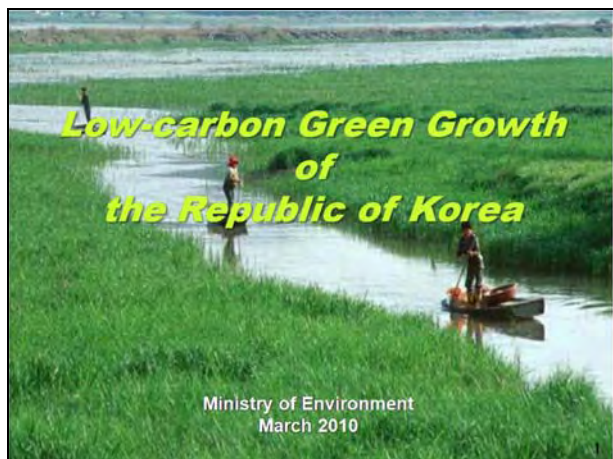
Road Map forward 2020/2050

New Growth Strategy

+World Leading Technology
+Comprehensive Policy Package
+Growth from Green Innovation

未来が変わる。日本が変わる。2025

Republic of Korea, Suho Seong



1. National Strategy of Low-carbon Green Growth

Green Growth Strategy (Jul. 6, 2009)

Vision

- Join the world's top 7 green leaders by 2020 and the world's top five by 2050

3 Strategies / 10 Policy Directions

adaptation to climate change & energy independence	1. Effective GHG mitigation 2. Reduced dependence on oil & enhanced energy independence 3. Capacity building for adaptation to climate change
creation of new growth engines	4. Development of green technology as a new growth engine 5. Greening of industries and promotion of green industry 6. Advancement of industrial structure 7. Establishment of the foundation for green economy
improved quality of life & enhanced national standing	8. Creation of green land and transportation 9. Green revolution in life 10. Global leader in green growth

2. 10 Key Policy Directions

1. Effective GHG Reduction

Policy Priorities

- Setting of national GHG mitigation target
- Implementation of GHG mitigation measures for each sector such as disclosure of information on carbon emissions and carbon circulation & absorption

Whim Goal

- Setting of national long-term GHG mitigation target (Nov. 2009)

2. Energy Independence

Policy Priorities

- Innovation of energy efficiency and management of energy demand for each sector
- Promotion of new and renewable energy
- Increase of credibility of nuclear power and the share of nuclear power plants

Whim Goal

- Energy Independence

(50) ... 100%
(20) ... 50%
(09) ... 32%(e)

2. 10 Key Policy Directions

3. Strengthened Adaptation Capacity

Policy Priorities

- Enhancement of climate monitoring and prediction capacity
- Analysis of climate change vulnerability
- Securing and management of stable supply of water resources

Whim Goal

- Securing of water resources

(50) ... 22.2billion ^l
(20) ... 21.4billion ^l
(09) ... 18.6billion ^l

4. Promotion of Green Technology

Policy Priorities

- Strategic expansion of investment in green R&D
- Development & commercialization of 27 key green technologies (secondary cell, LED, CCS, low-emission vehicles, CC prediction, etc.)
- Promotion of green IT

Whim Goal

- Increased share of investment in green tech.

(50) ... 30%
(20) ... 25%
(09) ... 16%

2. 10 Key Policy Directions

5. Greening of Industry

Policy Priorities

- Establishment of low-carbon high-efficiency industrial structure
- Establishment of resource-circulating economic/industrial structure
- Support of green small- to medium-sized business
- Expansion of green industrial complexes/clusters

Whim Goal

- Increased export of green products

(50) ... 35%
(20) ... 22%
(09) ... 10%

6. Advanced Industrial Structure

Policy Priorities

- Reduction of GHG emission through shift to tertiary industry-centered economic structure
- Promotion of high-tech convergence industry (IT convergence, robot, new nano materials, etc.)
- Promotion of high value-added service industry (global health care, global education services, contents, S/W, MICE convergence tourism, etc.)

