

# PROCEEDINGS

## of the 18th Inter-Governmental Meeting (IGM)/ Scientific Planning Group (SPG) Meeting

Kobe, Japan  
10–12 April 2013



**APN**  
Asia-Pacific Network for Global Change Research

**Proceedings of the 18th IGM/SPG Meeting (2013 Kobe, Japan)**

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**Cover artwork:** *Seto Inland Sea: Osaka to Nagasaki Sea Route* (colour and gold on paper, late 17th century, artist unknown)

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## MESSAGE FROM THE DIRECTOR

The APN 18th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting and associated committee meetings successfully concluded on 12 April 2013. The meeting was hosted by the Ministry of the Environment, Japan (MOEJ), and the Hyogo Prefectural Government in the city of Kobe, where the APN Secretariat is based.

The IGM reviewed APN's work undertaken in fiscal year 2012/13 and approved the proposed work programme and budget plan for 2013/14. Twenty-three regional research projects were approved for funding under the Annual Regional Call for Research Proposals (ARCP) programme, and sixteen capacity building projects were approved under the Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CA-PaBLE) programme.

Among the many outcomes of the meeting were the endorsement of the following new activities, which provide a clear indication of APN's strategic direction in the coming year:

- Strengthen collaboration with key partners to support activities outlined in the Biodiversity and Ecosystem Services Framework.
- Contribute to international processes, such as the UNFCCC, through new focused activities on adaptation, disaster risk management and loss and damage associated with climate change impacts in the Asia-Pacific region.
- Explore ways to continue enhancing the science-policy interface, for example through science-policy dialogues in South Asia and Temperate East Asia, drawing from the success of the first APN-START Science-Policy Dialogue.
- Implement joint activities with Hyogo Prefectural Government to raise awareness and enhance action for climate adaptation, management of the new commons, and actions towards low carbon society.

Members and invited experts participated in interactive sessions held during the IGM/SPG Meeting. The presentations and lively discussions provided insights on the following topics: 1) climate change-associated disaster risk and loss and damage; 2) the future of global change research; and 3) integrating biodiversity and ecosystem services—strengthening interaction with international science and policy-making communities. A summary of each interactive session is included in the present proceedings.

A poster session was organised to showcase activities under APN's Low Carbon Initiatives framework and to feature the latest work by selected young scientists on global change research. Thirteen young scientists joined the poster session and Dr. Joni Jupesta of the United Nations University-Institute of Advanced Studies was awarded the "Mitra Award for Global Change Research" in recognition of his outstanding poster presentation, which is also included in the present proceedings.

Finally, I would like to thank all participants for attending this important meeting, and I extend my appreciation to national Focal Points, SPG members, invited experts, external reviewers and all other stakeholders for their invaluable contribution to the APN. Special thanks to Dr. Ryutaro Yatsu, Vice Minister for Global Environment Affairs, MOEJ, and Governor Toshizo Ido of Hyogo Prefecture Government for their strong support that led to the fruitful success of the 18th IGM/SPG Meeting in Kobe.



Akio Takemoto

A handwritten signature in black ink that reads "Akio Takemoto".

Director, APN Secretariat



► **National Focal Points**

<b>Bhutan</b>	CHOPPEL (13)
<b>Cambodia</b>	SEM (7)
<b>China</b>	CHEN* (31)
<b>Indonesia</b>	SETIAWAN * (37) POERWAYANTI (16)
<b>Japan</b>	TSUJIHARA (39) HOSHINO* (63)
<b>Lao PDR</b>	SOULIVANH* (1)
<b>Malaysia</b>	HASSAN* (61)
<b>Mongolia</b>	DASHZEVEG (45)
<b>Nepal</b>	GHIMIRE* (36)
<b>Pakistan</b>	HUSSAIN (24)
<b>Republic of Korea</b>	KIM* (29)
<b>Russian Federation</b>	ADRIANOV (64)
<b>Sri Lanka</b>	SILVA* (62)
<b>Thailand</b>	KRAJANGWONGS*
<b>USA</b>	UHLE (28)

► **Scientific Planning Group Members**

<b>Bangladesh</b>	MIAH (25)
<b>Bhutan</b>	TSSHERING (52)
<b>Cambodia</b>	TEP* (18)
<b>China</b>	DONG (60)
<b>India</b>	BORGAONKAR* (17)
<b>Indonesia</b>	ADININGSIH (12)
<b>Japan</b>	FUKUSHI (49)
<b>Lao PDR</b>	SENGKHAMMY (30)
<b>Malaysia</b>	MOTEN (55)
<b>Mongolia</b>	JAMSRAN (44)
<b>Nepal</b>	SHRESTHA (23)
<b>New Zealand</b>	MATTHEWS (26)
<b>Pakistan</b>	MUHAMMED (11)
<b>Philippines</b>	TANDUG* (21)
<b>Republic of Korea</b>	MYEONG (35)
<b>Russian Federation</b>	STERIN (66)
<b>Sri Lanka</b>	KARIYAWASAM (65)
<b>Thailand</b>	BOONJAWAT (22)
<b>USA</b>	TUPAS (54)
<b>Viet Nam</b>	NGO (2)

► **Honoured Guests**

<b>MOEJ</b>	YATSU (4)
<b>HYOGO</b>	IDO (6)

► **Invited Experts to SC**

<b>USA</b>	BROWN (10)
<b>USA</b>	FUCHS (3)
<b>Japan</b>	TAKEMOTO (5)

► **Invited Experts to SPG**

<b>ANU</b>	HEATH (57)
<b>USM</b>	KOSHY (14)

► **Invited Guests & Observers**

<b>HEAA</b>	KOBAYASHI (34)
<b>HYOGO</b>	TANAKA (38) IWAKIRI TAKAHASHI
<b>ICCCAD</b>	HASEMANN (33) ROBERTS (32)
<b>ICSU-ROAP</b>	HASAN
<b>IGES-KRC</b>	SHIZUKUISHI
<b>LCS-Rnet</b>	NISHIOKA (67) ISHIKAWA (47)
<b>MAIRS</b>	AILIKUN (58)
<b>NIES</b>	FUJINO (56)
<b>NOWPAP</b>	ZHONG (50)
<b>RIHN</b>	YASUNARI
<b>TEACOM</b>	JIA (46)
<b>UNU</b>	SAITO
<b>USGCRP</b>	ALLEN (40)
<b>WCRP</b>	ASRAR (27)

► **LCI Project Leaders**

ACOSTA-MICHLIK (19)
ANG LOPEZ (20) GILBY (42) KANEKO YEANG (41) WAKIYAMA JUPESTA (15)

► **Secretariat**

TAKEMOTO (8)
IMANARI (59)
STEVENSON (9) DENG (48) KOSWATTA (53) NYAMJAV (43) RADZI (51)

\* nFP/SPG Alternate or delegate member

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# Section I

## Chairperson's Summary and Appendices



# CHAIRPERSON'S SUMMARY

Delegates (Members or their Alternates) from Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Lao Peoples Democratic Republic (Lao PDR), Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Russian Federation, Sri Lanka, Thailand, United States of America and Viet Nam attended the Meeting. Invited experts from the APN Steering Committee (SC), and invited experts and representatives from the following stakeholders, global change international community and partners were also represented at the Meeting: Hyogo Prefectural Government, Hyogo Environmental Advancement Association (HEAA), International Centre for Climate Change and Development (ICCCAD), International Council for Science – Regional Office for Asia and the Pacific (ICSU-ROAP), Institute for Global Environmental Strategies – Kansai Research Centre (IGES-KRC), Low Carbon Asia Research Network (LoCARNet), Monsoon Asia Integrated Regional Study (MAIRS), National Institute for Environmental Studies, Japan (NIES), UNEP Northwest Pacific Action Plan (NOWPAP), Research Institute for Humanity and Nature (RIHN), START Temperate East Asia Regional Committee (START TEACOM), United Nations University (UNU), US Global Change Research Program (USGCRP), and World Climate Research Programme (WCRP). The full Participants List is attached as *Appendix 1*.

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## Session One: Opening Session

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### ► Opening and Welcome Remarks from the National Focal Point for Japan

Dr. Ryutaro Yatsu, Vice-Minister for Global Environmental Affairs, Ministry of the Environment, Japan (MOEJ), was invited by Mr. Yukihiro Imanari, Head of the Development and Institutional Affairs Division, APN Secretariat, to provide welcome remarks and formally open the 18th Joint Inter-Governmental Meeting (IGM) and Scientific Planning Group (SPG) Meeting.

Dr. Yatsu welcomed all Members to Kobe and expressed his gratitude first to the Hyogo Prefectural Government and the governments of the United States, Republic of Korea (ROK) and New Zealand for their sustained financial support to the APN. He expressed his appreciation to all stakeholders who have cooperated and partnered with APN over the years since its establishment. He also thanked the APN Secretariat for organising the 18th IGM/SPG Meeting.

Recalling his experience as Director of the APN Secretariat from 2000 to 2002 and looking at the APN's evolution since then, he noted that the success and international reputation that APN has today among the international community could not have been possible without the continuous support of donors, the commitment of APN Members and the cooperation of all stakeholders.

Dr. Yatsu gave an overview of the history of APN, including the formation of its core programmes of ARCP and CAPaBLE, the establishment of the Secretariat in Kobe, and the recent initiatives launched to promote regional scientific research and capacity development in a range of global change issues as a response to new developments in the international global change arena.

Specifically, he emphasised the important role that APN plays in advancing low carbon society through its Low Carbon Initiatives (LCI) Framework; and promoting regional scientific research and capacity development on climate adaptation, disaster risk management and loss and damage through the APN's Climate Adaptation (CA) Framework, established in 2012. On this note, he conveyed his appreciation to APN for the activities conducted in the past year to establish the CA Framework and encouraged APN to strengthen its partnerships with the Asia-Pacific Adaptation Network (APAN) and other organisations in the international adaptation community. He highlighted that Japan has rich experience in disaster risk reduction and expressed his expectation that APN might take the initiative to cooperate with other organisations for information- and knowledge-sharing in this area.

Dr. Yatsu stressed the importance of other activities, such as the Biodiversity and Ecosystem Services (B&ES) Framework being developed by the APN, which will contribute to regional and international policy- and decision-making. He expressed his hope that the proposed scoping workshop regarding activities under the Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) will contribute to many emerging issues.

Finally, Dr. Yatsu expressed his expectation that APN will continue to promote regional research and capacity development on issues common to the region, and expressed his wishes for a successful Meeting that would allow participants to engage in fruitful discussions and productive results.

#### ► **Welcome Remarks from the Governor of Hyogo Prefecture**

Governor Toshizo Ido of Hyogo Prefectural Government extended a heartfelt welcome to all participants to Kobe, Japan. He recalled the establishment of the APN Secretariat in Kobe in 1999, for which he personally made great efforts as the Governor of Hyogo Prefecture to compete for hosting this international network in Kobe.

Governor Ido expressed his gratitude to APN for being allowed the honour to host the APN Secretariat in Kobe, because the city has become an important centre for international organisations working on disaster risk reduction and global change research. He conveyed his appreciation for the work undertaken by the APN, and introduced Hyogo's efforts in emissions reduction, renewable energy production and disaster reduction and prevention. In this regard, he announced Hyogo Prefectural Government's achievement of a CO<sub>2</sub> emissions reduction of 8% compared to 1990 levels, and the need to encourage further reductions in business and household sectors.

He noted that Hyogo is very active in developing sustainable sources of energy, including solar power and wind power, but recognised that being one of the largest energy producers in the Kansai region of Japan, Hyogo Prefecture must be conscious of the environment and take proactive measures to achieve sustainability for the well-being of generations to come.

Finally, he expressed his hope that the Meeting will serve as a platform to exchange ideas and new information, and wished for productive discussions in the ensuing days among attendees.

#### ► **Welcome Remarks from the Chair of APN Steering Committee**

In his capacity as the Chair of the APN SC, Mr. Sundara Sem, Director, Department of ASEAN and International Cooperation, Ministry of Environment, Kingdom of Cambodia, and APN national Focal Point (nFP) for Cambodia provided welcome remarks.

He began by thanking all donors, national Focal Points, Scientific Planning Group (SPG) Members, invited experts, and all APN stakeholders for their cooperation and contribution in promoting global change research in the Asia-Pacific region.

Mr. Sem noted that global change has culminated in serious consequences for mankind, particularly for those people living in the Asia-Pacific region, which is the most diversified region in terms of social, economic and environmental dimensions, and that APN is well positioned in the global change community to help address these issues. He stated that networking is an efficient mechanism that significantly contributes to action in combating global change in the region, and therefore APN considers collaboration with partners in the global change community a strategic goal of the Network, and has been working very closely with many key organisations, some of which were represented as observers in the present Meeting. In this context, he highlighted APN's recent work with important partners in climate adaptation and low carbon development.

Recalling discussions in 2012 at the 17th Joint IGM/SPG Meeting in Jakarta, Indonesia and the 22nd SC Meeting in Kobe, Japan, he noted that decisions culminating in key action points were addressed successfully and that he would share details under Item 2 of the Meeting agenda.

Mr. Sem highlighted that the 18th IGM/SPG Meeting serves as an enlightened bridge for collaboration and coordination to attain APN's strategic goals, and expressed his hope that the outcomes of the present Meeting will pave the way to enhanced cooperation among APN Member Countries and the international community as well.

On behalf of the APN SC and the 22 Member Countries, he expressed his thanks to MOEJ for hosting the 18th IGM/SPG Meeting and to all APN Members and the Secretariat for their hard work over the year. He closed by expressing his wish for fruitful discussions during the Meeting, and hoped all participants would enjoy their stay in Kobe.

### ► **Welcome Remarks from the APN Secretariat Director**

Dr. Akio Takemoto, Director, APN Secretariat thanked all participants who travelled far and wide to Kobe for this Meeting. He expressed his sincere gratitude to MOEJ and the Hyogo Prefectural Government for hosting the Meeting. He expressed his special thanks to Governor Ido for hosting and supporting the APN Secretariat and to Mr. Sundara Sem for actively representing APN in his capacity as SC Chair on many occasions.

Dr. Takemoto recalled that three previous IGM/SPG Meetings were hosted in Japan, all of which represented important milestones in APN's development. The first one was held in 1999, the same year the APN Secretariat was relocated to Kobe. The second marked the 10th Anniversary of the APN and a major outcome was a restructured SC, which led to the enhanced organisational structure of APN. The third Meeting was the 13th IGM/SPG in 2008, when the international community paid special attention to the Toyoka Group of Eight (G8) Summit and the G8 Environment Ministers Meeting in Kobe to talk about an Environment Agenda that incorporated a long-term goal for stabilising greenhouse gas concentrations in the atmosphere. With regard to this fourth Meeting in Kobe, he expressed his hope that it will contribute to further strengthening and accelerating regional cooperation among Members in Asia and the Pacific.

Dr. Takemoto provided an example of climate change impacts on the local sake brewery industry, stressing the importance and timeliness to facilitate research and information sharing in the area of climate change adaptation, which was expected to be a major outcome of the Meeting.

Other expected outcomes, he noted, include renewed efforts under the 2012-established LCI Framework and the new B&ES Framework (for 18th IGM/SPG approval) under which APN will work more closely with important national and regional partners for enhancing regional and global change research and capacity development activities.

Finally he noted that, having been active in the global change research community for 17 years, the unique strength of APN lies in its continuity and the sense of ownership by Member Countries, particularly developing countries in the region. He expressed his hope that the 18th IGM/SPG Meeting would work towards fruitful outcomes that will allow APN to better address the challenges of global change in the region.

### ▶ **Group Photograph**

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

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## **Session Two: Institutional Issues and Proposed Activities**

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### ▶ **Participants' Introduction**

Facilitated by Mr. Sundara Sem in his capacity as SC Chair, all participants introduced themselves and their affiliation.

### ▶ **Election of Chair and Vice-Chair**

Recalling standard procedures to consider the host country as Chair of an IGM/SPG Meeting, Mr. Sem, asked the Members to consider the nominations of the nFP for Japan, Mr. Hiroshi Tsujihara, as Chair of the 18th IGM/SPG Meeting.

Mr. Tsujihara thanked the Members for the nomination and, due to his busy schedule, asked the 18th IGM/SPG Meeting to consider Mr. Kazuhiko Takemoto, Senior Advisor to the Minister of MOEJ and invited expert to the APN SC to act as Chair of the 18th IGM/SPG Meeting. This was accepted by acclamation.

**Mr. Kazuhiko Takemoto assumed his seat as Chair of the 18th IGM/SPG Meeting and nominated Mr. Sundara Sem, as his Vice-Chair. This was accepted by acclamation.**

*Action: Mr. Kazuhiko Takemoto and Mr. Sundara Sem*

### ▶ **Item 1: Adoption of the Draft Agenda**

The Chair asked delegates to consider the draft agenda as presented, noting that any issues could be raised for discussion under Item 21, Any Other Business (AOB). Before moving on to the next item, he expressed his appreciation to Dr. Yatsu, in his professional and personal capacity, for participating in the morning session and for his continued strong support to the APN. **The agenda was approved as presented.**

*Action: 18th IGM/SPG Meeting*

## ► **Item 2: 2012/13 Activities & Action Points**

Mr. Sem, in his capacity as SC Chair and on behalf of the SC, reported the main highlights and activities of APN including the action points identified at the 17th IGM/SPG Meeting in Jakarta, Indonesia and the 21st and 22nd SC Meetings in Jakarta and Kobe, respectively.

The main activities undertaken are highlighted:

- Project management under the Annual Regional Call for Research Proposals (ARCP) and Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) programmes as well as focused activities;
- The 2012 calls for proposals process;
- The APN Opportunity Fund (AOF), including call for suggestions, Special Steering Committee (SSC) Meeting and results to date;
- The APN's CA Framework and related activities;
- Completion and submission of the Springer Climate Book (in press);
- Activities conducted and planned under the APN Low Carbon Initiatives (LCI) Framework;
- History and action to date related to the development of the APN B&ES Framework;
- Sub-Regional Cooperation activities including Proposal Development Training Workshops (PDTWs); and
- Communication and outreach activities.

Mr. Takemoto thanked Mr. Sem for his comprehensive update on the activities undertaken by the APN since April 2012, noting that many individual items will be further reported and discussed during the course of the Meeting.

## ► **Item 3: APN Membership & Framework Document**

Mr. Xiaojun Deng, Programme Officer for Communication and Development, APN Secretariat, briefly outlined the present Membership status and introduced new APN Members. He highlighted:

### ***i. Changes in APN Membership***

Since the 17th IGM/SPG Meeting, **new national Focal Points (nFPs) and SPG Members for Bangladesh, Japan, Lao PDR, Malaysia, Nepal, Republic of Korea and United States of America (USA) had been appointed and these changes were reflected in APN documentation.** Some country positions remain vacant.

### ***ii. Approved Country status for Myanmar and Maldives***

The history and action undertaken to engage Myanmar (SEA) and Maldives (SA) in APN activities began at recent sub-regional cooperation Meetings. In response, the SC at its 22nd Meeting discussed and agreed that Myanmar and Maldives be given "Approved Country" status, under which individuals and organisations in these countries are able to participate in APN programmes, according to Approved Country status regulations.

Mr. Takemoto thanked Mr. Deng for the information and led the welcoming of new Members, which was supported by acclamation. With regard to Approved Country status for Myanmar and Maldives, Mr. Takemoto opened the floor for discussion.

Dr. Andrew Matthews, invited expert to the SC, provided additional clarification on the definition of “Approved Country” under the APN, and stressed that an important rationale of giving Approved Country status is an approach to engage researchers in APN activities, rather than seeking governmental representation as a first step.

Mr. Takemoto thanked Dr. Matthews for his comments, and seeing no objection from the floor, he announced **IGM approval for Approved Country status to Myanmar and Maldives.**

***Action: Secretariat (to update Framework Document)***

### **iii. Changes in the APN Secretariat**

Mr. Deng introduced changes to the organisational structure of the APN Secretariat, explaining the need to establish a formal structure as requested by the Institute for Global Environmental Strategies (IGES), the organisation under which the Secretariat operates. This is needed as IGES became a “Public Interest Incorporated Foundation” pursuant to the new Japanese Civil Code in April 2012. **The new organisational structure comprises three divisions, namely the Division for Administration, the Division for Development and Institutional Affairs, and the Division for Communication and Scientific Affairs.** Changes in Secretariat staff since the 17th IGM/SPG Meeting were also reported.

### **iv. Proposed APN Internship Programme**

Mr. Deng introduced a new programme for IGM consideration and approval. This APN Internship Programme, its purpose and benefits to the Member Countries was explained and Members were asked to consider procedures for recommending and nominating candidates for the APN Internship Programme. He stated that the internship programme aims are to further strengthen ownership and engagement of APN Member Countries, and provide opportunities to enrich the understanding of the management and scientific aspects of APN’s operations. **Through a secondment mechanism seen as a “Member Country in-kind contribution”, this internship programme would enhance the information flow between the Secretariat and APN Members, and also contribute to the APN’s increasingly active sub-regional cooperation activities.**

Mr. Takemoto thanked Mr. Deng for introducing items iii. and iv. Taking the opportunity, he congratulated Dr. Takemoto on his hard work in communicating with IGES and Hyogo Prefectural Government. **Members welcomed the Secretariat changes under iii) and iv) by acclamation.**

***Action: APN Members and Secretariat***

### **v. Revisions to the APN Framework Document**

Mr. Takemoto invited Mr. Lou Brown, invited expert to the SC, to share the background of proposed amendments to the Framework Document.