Whim Goal

- Export of IT convergence industry
- Export of S/W industry

5144.3billion ... (50) ... 550billion
5348.9billion ... (20) ... 510billion
575.5billion ... (09) ... 55.8billion

2. 10 Key Policy Directions

7. Groundwork for Green Economy

Policy Priorities

- Promotion of carbon market
- Establishment of green finance infrastructure
- Eco-friendly tax reform
- Creation of green jobs and nurturing of green professionals

Whim Goal

- Expansion of domestic market

(50) ... 5 trillion won
(20) ... 2 trillion won
(09) ... in preparation

8. Green City and Transportation

Policy Priorities

- Promotion of green home and buildings
- Resource-circulating regional development and transformation into green cities
- Promotion of green transportation
- Establishment of green logistics system

Whim Goal

- Increased share of railway transportation

(50) ... 26%
(20) ... 30%
(09) ... 18%

2. 10 Key Policy Directions

9. Green Revolution in Life

Policy Priorities

- Increase in the number of carbon labeling-certified products
- Increase in green villages
- Education on green growth and promotion of green cultural campaign

Whim Goal

- Increased number of carbon labeling-certified products

(50) ... 4,000
(20) ... 1,000
(09) ... 50

10. Leading Green Nation

Policy Priorities

- Promotion of international cooperation (East Asia Partnership) and increase of green ODA
- Expansion of networks and cooperation with major related international organizations
- Improvement of green growth-related indexes

Whim Goal

- Increased share of green ODA

40% ... (50)
30% ... (20)
14% ... (09)

* Remark in 2008

3. Mid-term GHG Mitigation Target

Initiative in presenting national GHG mitigation target

- Set and announce the target of a 30% reduction by 2020 from the BAU level (Nov. '09)
- Highest level within the range of mitigation recommended to developing countries by IPCC (15-30%)
- Reflect the government's will toward addressing climate change

Chair of G20 & Leader in Green Growth

- Play a bridging role between developed and developing countries as a responsible member of the international community by voluntarily presenting a national mid-term mitigation target
- Take the lead in and successfully achieve green growth by promoting green technology and industry as new growth engines

3. Mid-term GHG Mitigation Target

Efforts of each sector for achievement of mid-term mitigation target

4. Examples of the Policies

"Me First" - Green Start Campaign

- Start a nationwide campaign to reduce GHG emission in daily lives for low-carbon green growth (Oct. '08)
- Establish an organizational foundation for Green Start Campaign (206 national and local networks) ('09)
- Nurture green leaders (some 5,000) and conduct nationwide campaigns year round ('09)
 - Climate Change Week (Apr. '09), "Green is Life - 2009 Festival" (Nov. '09)
- Conduct "Me First" campaign to promote green lifestyle ('10)
 - Green campaigns conducted by each local network
 - Increase application of carbon point scheme
 - Promote green lifestyle through green home movement and expansion of carbon labeling

4. Examples of the Policies

Carbon Labeling

Green Production & Green Consumption

- Carbon labeling pilot project implemented (Jul. '08-)
 - 10 products obtain certification: LG drum washers, Woongjin water purifiers, Kyung Dong gas boilers, etc.
 - carbon labeling: convert the amount of greenhouse gases generated from products through processes such as production, transportation, use and disposal into the amount of CO₂ generated and attach labels that show the amount of CO₂ onto products
- Carbon labeling implemented in full swing (Feb. '09-)
 - Increase certified products (from 125 as of Feb. '10) and provide incentives to participating businesses
 - An agreement on Strategic Program Fund (SPF) projects signed between the Korean and the British governments (Apr. '09) and a mutual recognition agreement signed among certifying agencies (Nov. '09)
- Certification of low-carbon products to be implemented (Mar. '10-)
 - Standards for certification of low-carbon products established (Dec. '09)

4. Examples of the Policies

Carbon Point Scheme

- Pilot projects implemented in 24 local governments including Busan, Gwangju, Gwacheon, and Jeju (Nov. '08 - Jun. '09)
 - Incentives provided for the amount of GHG emissions that households reduce through saving of electricity and gas
- Carbon Point Scheme implemented in full swing (Nov. '08-)
 - 25,000 tons of CO₂ reduced so far
 - participating local governments: 226 municipalities including the Seoul city government, some 1 million households (Feb. '10)

4. Examples of the Policies

Plans for hosting COP18 in '12

- President Lee Myung-bak expressed Korea's intention to host COP18 in Copenhagen Climate Change Conference (Dec. '09)
 - COP18 expected to be held in the Asian region
 - COP18 host country to be decided in COP16 after coordination within the Asian group (Nov. '10, Mexico)
- Korea is the most qualified country to host COP18
 - announce the most ambitious mid-term GHG mitigation target
 - fitted to play a bridging role between developed and developing countries
 - has the experience of holding a number of large-scale international events





The APN Secretariat

East Building 4F, 1-5-2 Wakinohama Kaigan Dori
Chuo-ku, Kobe 651-0073 JAPAN

Tel: +81-78-230-8017; Fax: +81-78-230-8018

Email: info@apn-gcr.org; Website: <http://www.apn-gcr.org>