Mr. Brown recalled that he was asked by the SC at its 22nd Meeting to draft proposed amendments that would reflect discussions at the 17th IGM/SPG Meeting and the 22nd SC Meeting. He noted that the proposed amendments were intended to clarify the document, and the most important amendments were for the two sections on the mandated procedures of the IGM and the SC. He drew participants’ attention to three printed documents before them and requested Mr. Deng to further explain the proposed changes.

Mr. Deng introduced the process of proposing amendments to the IGM noting that on 12 February 2013 an email was sent to nFPs (and carbon copied to the SC and the SPG) drawing attention to suggested amendments

to the Framework Document. He provided a brief summary of the suggested amendments as reflected in the printed papers.

In addition, he reported that SC Members recognised the increased interest of Member Countries to participate in APN activities and that the idea of increasing the number of nFPs serving on the SC was discussed in detail at the 23rd SC Meeting (held the day before the present IGM/SPG Meeting). In this regard, he highlighted two additional SC suggested amendments to the Framework Document.

**The additional suggestions from the 23rd SC Meeting are outlined below:**

- increasing the Membership of Countries from three to five;
- providing nFPs of donor Countries *ex officio* status.

Mr. Takemoto thanked Mr. Deng for the information and Mr. Brown for his preparation and hard work to improve the effectiveness of the Framework Document.

Mr. Takemoto requested the IGM to consider the two suggested amendments to the Framework Document; the first set from February 2013 and the second set from the 23rd SC Meeting. In order to provide adequate time to consider the new suggestions, Mr. Takemoto proposed that Members revisit this item on the last day under Item 17.

With this, the Chair then opened the floor for comments, clarifications and discussion.

Prof. Fukushi sought clarification for the suggestions to increase the number of nFPs to the SC from three to five.

Mr. Brown explained that early in the history of the APN the SC was fairly small and a few countries had expressed interest to serve on the SC. Since this time, interest in APN activities has grown and this was reflected in the increased nominations of Members to serve on the SC. He noted that in order to reflect this increasing interest, it might be best for the APN to provide an opportunity for more nFPs to serve on the SC.

In addition, and recalling procedures to accept amendments to the Framework Document, Mr. Brown noted that the IGM has the authority to approve, with immediate effect of such approval, any suggested amendments.

Mr. Takemoto thanked Prof. Fukushi and Mr. Brown for their comments, and requested that the IGM consider, with the objective of providing immediate endorsement, the two sets of suggested amendments, particularly if they deem the changes to be in the best interests of the APN. He stressed that any endorsement at this stage would enter into effect immediately.

Seeing no objection from the floor, **Mr. Takemoto approved the amendments and announced that the “amended Framework Document” as presented is now in effect.**

Mr. Takemoto thanked all participants for their support to ensure a smooth process and stressed that while the amended Framework Document had entered into force, **the IGM could discuss and clarify related issues later under Item 17 on day 3 of the present IGM/SPG Meeting.**

***Action: APN Members, Secretariat***



## ► **Item 4: Financial Reports**

Mr. Takemoto invited Mr. Yukihiro Imanari to present the final financial report for 2011/12 and an interim financial report for 2012/13 for approval.

On the 2012/13 interim report, Mr. Imanari recalled the decision made at the 17th IGM/SPG Meeting to introduce a more transparent financial reporting mechanism, and the efforts made in response to reformat the financial reports by clearly indicating the funds available (committed and uncommitted) and funds executed (spent) from 2 sources, namely the Core Budget and the AOF.

Mr. Imanari introduced the explanatory notes provided to help Members better understand how the funds were allocated in fiscal year 2012/13. He reminded Members that because many projects are still on-going, the interim report was subject to further adjustment as it only reflected the financial position at a very specific point in time, i.e. to the end of March 2013.

Mr. Takemoto thanked Mr. Imanari and appreciated his hard work for managing to complete the interim financial report. With this he opened the floor.

Dr. Matthews expressed his sincere appreciation to the Secretariat for making the financial reporting process more transparent and for providing the IGM, the guardian of money entrusted to APN, a better picture of how the resources are used. In addition, noting that the in-kind contributions from APN Member Countries were not reflected in the financial reports, **he took the opportunity to formally acknowledge Member Countries that have been supporting the APN through in-kind contributions of various forms.**

Mr. Takemoto thanked Mr. Matthews for his comment and requested Members to consider and approve the final financial report for 2011/12 and draft interim financial report for 2012/13. **Members approved the financial reports by acclamation.**

*Action: Secretariat*

## ► **Item 5: New & Continuing Activities**

Mr. Takemoto informed the Members that there would be six activities for discussion under the present Item and that all presentations would be given before opening the floor for discussion. This was agreed. Dr. Linda Anne Stevenson, Division Head of Communication and Scientific Affairs, APN Secretariat, provided an overview of the six new and continuing activities for consideration under the present item. She indicated that while the IGM are asked to consider such activities, the budgets requested would be subject to approval under Item 6 on the APN's Programme of Work and Budget Plan for 2013.

The proposed continuing and new activities for 2013/14 presented included:

### 5.1 Sub-Regional Science-Policy Dialogues (SPDs)

- Dr. Stevenson provided a brief background on the development of the sub-regional dialogues, highlighting the first dialogue that had taken place for Southeast Asia (SEA) the previous summer in Bangkok in partnership with START. She noted that the dialogue among scientists and decision makers was successful through a set of interactive presentations, discussions and participatory games; although engaging the private sector would be useful in future dialogues.

- Dr. Stevenson stressed that the sub-regions are eager to engage in dialogues that will bring together sub-regional scientific, policy, private sector and other stakeholders and end users, including the media, to foster and strengthen dialogue among these various stakeholders. With a budget sourced from the AOF and in partnership with START (who is ready to co-share funds), she asked the Members to consider:
  - » Science-Policy Dialogue in South Asia (SA)
  - » Science-Policy Dialogue in Temperate East Asia (TEA)
  - » Synthesis of 3 sub-regional workshops in SEA, SA and TEA
  - » Incorporating a media training package in collaboration with East-West Center (EWC), START and the Rockefeller Foundation

It is expected, she said, that the results from these activities could strengthen the APN's Science-Policy agenda as we approach our 4th strategic phase while also addressing important issues of maintaining the momentum of what was achieved for such dialogues.

Mr. Takemoto opened the floor for discussion and approval.

**The following key points were recorded:**

- Setting an appropriate scene for such engagement;
- Framing meetings in terms of effective communications;
- Assuring that “show and tell” mechanisms are avoided and that real interaction takes place;
- Allowing for both “science” and “policy” interactions;
- Science community needs to understand that information they present is not usually digestible to non-science communities;
- Local traditional knowledge and communities at the ground level have an important role in such dialogues;
- Undertaking and assuring that the different perspectives of all stakeholders are considered;
- Perspectives have to change in time. Should be taken in a positive way when they attempt to understand each other; and
- Discussing socioeconomic impacts.

**Welcoming the implementation of the Science-Policy Dialogues, the Members approved the activities (and later approved the budget under Item 6), noting the careful design and considering the key points discussed.**

*Action: Sub-Regional Committees and Secretariat*

**5.2 Biodiversity and Ecosystem Services Framework**

Dr. Matthews presented for approval the draft **B&ES Framework** in the form of a 3-page Opportunity Paper that had culminated from two years of preparatory work. He outlined the main elements of the paper by way of engagement with science, policy, end user and other interested communities in the following four main research themes:

1. Identification of drivers and pressures for biodiversity change that influence ecosystem services (land-use change; climate change, etc.);

2. Assessment of the impacts of biodiversity loss and vulnerability to the shrinking of ecosystem services;
3. Prediction of changes in biodiversity and ecosystem services through model-based scenarios; and
4. Adaptation, response and mitigation of the depletion of biodiversity and ecosystem services.

Mr. Takemoto opened the floor for discussion and approval.

Dr. Takemoto informed that an interactive session will be held on day 3 focusing on biodiversity and ecosystem services and he looked forward to more intensive and interactive discussions during that session.

**The Members approved the B&ES Framework and related activities as indicated in the Opportunity Paper. They later approved the budget allocation for potential activities.**

*Action: Secretariat*

### **5.3. UNFCCC/SBSTA and Annual Research Dialogue with the Parties**

Dr. Andrew Matthews presented on the activities that APN has been engaged with over the years with the UNFCCC/SBSTA and the international global change research programmes. He noted that since 2008, APN has been attending the research dialogues that have been requested by SBSTA under their agenda Item 6: Research and Systematic Observations. He explained that the International Research Dialogue at SBSTA38 is scheduled to take place 3-14 June 2013, in Bonn Germany and that the agenda will address some of the decisions made in Doha (COP18) at SBSTA37.

Dr. Matthews noted that, in addition to **showcasing the latest work of APN in relation to research and systematic observations, APN was also expected to provide input to SBSTA38** in the following areas:

- The technical and scientific aspects of:
  - » emissions by sources,
  - » removals by sinks and reservoirs of all greenhouse gases, including emissions and removals from terrestrial ecosystems, such as steppe, savannah, tundra and peatlands, with a view to identifying and quantifying the impact of human activities; and
- Sharing information on emerging findings, research and capacity development priorities and related activities that are relevant to the convention.

**The Members approved the activity (and later approved the budget for the activities under Item 6).**

*Action: SC and Secretariat*

### **5.4 New Hyogo Activities**

Dr. Akio Takemoto, Director, APN Secretariat introduced this item. He gave an overview of the three activities conducted last year, which were financed by the Hyogo Prefectural Government, who has been supporting APN not only in terms of office space and facilities, but also financially. The activities conducted were: (1) a scoping workshop for climate change adaptation; (2) a joint project with DIVERSITAS/IHDP/UNU on Satoyama; and (3) a symposium in collaboration with IGES KRC on renewable energy issues in the region.

For fiscal year 2013/14, Dr. Takemoto presented **two proposed new activities**:

1. EMECS10: A biannual international Meeting on management of enclosed coastal seas. With a brief introduction of the objectives of the next EMECS conference, Dr. Takemoto noted that historically APN has been partnering with EMECS and, this year, APN proposed to participate by showcasing APN activities through exhibition and by supporting developing country participation to the conference.
2. Symposium on Low Carbon Development in Asia and the Pacific. As the last symposium was highly evaluated by the Hyogo Prefectural Government, the Secretariat proposed to organise, in collaboration with IGES KRC and the Hyogo Prefectural Government, a similar symposium to further enhance information flow in the Asia-Pacific region in relation to Low Carbon Development activities.

**The Members approved the activities (and later approved the budget for the activities under Item 6).**

***Action: Secretariat***

### **5.5 Climate Adaptation Framework, Disaster Risk Reduction, Loss and Damage**

Dr. Takemoto reported on the activities undertaken under the CA Framework and the new proposed activities on climate adaptation, disaster risk reduction, and loss and damage.

He shared that the CA Framework was a result of the scoping workshop held in Kobe, Japan in August 2012, and under the Framework, APN worked to enhance partnership with other organisations, such as the UNCECAR and ICCCAD. He noted that the partnership is an open process and APN will continue to seek collaboration under this Framework.

With regard to new proposed activities, he shared that MOEJ raised a significant amount of funding for focused activities under climate adaptation, disaster risk reduction, and loss and damage; a significant portion of which was expected to be utilised for supporting regional scientific and capacity building activities. In this connection, he noted that **a call for proposals for focussed activities that will be independent of the annual ARCP and CAPaBLE calls for proposals will be launched in 2013 to support the above-mentioned activities.**

He reported that the remaining amount of US\$100,000 was expected to be invested in **a series of expert workshops on CAF-DRR-L+D, with the aim of contributing to UNFCCC/COP19.** He also introduced the thematic criteria for the proposed CAF-DRR-L+D Framework, based on the output of the Kobe scoping workshop and the UNFCCC/COP18 Decision contained in document FCCC/CP/2012/8/Add.1.

**The Members approved the activities (and later approved the budget for the activities under Item 6).**

***Action: Secretariat***

### **5.6 New Focused Publications**

Dr. Stevenson presented on the background, rationale and proposed actions under this item. She explained that a small amount of additional funding was requested to supplement the budget for regular publications, for producing publications to showcase recent developments of new (and expected) focused activities under the Frameworks of LCI, CAF-DRR-L+D and B&ES; as well as for showcasing the CAPaBLE project, which celebrates its 10th anniversary in 2013.

In particular, the following new publications were proposed:

1. Ongoing and planned activities under the APN LCI Framework;
2. APN CAPaBLE Programme — A Decade of Scientific Capacity Development for Asia and the Pacific;
3. A glossy publication on the APN CA Framework; and
4. A glossy publication on the B&ES Framework.

She provided a brief introduction to the tentative structure of the publications, which will be shared with various stakeholders including APN Members, the donor community, the global change community, etc. In addition she explained that the publications would be produced in-house, which would bring down the costs.

**The creation of publications under i, ii, iii and iv above were approved (the budgets for which were approved under Item 6).**

***Action: Secretariat***

► **Item 6: Proposed Work Programme and Budget Plan (2013/14)**

Mr. Yukihiro Imanari presented the APN 2013/14 Proposed Work Programme and Budget Plan for discussion and approval. Before going into detail on the specific allocations under the budget suggested for the next year, Mr. Imanari highlighted two important issues; (1) The changing exchange rate of the Japanese Yen against the US dollar compared with the previous year; and (2) the significant increase in contributions from the Ministry of the Environment, Japan.

The total revenue for the next fiscal year was presented as 3 separate line items:

- |                                |                       |
|--------------------------------|-----------------------|
| 1. <b>Core Budget:</b>         | <b>US\$ 3,364,000</b> |
| 2. <b>Committed Resources:</b> | <b>US\$ 1,203,500</b> |
| 3. <b>AOF:</b>                 | <b>US\$ 1,289,000</b> |

Mr. Imanari ended his presentation by informing the Members that the Budget Plan had been discussed during the previous day's 23rd SC Meeting and that the suggestions for allocation of resources from the Core Budget and AOF in the draft Budget Plan was a result of those discussions. The budget plan is attached as **Appendix 2**.

Mr. Takemoto opened the floor for questions and comments.

Dr. Matthews raised the important issue of increased contributions from Japan. This increase reflected the MOEJ's confidence in the APN warranting an increase of approximately 30% compared with 2012 levels. The Meeting applauded the substantial increased contribution from the MOEJ.

Mr. Tsujihara, the national Focal Point of Japan, noted that due to changes in the government recently, the MOEJ was able to secure an increased budget for the APN particularly as the present Japanese government considers resilient societies, especially in developing countries in the Asia-Pacific region is of great priority to Japan.

The Members further acknowledged the strong monetary support from Hyogo Prefectural Government, Japan; New Zealand; the Republic of Korea; and the USA, as well as the significant in-kind contributions from all Member Countries that allows APN to conduct its activities effectively in the region.

**The budget was approved.**

***Action: APN Members, Secretariat***

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## Session III: Parallel Sessions

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### ► Item 7: Parallel Sessions: Sub-Regional Cooperation

The APN Secretariat Coordinator, Ms. Taniya Koswatta, provided background information on sub-regional cooperation since it was incepted in 2006. She provided some information on the logistics of the parallel sessions and asked the Members to report back to the IGM on Day 3 under Items 10, 11 and 12. She stressed that Item 13 would be for more general discussions on sub-regional cooperation and related issues in the APN. Following the morning break, the Members gathered into their respective sub-regional cooperation Meetings for SA, SEA and TEA.

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## Session IV: Scientific Activities

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### ► Item 8: APN Opportunity Fund

Dr. Linda Anne Stevenson provided an update on the status of the AOF and the activities that had been conducted to date since the AOF was created, including a summary on the strategies and criteria for allocation.

Referring to the detailed item papers presented, and recalling action from the 17th IGM, and a call for suggestions for using the available (and approximate) US\$1.289M among the APN Members and GC community, she noted that the SSC (see Item 2) convened to discuss general suggestions on activities as well as procedures for allocation. Those considerations were:

- Thirty-four suggestions from Members and the global change community; and
- Nine suggestions on procedures for allocation of the funds.

Importantly, the SSC focussed on activities that will help APN grow strategically and those that could fit under pre-existing ARCP and CAPaBLE programmes were not considered further at this stage.

Eight of the thirty-four suggestions were considered based on criteria established by the SSC; five of which were accepted pending further development. These were:

1. Engaging with Future Earth to develop and showcase a research framework in the Asia-Pacific region (2 suggestions combined into 1);
2. Scoping workshop on science-policy interactions for B&ES in Temperate East Asia;
3. Developing training packages for climate-related impacts on B&ES;
4. Scoping an APN Fellowship programme on GEC; and
5. Strategic planning for APN in GEC

Dr. Stevenson presented a table that outlined how funds were allocated to date from the available AOF. She pointed out that while some funds were approved already, other budgets were tentative and subject to review of concept papers that required further development. She also stressed that the portion presented in the budget as unallocated is US\$538,000.

Mr. Takemoto opened the floor for discussion.

Dr. Matthews suggested that the portion not allocated yet may be considered for funding, pending approval, of a potential second phase to those already approved. Clarifying his suggestion, he provided as an example activities to develop Future Earth in the Asia-Pacific region.

Dr. Maria Uhle, nFP for the USA, sought clarification on budgets approved from 2012 and Dr. Stevenson confirmed that these budgets were for the Springer Climate Book, sub-regional cooperation activities, among others. These were identified and approved at the 17th IGM/SPG Meeting and reflected in the papers provided.

Dr. Uhle responded that the APN must make it clear what items are allocated under the AOF, noting in particular that core budget activities such as staffing and funds for sub-regional cooperation, IGMs, etc., should not be allocated from the AOF.

Professor Fuchs pointed out that at the SC Meeting held earlier in the week, it was agreed that a small group gather to ensure a mechanism whereby funds from core and AOF activities were clearly presented under the appropriate budgets.

In the additional discussions that ensued, the following points were noted:

- The AOF was created in order to spend an “accumulated fund”, effectively under the condition that it is to be spent and not sustained;
- The main purpose is to use the AOF for strategic purposes;
- The AOF is not expected to be maintained over the long-term;
- The present situation of the depreciating Japanese Yen may warrant a strategy for stabilising the availability of the AOF;
- Unspent funds not related to the AOF are re-allocated to the core budget and not transferred to AOF. For example, unspent ARCP funds would be considered for “back-up” proposals under the ARCP programme, etc; and
- Any budgetary savings, unless specifically from the AOF originally, are re-allocated to the core budget.

Mr. Takemoto thanked all participants for their active discussion and noted that **procedural issues not only on how the AOF is allocated but where to report it under the list of items for the IGM would be undertaken at the SC Meeting** immediately following the 18th IGM/SPG Meeting.

***Action: SC, APN Secretariat***

### ► **Item 9: Scientific and Capacity Building Activities: Report from the SPG Co-Chairs**

On behalf of the SPG and the CDC, the SPG Co-Chairs, Dr. Madan Lall Shrestha, SPG Member for Nepal and Dr. Alexander Sterin, SPG Member for the Russian Federation, reported on activities undertaken by the SPG and CDC related to the ARCP and CAPaBLE programmes, as well as other science-related activities.

Dr. Shrestha started by sharing information on the current projects underway in ARCP & CAPaBLE Programmes, as well as under focused activities. He introduced Issue 3 of the APN Science Bulletin (published March 2013), which contains three main sections covering ARCP and CAPaBLE projects. He added that a supplement to the present issue will be published in summer 2013 to showcase other activities outside the core

pillars, particularly focused activities under the LCI framework (awarded in early 2013) and EBLU focussed activities (awarded in 2010), among others.

He further briefed on the annual calls for proposals process, which was launched in June 2012. He reported that 57 Letters of Intent and 99 Summary Proposals were received noting the six full steps before recommendations are presented to the Inter-Governmental Meeting. He stated that the quantity and quality of proposals are improving and the review process is becoming heavier for the SPG and CDC Members.

Regarding the discussions at the 8th SPG Pre-Meeting (SPG-PM) held prior to the IGM/SPG Meeting, he noted that **Dr. Luis Tupas, SPG Member for USA would take the lead to collect views from the SPG Members on how to more effectively implement the proposals and review process; one that ensures the robustness of the review while reducing the burden of the reviewers (both Member Countries and invited experts to the SPG).**

He reported **topics of interest for the Science Agenda under the 2013 Annual Calls for Proposals that are relevant to Global Change in a regional context the following holistic research topics that encompass multidisciplinary approaches:**

1. B&ES including resiliency and main issues highlighted under the new APN B&ES Framework;
2. Climate Impacts on health, agriculture, livestock;
3. Water security (inland and ocean): in the face of extreme events; including management, quantity, quality, etc.; and
4. Energy/energy efficiency, carbon capture, case studies at community-based levels, biofuels, etc.

Dr. Shrestha ended his part of the report by stressing that **important activities to be undertaken by the SPG and CDC** were discussed at the SPG-PM and CDC, including:

1. The Evaluation of APN's 3rd Strategic Phase and approaches that are appropriate;
2. Capacity Building indicators for success, highlighting good examples and best practices;
3. Science-Policy indicators for success;
4. Proposal Development Training Workshops; and
5. Showcasing the 10th Anniversary of the CAPaBLE programme.

***Action: CDC, SPG-SC, SPG and Secretariat***

Continuing with the report, Dr. Sterin expressed his special appreciation on behalf of the SPG to Dr. Shrestha for his two-year service as SPG Co-Chair, and to Dr. Subramaniam Moten, SPG Member for Malaysia, for volunteering his time and effort, going beyond the call of duty, in assisting with the 2012 SPG Sub-Committee duties.

Dr. Sterin announced the results of the SPG-SC election process as well as the election of a new SPG Co-Chair for IGM endorsement:



### **New SPG-SC Members**

- Dr. Alexander Sterin (SPG Member, Russian Federation) as continuing Co-Chair for one more year
- Dr. Luis Tupas (SPG Member, USA) as new SPG Co-Chair for 2-year term
- Dr. Kensuke Fukushi (SPG Member, Japan) as SPG-SC Member for one more year
- Dr. Jariya Boonjawat (SPG Member, Thailand) as new SPG-SC Member for one year, renewable
- Dr. Amir Muhammad (SPG Member, Pakistan) as new SPG-SC Member for one year, renewable

**The IGM approved the new SPG Co-Chair and SPG-SC nominations by acclamation.**

***Action: SPG Sub-Committee***

For the Capacity Development Committee (CDC), the following Membership structure was reported:

### **New CDC Members**

- Dr. Alexander Sterin; SPG Member for Russia SPG Co-Chair (*ex officio*)
- Dr. Luis Tupas; SPG Member for USA as new SPG Co-Chair (*ex officio*)
- 2013-15 SC Chair (*ex officio*)
- Donor Member Japan (*ex officio*)
- Dr. Andrew Matthews, invited expert for one year, renewable
- Professor Roland Fuchs, invited expert for one year, renewable
- Dr. Srikantha Herath, invited expert for one year, renewable
- Dr. Harini Nagendra, invited expert for one year, renewable

**The IGM approved the new CDC by acclamation.**

***Action: Capacity Development Committee***

Mr. Takemoto thanked the SPG Co-Chairs for their detailed report and welcomed all new Members to the SPG-SC and CDC.

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## **Session V: Sub-Regional Cooperation**

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### **► Item 10: Report from South Asia Sub-Regional Committee (SA- SRCom)**

Mr. G. Karma Chhopel, nFP for Bhutan and newly appointed Chair of the SA-SRCom (2013/14) presented on the activities undertaken by the SA-SRCom in the previous year as well as issues discussed at their Meeting during the parallel sessions.

The SA-SRCom Meeting was participated by Bangladesh (SPG Member), Bhutan (nFP and SPG Member), India (SPG Member Alternate), Nepal (nFP Alternate and SPG Member), Pakistan (nFP and SPG Member), Sri Lanka

(nFP Alternate and SPG Member), and the Secretariat Programme Officer for Communication and Development.

The SA-SRCom reviewed the draft chairperson's summary of the 4th APN SA-SRC Meeting held in Kathmandu, Nepal, 14-18 January 2013, and considered at length the further development of (1) SPD in South Asia, (2) concept paper on Disaster Risk Reduction and Management (DRRM).

Regarding the newly approved SPD (see Item 5.1 of the summary), he noted that Members expressed the need to strengthen science-policy interactions in a bid to bridge existing gaps between the science community and decision makers, and agreed that various sectors should be brought together in a common platform to engage in open and free dialogue rather than seeking solutions alone. **Drawing from the successful initiatives of SEA, the SA-SRCom felt that lessons can be learnt, and international and regional partners such as START, CDKN and LEAD, etc can be engaged.**

Referring to a concept proposed by the national Focal Point from Pakistan, he stated that Members expressed concern that South Asia is a very diverse region with very different kinds of disasters that encompass ecosystems such as the Himalayas, vast plains and coastal ecosystems. As such he shared the topics requiring attention:

- Sharing information within the South Asia that is practically useful to meet the challenges posed by disasters;
- Of the various disasters facing South Asia, the two most common extreme events are drought and flood;
- South Asia region should tackle DRR through mutual collaboration;
- Neglected areas still exist, including megacities, urban drainage, urban sprawl, eco-efficient infrastructure;
- Members should determine the current roles and effectiveness of existing efforts, such as by SAARC Disaster Center and ICIMOD, among others;
- Each country should inventorise their institutional roles and share information; and
- As an initial step, a half-day seminar for information sharing and gap finding might be convened as part of the next SA-SRC Meeting.

On the concept paper for a summary proposal to be submitted to the APN, Mr. Takemoto noted that **Members would provide further input via email to prepare a Summary Proposal for submission under the APN 2013 Annual Calls for Proposals.**

With regards to the 5th SA-SRC Meeting, Bangladesh and Pakistan expressed regret that they would not be in a favourable position to host the Meeting. On the other hand, the national Focal Point Alternate for Sri Lanka was willing to take up the offer to host the Meeting and will communicate with the APN Secretariat. **The venue will likely be Colombo, Sri Lanka. Bhutan also offered to host the Meeting in the event that the other Member Countries were unable to do so.**

**Action: SA SRCom, Secretariat**

#### ► **Item 11: Report from Southeast Asia Sub-Regional Committee (SEA-SRCom)**

Dr. Wan Azli Wan Hassan, nFP Alternate for Malaysia presented the SEA-SRCom report, noting that Mr. Sem was elected Chair and presided over the Meeting, which was participated by Members and Alternates from the

seven countries in SEA. Prof. Roland Fuchs (as expert) and 3 LCI poster presenters (as observers) attended as well.

He stated that a brief review of the 5th SEA-SRC Meeting was conducted with focus on common issues, on-going activities and progress of these activities. The Meeting also considered new proposed activities and the host of the next 6th SEA-SRC Meeting.

On common issues in Southeast Asia, he noted the following: (1) SPDs on global change issues; (2) climate change adaptation; (3) low carbon development; (4) biodiversity and ecosystem services; and (5) interrelated global change issues.

**On the APN Scoping Workshop on Climate Change Adaptation in Urban Planning in SEA, he reported that it would be held in Jakarta, 6-7 May 2013, funded by a CAPaBLE 2012 seed grant. Dr. Erna Sri Adiningsih, SPG Member for Indonesia, is taking the lead and each Member Country will send one expert/resource person to the workshop. Prof. Fuchs will be invited as an expert and project collaborator. The draft agenda of the two-day workshop was discussed and agreed.**

Members briefly reviewed the SEA-SPD held in Bangkok, 2012 and one important observation was that **SEA may include the private sector in a back-to-back activity to their next 6th SEA-SRC Meeting. The SEA-SRCom also agreed they should participate in the SPD-Synthesis** as part of the new SPD activities reported under Item 5.1 at the 18th IGM/SPG Meeting.

On the concept paper on an Asia-Pacific Symposium on Waste and Landfill Management and Climate Change proposed by Dr. Ngo Kim Chi, SPG Member of Viet Nam, **the SEA-SRCom supported and agreed to submit a proposal under the CAPaBLE Calls for Proposals 2013.**

**Concerning the new Approved Status of Myanmar, the SEA-SRCom will consider inviting Myanmar to the 6th SEA-SRC Meeting as an observer. This will be considered carefully when selecting the most appropriate representative for the activities as well as the budget available.**

The SEA-SRCom decided that **the 6th SEA-SRC Meeting be hosted by Malaysia, tentatively in November 2013, and agreed on utilising the three Frameworks (CA, LCI and B&ES) for potential future activities by SEA, which would be included in the agenda of their 6th SEA-SRC Meeting.**

***Action: SEA-SRCom, Secretariat***

#### **► Item 12: Report from Temperate East Asia Sub-Regional Committee (TEA-SRCom)**

Prof. Fukushi announced the establishment of the Temperate East Asia Sub-Regional Committee (TEA-SRCom) and was pleased to report the first TEA SRCom Meeting held the previous day. The nFP of the Russian Federation, Prof. Andrey Adrianov and Prof. Fukushi were elected as Co-Chairs of the first TEA-SRCom Meeting.

The TEA-SRCom Meeting was participated by Members and Alternates from five countries in TEA, the Programme Officer for Science and Institutional Affairs, with observers from MAIRS, NOWPAP and START TEA.

Prof. Fukushi recalled that the idea to establish a TEA-SRCom originated at the 17th IGM/SPG Meeting in Indonesia where TEA Members gathered in an *ad hoc* Meeting and agreed to hold a Scoping Meeting before the 18th IGM/SPG Meeting to discuss the issue further.

Prof. Adrianov and Prof. Wenjie Dong, SPG Member for China, briefly explained the recent Scoping Meeting held in Vladivostok. Dr. Sterin highlighted that the Scoping Meeting agreed to discuss future sub-regional cooperation within the APN agenda, noting TEA could learn from the success of other APN SRCComs (SA and SEA).

Prof. Fukushi highlighted potential areas of future cooperation, including: (1) close and active cooperation within TEA; (2) strong cooperation with other APN sub-regions; and (3) focus on region-specific activities of concern and relevant to the topics under APN's programmes and frameworks.

He reported the following points from their TEA-SRCCom Meeting:

- Involving Mongolia in the TEA activities especially related to ecological issues, and encouraging other Central Asian countries to collaborate with APN countries for regional research;
- Encouraging young scientists and improving proposal development with the aim of increasing the number of proposals submitted to the APN from TEA;
- Identifying region-specific important issues such as marine ecosystems & marine biodiversity, climate change impacts on terrestrial regions, in-land water issues, monsoon-related events, desertification-induced events such as dust storms, and snow cover issues;
- Discussing sub-regional experiences and capacity to develop project proposals, for example, addressing the success rate of TEA submitted proposals may help determine weaker areas that require improvement; and
- Providing APN grants for young scientists to write proposals and open channels for cooperation with researchers in the region.

TEA-SRCCom Members agreed that future activities to be pursued in the region would include **organising a project development workshop, the main objective of which was to formulate a proposal to be submitted under the Annual Calls for Proposals. Members would communicate via email regarding the main topics for proposal development.**

Regarding a communication mechanism to reach out to sub-regional researchers and identify suitable collaborators, the TEA-SRCCom agreed to **collate an inventory of interested scientists in the form of a TEA APN directory**, from which researchers who can be involved in potential projects could be included.

**Regarding the potential venue, date and plan for the first TEA-SRC Meeting and related back to back activities, he noted that the specifics would be communicated with the APN Secretariat after the IGM.**

***Action: TEA-SRCCom, Secretariat***

### ► **Item 13: Discussion on Sub-Regional Cooperation**

Mr. Takemoto facilitated a discussion on SRC development in general, an outline of which is provided below:

Dr. Jariya Boonjawat, SPG Member for Thailand, observed that biodiversity and ecosystem services appears to be a common theme for SEA and TEA, and therefore **both sub-regions should communicate with each other to explore opportunities for collaboration.**

The SPG Member for Japan requested the Secretariat to consider, when organising future IGM/SPG Meetings, **allocating some time (for example 30 minutes) for the Chairs of the three sub-regional committees to meet after the parallel sessions, in order to improve and promote information exchange and cross-boundary cooperation.**

Dr. Matthews supported the idea and suggested the **Secretariat take note of necessary logistical arrangements.**

With regard to B&ES, Dr. Nordin Hassan, Director, ICSU-ROAP suggested that APN explore the possibility of contributing to the IPBES process by developing biodiversity research that creates policy impact. He suggested that it would be valuable for APN to think about how its position in biodiversity could influence the work of IPBES at the global level.

Dr. Stevenson thanked Dr. Hassan for his suggestions and shared with him that the IGM had adopted and approved APN's B&ES Framework, which has strong links to IPBES, and welcomed further suggestions.

Adding to Dr. Stevenson's comment, Dr. Takemoto appreciated the comment from Dr. Hassan and shared additional information including the history of the development of the B&ES Framework.

Dr. Matthews noted his excitement to have heard the resonance about the importance of B&ES expressed in the Meeting, and highlighted a two-hour interactive session to be convened on Day 3 that will focus on biodiversity and ecosystems services, where he expected to hear more input from all Members. He expressed his hope that the new B&ES Framework would contribute to the work of IPBES.

On sub-regional cooperation, Dr. Takemoto congratulated all three SRCComs for actively developing their science-policy agendas. He welcomed the formation of the TEA-SRCCom, which will contribute to sub-regional cooperation balance within the APN Framework. He noted that sub-regional activities are beneficial to contributing to and realising "policy-oriented" research, a keyword from the discussions especially under Interactive Session III.

Dr. Takemoto further noted his observation that smaller group meetings enabled all scientists, policy makers and other stakeholders to express their views more freely and openly, which facilitated better ideas for strengthening the involvement of decision makers in APN-funded activities. He stated that APN SRCComs are not only for networking, and our sub-regional groups could play a more important role in the strategic planning of activities relevant to the respective sub-regions. As such, it is very important for APN to enhance and further support sub-regional activities in the future.

The Executive Director of WCRP, Dr. Ghassem Asrar, commented on the importance of strategic coordination of sub-regional groups, and suggested that in light of the upcoming IPCC Fifth Assessment Report (AR5), APN might consider factoring in the release of the report when planning activities and workshops, in order to bring the findings to scientists and policy makers. He noted that the IPCC AR5 report emphasises regional approaches, which are in line with what APN is promoting.

Dr. Matthews thanked Dr. Asrar for his comments and added that an important issue was to ensure information flow. He suggested that **Member Countries consider gathering information on key persons in their countries who are involved in IPCC activities, so that an inventory of resource persons could be compiled, which could help the APN formulate and develop its future climate-related activities.**

The Director of START Regional Center for Temperate East Asia, Dr. Gensuo Jia, commented that this issue could be potentially a two-way process by looking at the IPCC reports and the national reports developed by many countries, which will help provide a better view of regional and sub-regional issues.

Mr. Takemoto thanked the participants for their very active participation and closed the discussion.

**Action: Members, SRCComs, Secretariat**

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## Session VI: Recommendations for 2013 Projects

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### ► Item 14: ARCP and CAPaBLE Recommendations for Funding

On behalf of the SPG and CDC, the SPG Co-Chairs reported to the IGM recommended projects and proposals that they would be recommending to the IGM for funding under the ARCP and CAPaBLE programmes.

#### *ARCP Recommendations*

Dr. Sterin, on behalf of the SPG, explained that the total budget available for ARCP activities in FY 2013/14 is **US\$1,000,000**. Funding amounting to **US\$475,750** was recommended for continuing multi-year projects, funds for which had already been pre-allocated (committed) from the 2012/13 budget.

Thirteen multi-year projects were recommended for continuation in 2013/14 following satisfactory progress in their first year activities. He further highlighted that 32 full proposals were considered by the SPG, which included a pre-screening of 44 summary proposals by the SPG-SC, and that 13 were being recommended this year to the IGM for funding. In addition, he noted that of the 13 recommended proposals, the distribution of country involvement indicated continued interest from all Member Countries in submitting proposals to the APN, and the sub-regional cooperation was evident vis-a-vis the 92 collaborators contributing to the proposed work.

The recommended allocation that provides funding for 27 projects is outlined in the table below:

<b>Recommendations for New ARCP Proposals and Continuing Multi-Year Projects</b>	
13 continuing multi-year projects (secured from 2012/13)	<b>US\$475,750</b>
14 new projects from 32 full proposals	<b>US\$1,000,000</b>
2014/15 budget allocations for continuing multi-year projects pending successful review	<b>US\$90,000</b>
2015/16 budgets allocations for continuing multi-year projects pending successful review	<b>US\$73,000</b>

The continuing multi-year projects and ARCP full proposals are attached as *Appendices 3a and 3b*, respectively.

#### *CAPaBLE Recommendations*

Dr. Shrestha, on behalf of the CDC, reported that **US\$567,000** is available for CAPaBLE activities in FY2013/14. **US\$49,000** were recommended for continuing multi-year projects, funds for which had already been committed from the 2012/13 budget.

Recommendations for two continuing capacity development multi-year projects were presented for approval. The recommended allocation is outlined in the table below:

<b>CAPaBLE Proposals and Continuing Multi-Year Projects</b>	
2 continuing multi-year projects Capacity Development Projects	<b>US\$49,000</b>
14 new projects from 17 full proposals	<b>US\$ 567,000</b>

The continuing multi-year projects and CAPaBLE full proposals are attached as *Appendices 4a and 4b*, respectively.

Mr. Takemoto thanked Drs. Sterin and Shrestha for their detailed presentations and expressed his gratitude to the SPG and the CDC for their work during the review process and pre-meetings to provide recommendations for IGM consideration. Mr. Takemoto opened the floor for discussion and, with no specific comments from the Members, he proposed to accept the recommended new and continuing activities under the ARCP and CAPaBLE programmes.

**The new and continuing activities under the ARCP and CAPaBLE programmes were approved by the Members and the Secretariat will proceed with arrangements to provide the results to the proponents.**

***Action: Secretariat***

#### ► **Item 15: Election of Steering Committee Members**

Recalling the decision under Item 3 of the agenda approving that the number of nFPs serving as elected Members on the SC be increased from three to five, Mr. Takemoto facilitated the election of five national Focal Points as new Members of the SC. Nominations were received from a number of countries and it was agreed by acclamation that **the following nFPs will serve as SC elected Country Members for a term of two years, taking effect immediately following the 18th IGM/SPG Meeting.**

Bhutan	Mr. G. Karma CHHOPEL
China	Dr. Chengyong SUN
Indonesia	Ms. Hermien ROOSITA
Nepal	Mr. Gokarna Mani DUWADEE
Sri Lanka	Mr. B. M. U. D. BASNAYAKE

***Action: nFPs for Bhutan, China, Indonesia, Nepal and Sri Lanka***

#### ► **Item 16: Mitra Awardee Presentation**

Mr. Takemoto introduced the winning poster presenter, Dr. Joni Jupesta, from the United Nations University–Institute of Advanced Studies, and invited him to deliver a presentation on his research work described in the winning poster, “Rio+20 Outcome to Implementation: Water-Energy-Food Security Nexus in Indonesian Palm Oil Industry.”

Following his presentation, the SPG Members representing India and Cambodia, in their capacity as the Interactive Session II Co-Chairs, presented Dr. Jupesta with the “Mitra Award for Global Change Research.”

**The abstract of the poster and the presentation will be posted on the APN website and appended in the final proceedings of the 18th IGM/SPG Meeting.**

***Action: Secretariat***

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## Session VII: Institutional Issues, Summary and Closing

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### ▶ Item 17: Amendments to the Framework Document

Mr. Takemoto revisited the Framework Document regarding suggested changes. He recalled the discussion that ensued under Item 3 on day one. No further comments were made.

### ▶ Item 18: 3SP Evaluation & 4SP Planning

Mr. Imanari presented the plan of work for the 3rd Strategic Phase (2010-2015) Evaluation and 4th Strategic Phase (2015-2010) Planning; including science, membership and funding matters.

He highlighted that a 2-year timeframe was being presented to the IGM for endorsement that would engage a task committee who would be tasked to plan, undertake and write documents for the 3rd Evaluation Report and the 4th Strategic Plan. Progress reports would be provided to the SC and IGM as described in the timeline presented.

Mr. Takemoto opened the floor for discussion.

Dr. Matthews commented that while it is important to review progress, the evaluation report should be concise for the donor community.

Dr. Uhle noted that from the US perspective, donors require an external review. The USA would encourage an external review and noted that there are many organisations that could provide input. Dr. Uhle also agreed with Dr. Matthews and further noted that strategic planning requires a lot of effort and suggested that more focus be placed on implementation.

The Chair thanked the meeting for their comments and suggestions and noted that the APN shall **proceed with the 3SP evaluation and 4SP planning process** according to the discussion.

***Action: SC, Secretariat***

### ▶ Item 19: Host Countries of 19th IGM and beyond

Mr. Takemoto opened the item by asking Dr. Takemoto to lead. Dr. Takemoto expressed his delight in reporting to the Members that Cambodia would be the host of the 19th IGM/SPG Meeting.

Responding, Mr. Sem, in his capacity as nFP for Cambodia, noted that he had discussed the item with other countries outside the Meeting and, as a result of the fruitful discussions with Nepal and Sri Lanka, he was very happy for Cambodia to host the 19th IGM/SPG Meeting. **The offer from Mr. Sem to host the 19th IGM/SPG Meeting in Cambodia was accepted by acclamation.**

Dr. Matthews informed the Members that, according to the Item paper, three Governments of Cambodia, Nepal and Sri Lanka had all confirmed their willingness to host the 19th Joint IGM/SPG Meetings. This was welcomed by all Members.



**Concerning the 20th IGM/SPG Meeting in 2015, Member Countries were asked to contact the Secretariat if they are interested in being the host country.**

**Action: Cambodia, Member Countries and Secretariat**

▶ **Item 21 (a): Any Other Business (AOB)**

Before moving to Item 20 on the Chairperson's summary, Mr. Takemoto suggested that issues of AOB be raised now to allow the Secretariat time to print the summary of the Meeting. There was no objection.

Taking the opportunity, Dr. Takemoto announced that the five elected countries and *ex officio* donor Countries serving on the new SC (2013-2015) convened an *ad hoc* meeting during the lunch period to elect a Chairperson and discuss co-opted members of the SC for a one-year term.

He announced that Mr. G. Karma Chhopel was elected Chair of the SC, and that the following experts will serve as co-opted members of the SC for a term of one year (2013-2014):

- Mr. Lou Brown
- Professor Roland Fuchs
- Dr. Andrew Matthews
- Dr. Kazuhiko Takemoto

He also noted that, in addition to the co-opted Members; Cambodia will serve on the SC for the next year as the host Country of the 19th IGM/SPG Meeting.

**The members welcomed this information by acclamation.**

**Action: Steering Committee**

▶ **Item 20: Chairperson's Summary**

A draft Chairperson's Summary was provided for discussion and approval. Each Member Country was asked to check the contents for clarity, particularly on the substance of the discussions to ensure the report accurately reflected the discussions and action points.

Mr. Takemoto opened the floor for discussion.

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, Mr. Takemoto and the Vice-Chair, Mr. Sem, of the 18th Joint IGM/SPG Meeting and revisions could be submitted by delegates until the middle of May, 2013. The final summary will also include a list of action points (see Appendix 5) and abbreviations (see Appendix 6).**

**Action: 18th IGM Chair, Vice-Chair and Secretariat**

► **Item 21 (b): Closing**

Dr. Uhle expressed her gratitude to the Secretariat for its excellent work in organising and supporting the IGM and thanked Mr. Takemoto and Mr. Sem for their wonderful chairmanship that made the meeting a very successful one. Dr. Takemoto also thanked the Chair and Vice-Chair, and expressed his appreciation to all members for their contribution to the success of the Meeting. Mr. Takemoto joined in thanking the Secretariat and all members for their contribution. With these final remarks, Mr. Takemoto formally closed the 18th Joint IGM/SPG Meetings.

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# APPENDIX 2: WORK PROGRAMME AND BUDGET PLAN, FINANCIAL YEAR 2013/14

**Resources Available:**

Operational Uncommitted Cash Balance from FY 2012
Unspent Funds of Projects from FY 2011 and earlier, finalised in FY 2012 (committed for ARCP and CAPABLE)
Committed Resources from FY 2012
Japan
MOE/ Yen 243,243,000 /100
Hyogo Yen 23,558,000 /100
U.S.A. NSF/USGCRP
ROK Ministry of Environment
Ministry for the Environment
New Zealand NZ \$ 30,000 /1.20
<b>Total</b>

Column 2	Column 3	Column 4
Core Budget <sup>2)</sup>	Committed Resources from FY 2012 Core Budget <sup>3)</sup>	AOF <sup>4)</sup>
54,000		1,289,000
83,000		
2,430,000	1,203,500	
236,000		
486,000		
50,000		
25,000		
<b>3,364,000</b>	<b>1,203,500</b>	<b>1,289,000</b>

Column 1	Column 2	Column 3	Column 4	Column 5
Total Allocated	Core Budget	Committed Resources from FY 2012 Core Budget	New Proposed Activities under AOF in FY 2013	Tentatively Committed AOF
ARCP <sup>5)</sup>	1,000,000	579,500		
CAPABLE CBA <sup>6)</sup>	567,000	305,500		
Climate Adaptation Framework (incl. Disaster Risk Reduction - Loss & Damage) <sup>7)</sup>	780,000			
Low Carbon Initiative Framework (LCLCMYS + LoCARNET Networking) <sup>8)</sup>	460,000	260,000		
Biodiversity and Ecosystem Services Framework <sup>9)</sup>	100,000		100,000	
Climate Synthesis <sup>10)</sup>	24,000	5,000		19,000
Sub-Regional Cooperation: 3 Sub-Region x 20,000 <sup>11)</sup>	60,000		60,000	
Proposal Develpt. Training WS: 3 Sub-Region x 20,000 <sup>12)</sup>	60,000		60,000	
Sub Regional Science-Policy Dialogue and Synthesis <sup>13)</sup>	100,000		100,000	
SBSTA38 + UNFCCC19/SBSTA39 <sup>14)</sup>	20,000	10,000		
Hyogo Activities <sup>15)</sup>	30,000	5,000		
EMECS 10	30,000	5,000		
3SP Evaluation Report & 4th Strategic Plan <sup>16)</sup>	15,000		15,000	
Scientific Activities under the Opportunity Funds <sup>17)</sup>	356,000			356,000
IGM/SPG. Incl. SC <sup>18)</sup>	120,000	33,000		
Posts SC. Inst. <sup>19)</sup>	335,000			
Yen 33,500,000 /100				
Coordinate <sup>20)</sup>	41,000			
Yen 4,100,000 /100				
Programme Fellow <sup>21)</sup>	31,000		15,000	26,000
Yen 3,100,000 /100				
Travel <sup>22)</sup>	65,000			
Publications <sup>23)</sup>	40,000			
Posts Adm. <sup>24)</sup>	81,000			
Yen 8,090,627 /100				
Office Supplies <sup>25)</sup>	45,000			
IGES Adm Overhead <sup>26)</sup>	73,000			
<b>Total Allocation from Core Budget<sup>27)</sup></b>	<b>3,364,000</b>			
<b>Reserve from Core Budget</b>	<b>0</b>			

<b>Total Allocation from Core Budget<sup>27)</sup></b>	<b>3,364,000</b>
<b>Reserve from Core Budget</b>	<b>0</b>

<b>Total Committed from AOF<sup>28)</sup></b>	<b>751,000</b>
<b>Remaining AOF<sup>29)</sup></b>	<b>538,000</b>

## APPENDIX 3(A): CONTINUING MULTI-YEAR ARCP PROJECTS, FINANCIAL YEAR 2013/14

Original Project Reference No.	Project Title	Project Leader	Summary of Project	Regional Collaboration Countries Involved	Project Duration	2013/2014 Yearly award (US\$)
ARCP2012-01CMY-Patra	Greenhouse Gas Budgets of South and Southeast Asia	Dr. Prabir K. PATRA and Research Institute for Global Change (JAMSTEC), JAPAN	Aims to undertake the most ambitious synthesis effort to date using global and regional datasets and model outputs to constrain the regional GHG budgets of South and Southeast Asia, where the source/sink balance of GHGs have large uncertainty.	Japan, Australia, Bangladesh, China, Indonesia, India, Singapore, USA, Thailand The Netherlands, UK	3 years	45,000
ARCP2012-02CMY-Fortes	Seagrass-Mangrove Ecosystems: Bioshields Against Biodiversity Loss and Impacts of Local and Global Change Along Indo-Pacific Coasts (The Seagrass-Mangrove Bioshield Project, SMBP)	Prof. Miguel FORTES Marine Science Institute, University of the Philippines PHILIPPINES	Investigates and promotes the important role of seagrass and mangroves as natural shields in mitigating and adapting to the impacts of local and global change along Indo-Pacific coasts. Using an 'ecosystem approach', its main product is a science-based tool in decision making to manage the resources in the face of such environmental changes.	Philippines, Australia, Japan, India, Indonesia	3 years	30,000
ARCP2012-03CMY-Herath	Developing Ecosystem based Adaptation Strategies for Enhancing Resilience of Rice Terrace Farming Systems against Climate Change	Prof. Anura Srikantha HERATH Institute for Sustainability and Peace, United Nation University (UNU), JAPAN	This research will address dual challenges of both extensive runoff and water scarcity by providing eco-system based adaptation measures to strengthen resilience of rice terrace farming system in Hani and Ifugao to cope with climate change.	Japan, Philippines, China	3 years	40,000
ARCP2012-09NMY-Meinke	Improving the robustness, sustainability, productivity and eco-efficiencies of rice systems throughout Asia	Professor Holger Meinke, University of Tasmania, AUSTRALIA	The demand for rice is expected to double, a challenging target in the midst of competing demands for land and water, and a changing and variable climate. The project uses in-country RD&E combined with modelling to design more efficient rice systems. Collaboration and training meetings increase the capacity of scientists and organisations, and strengthen a network of researchers.	Australia, Philippines, Thailand, Indonesia, Pakistan	3 Years	55,000
ARCP2012-10NMY-Li	Development of an integrated climate change impact assessment tool for urban policy makers (UrbanCLIM)	Dr. Yinpeng Li, International Global Change Institute, Waikato University, NEW ZEALAND	This project proposes to develop a co-evolutionary urban climate change decision support tool (UrbanCLIM), to support climate change impact and risk assessment for the major sectors: health, transport, water. A participatory assessment approach will be applied through working with local urban policy makers and planners.	New Zealand, China, Viet Nam, Philippines.	3 Year	40,250
APCP2012-11NMY-Quynh	Carbon fluxes and emission from the Red River (Viet Nam and China): human activities and climate change	Dr LE Thi Phuong Quynh, Institute of Natural Product Chemistry (INPC), Vietnam Academy of Science and Technology (VAST), VIETNAM.	This work aims to calculate the carbon fluxes and carbon emission from the Red River, which concern to the global warming. The SENEQUE/Riverstrahler model which allows to relate the water quality and carbon transfers in the drainage network to the constraints resulting from human activity and natural conditions in the watershed will be applied for different scenarios of the past, present situations and possible future changes in 2050s horizon for the whole Red River basin.	Viet Nam, Singapore, China, France	3 Years	35,000

Original Project Reference No.	Project Title	Project Leader	Summary of Project	Regional Collaboration Countries Involved	Project Duration	2013/2014 Yearly award (US\$)
ARCP2012-12NMY-Roy	Coastal Ecosystem and Changing Economic Activities: Challenges for Sustainability Transition	PROF. Joyashree ROY, Global Change Programme, Jadavpur University , INDIA	Proposal is for collaborative research, workshops, guidelines development. Coastal ecosystems' unique ecological functions provide high valued economic and non economic goods and services. Goal is to inventories the changing pattern of economic activities in South Asian and China coast.	India, Sri Lanka, Bangladesh, China	2 Years	37,000
ARCP2012-13NMY-DeCosta	A study on, loss of land surface and changes to water resources, resulting from sea level rise and climate change	Dr.G.S.DeCosta,Uintec University, NEW ZEALAND	Seawater level variation in the Asia pacific region caused due to global / climate change would be analyzed using a global circulation (Climate) Model (GCM).The results of which would be then used in conjunction with digital elevation maps, GIS information to predict loss of land surface in coastal zones in the Asia Pacific Region.	New Zealand, Srilanka,India,Indonesia,Japan	2 years	40,250
ARCP2012-14NMY-Carter	Coral reef and water quality status and community understanding of threats in the eastern Gulf of Thailand	Assoc. Prof. RW (Bill) Carter, Sustainability Research Centre, University of the Sunshine Coast, AUSTRALIA	The project will assess the status and threats to marine natural resources in the contiguous coastal zones of Thailand, Cambodia and Vietnam through: 1. quantitative measurement of coral, algae and fish assemblages; 2. quantitative measurement of marine and in-flow water quality; 3. use of available secondary data for assessment of commercial and subsistence take; 4. qualitative study of community understanding of threats (including climate change) to the coastal zone and marine resources.	Australia, Thailand, Cambodia, Viet Nam	2 years	11,000
ARCP2012-15NMY-Yoo	Toward a Fire and Haze Early Warning System for Southeast Asia	Dr. Jin Ho Yoo,APEC Climate center, REPUBLIC OF KOREA	The project concrete to understanding of the human and climatic causes to forest fires. And It will determine (1) how seasonal forecasts can be used to predict drought conditions triggering forest fires and (2) how this information can be incorporated into the standard operating procedures of local land and fire managers.	Japan,USA,Korea ,Indonesia, Malaysia, Singapore	2 years	32,000
ARCP2012-16NMY-Ochiai	GEOSS/Asian Water Cycle Initiative/Water Cycle Integrator GEOSS/AWCI/WCI	Mr. Osamu Ochiai, Associate Senior Administrator, Japan Aerospace Exploration Agency (JAXA), JAPAN	Based upon the well coordinated regional cooperative challenge, GEOSS Asian Water Cycle Initiative (AWCI), and the long-term supports by APN, this project aims at implementing convergence and integration of data from earth observation satellites, fields, model cases at Asian major river basins, and researching on the impact assessment and adaptation measures for climate change using these data.	Bangladesh, Bhutan,Cambodia, India,Indonesia, Japan, Korea,Laos, Malaysia,Mongolia, Myanmar,Nepal, Pakistan, Philippines,Sri Lanka,Thailand, Uzbekistan, Vietnam	2 years	40,250
ARCP2012-17NMY-Burnett	Assessing the Impact of Climate Change and Development Pressures on Nutrient Inputs into the Mekong River and Tonle Sap	Prof. William C. Burnett, Florida State University,USA	Investigate the relationships between Mekong River hydrology, the dissolved and particulate phosphorus (P) cycle and aquatic productivity in Thailand, Laos, and Cambodia. Assess and model nutrient and fishery impacts in response to climate change, dam construction or other development activities in the Mekong River basin.	USA,Thailand, Laos, and Cambodia	2 years	30,000
ARCP2012-18NMY-Sase	Dynamics of sulphur derived from atmospheric deposition and its possible impacts on the East Asian forests	Dr.Hiroyuki Sase ,Asia Centre for Air Pollution Research, JAPAN	sulphur dynamics in forest ecosystems will be studied using sulphur isotopic analysis in different climates, in Malaysia, Thailand and Japan.	Malaysia, Thailand and Japan.	2 years	40,000

## APPENDIX 3(B): NEW ARCP PROJECTS, FINANCIAL YEAR 2013/14

Full Proposal Reference No.	Proposal Title	Proponent	Summary of Project	Regional Collaboration Countries Involved	2013/2014 Yearly award (US\$)
ARCP2012-FP25-Gomboev	Boreal and tropical (monsoonal) forests and forest-steppes in Asian-Pacific region in territory of Russia, Mongolia and China: a comparative estimation of the contribution to softening of global climatic changes and working out of measures on adaptation to them	Prof. Bair O. Gomboev, Baikal Institute of Nature Management of Russian Academy of Sciences, RUSSIAN FEDERATION	Comparative evaluation of the contribution of different forest ecosystems (boreal, tropical, forest-steppe) in the Asia-Pacific region in Russia (Buryatia), Mongolia and China in climate change mitigation and development strategies to increase this contribution: a) assessment of forest condition; b) assessing the carbon budget; c) study of good practice in sustainable forest management aimed at reducing emissions from deforestation and forest degradation, conservation and development (storage) of carbon stocks; d) develop a mechanism for fair distribution of costs and benefits (including the sale of carbon, ecosystem services) on the mitigation of climate change among stakeholders in accordance with national institutional capabilities	Russia, Mongolia, China	90,000
ARCP2012-FP24-Fidelman	Supporting governance institutions for adaptive capacity to environmental change	Dr. Pedro Fidelman, Sustainability Research Centre, University of the Sunshine Coast (USC), AUSTRALIA	This proposal will: (1) investigate the potential of existing governance institutions to facilitate adaptation to environmental change in coastal areas of Vietnam, Cambodia and Thailand, and (2) support the design and implementation of strategies (within and across countries) to cope with current and future impacts of such change.	Australia, Vietnam, Cambodia, Thailand	46,000
ARCP2012-FP11-Shrestha	Discharge Scenario and Water Based Adaptation Strategies in South Asia	Dr. Madan Lall Shrestha, The small Earth Nepal, NEPAL	The project aims to understand the climate and changing climate of the region and its water resources consequences affecting people. Observed hydro-meteorological data and IPCC climate scenarios will be used for simulation of river flows using distributed/physical-based hydrological models for development of future water scenarios.	Nepal, Pakistan, Bangladesh, USA	82,000
ARCP2012-FP18-Yamada	Adaptation of Solid Waste Management to Frequent Floods in Vulnerable Mid-Scale Asian Cities	Dr. Masato Yamada, National Institute for Environmental Studies (NIES), JAPAN	This study aims to propose a model of resilient and adaptable solid waste management (SWM) against flood in Asian tropical/pluvial countries, in order to adapt to frequent flood events that would be influenced by climate change. State of arts of urban SWM during and aftermath of flood will be evaluated, and restyling and re-planning of SWM will be supported by novel tool to assess resiliency & vulnerability of SWM against flood. Cooperative assistance in emergency case between municipalities or between municipality, industries and NPOs will be promoted thorough strategic efficiency evaluation.	Japan, Thailand, Vietnam	74,000
ARCP2012-FP26-Miyata	Toward CarboAsia: integration and syntheses of terrestrial ecosystem flux data in tropics/subtropics and croplands in Asia by activating regional tower-based observation networks	Dr. Akira Miyata, National Institute for Agro-Environmental Sciences, JAPAN	Toward CarboAsia, the carbon budget assessment covering the whole Asian terrestrial ecosystems, it is required to fill data gaps in tropical/subtropical forest and croplands. By utilising the framework of Asia Flux ( <a href="http://www.asiaflux.net/">http://www.asiaflux.net/</a> ), we will hold workshops and training courses to encourage and activate tower-based flux observation networks in south-eastern and southern Asia, thereby promoting data integration and syntheses of carbon and water cycles in tropical/subtropical forest and croplands in Asia.	Japan, Republic of Korea, China, Philippines, Vietnam, Thailand, Malaysia, Indonesia Bangladesh, India	135,000

Full Proposal Reference No.	Proposal Title	Proponent	Summary of Project	Regional Collaboration Countries Involved	2013/2014 Yearly award (US\$)
ARCP2012-FP03-Sellers	Mega-Regional Development and Environmental Change in China and India	Assoc. Prof. Jeffery M. Sellers, University of Southern California, USA	This research applies remote sensing and GIS to compare urbanisation patterns and their effects on land use and ecosystems in four matched cases of Chinese and Indian mega-regions. Models of alternative trajectories will be developed to assess alternative policies and institutions to address the regional dimensions of urbanisation. Regional stakeholder workshops and participation in stakeholder and academic forums will further reinforce capacity building.	USA, India, China	84,000
ARCP2012-FP07-Manton	Coordinated Regional Climate Downscaling Experiment (CORDEX) in Monsoon Asia	Professor Michael Manton, Chair Scientific Steering Committee for Monsoon Asia Integrated Regional Study (MAIRS). Monash University, AUSTRALIA	A series of three CORDEX workshops will be held in 2013, 2014 and 2015 in South Asia, East Asia and South East Asia. The workshops will foster synergies and coherence between the various climate downscaling and vulnerability, impact and adaptation (VIA) communities in the Asia Pacific region through direct engagement. The workshops will be scientific in nature and will cover state-of-the-art climate downscaling research, training and capacity building.	Australia, India, China, Republic of Korea, Nepal	135,000
ARCP2012-FP12-Shahid	Climate Change Vulnerability and Adaptation in Groundwater-dependent Irrigation System in Asia-Pacific Region	Dr. Shamsuddin Shahid, Universiti Teknologi Malaysia, MALAYSIA	The major objective of the proposed project is to understand the influences of climate change on regional groundwater resources and irrigation requirements as well as to identify the possible adaptation measures to sustain the future growth and development of groundwater-based irrigation.	Malaysia, Bangladesh, China, India, Indonesia	40,000
ARCP2012-FP22-Tangang	Southeast Asia Regional Climate Downscaling Project (SEACLID)	Prof. Fredolin Tangang, University Kebangsaan Malaysia, MALAYSIA	1. Carry out joint regional climate downscaling for a common SEA domain with RegCM4 using 5 CMIP5 GCMs and 3 RCPs under the SEARCI on the basis of shared workloads. 2. Collectively analyze model performances, create ensemble regional climate projection for the SEA region, and establish SEARCI web portal and data center for efficient data dissemination freely to users in the region	Malaysia, Philippines, Indonesia, Thailand, Cambodia, Lao PDR, Vietnam	135,000
ARCP2012-FP17-Prabhakar	Assessing community risk insurance initiatives and identifying enabling policy and institutional factors for maximising climate change adaptation and disaster risk reduction benefits from risk insurance	Dr. S.V.R.K. Prabhakar, Institute for Global Environmental Strategies, JAPAN	This project aims to assess the benefits accrued through community level risk insurance experiences in the region, evaluate barriers limiting its penetration, and identify interventions for greater risk insurance penetration leading to climate change adaptation and disaster risk reduction.	Japan, Malaysia, India, Bangladesh, Philippines, Vietnam	80,000
ARCP2012-FP28-Li	Assessing Spatiotemporal Variability of NPP, NEP and Carbon Sinks of Global Grassland Ecosystem in response to Climate Change in 1911-2011	Professor. Jianlong Li, Nanjing University, CHINA	This project will be realized to provide an integrated technical method and report of the assessment of variability of NPP, NEP and carbon sinks of global grassland ecosystem in response to climate change and human activity in the global scale and long-term under different temporal and spatial from three developing countries to worldwide for farmers, policy makers and international community and disseminate the findings	China, Mongolia, Uzbekistan and technical support from USA and Australia	108,000

Full Proposal Reference No.	Proposal Title	Proponent	Summary of Project	Regional Collaboration Countries Involved	2013/2014 Yearly award (US\$)
ARCP2012-FP23-Patankar	Characterising Public and Private Adaptation to Climate Change and Implications for Long-Term Adaptive Capacity in Asian Megacities	Assistant Prof. Archana Patankar, K J Somaiya Institute of Management Studies & Research, INDIA	This project proposes to characterise public and private adaptation in Mumbai (India), Bangkok (Thailand) and Manila (Philippines) in response to heavy precipitation events and bring out the policy implications for the long-term adaptive capacity.	India, Thailand and Philippines.	45,000
ARCP2012-FP01-Sthiannopkao	Developing Scientific and Management Tools to Address Impacts of Changing Climate and Land Use Patterns on Water Quality in East Asia's River Basins	Assistant Prof. Suthipong STHIANNOPKAO, Dong-A University, REPUBLIC OF KOREA	The project aims to address "what possible effects of climate and land use pattern changes have on water quality and ecology in East Asia's river basins?" A model showing interactions among climate, hydrology, land use, water quality, and ecosystems will be built for the temperate climate of Korea and tropical climate of Southeast Asia. Specifically, the expected impact of climate change related to extreme events on loading of nutrients and microorganisms under land use pattern changes will be determined. The project's outreach components will allow us to educate high school students and farmers with knowledge produced from this study.	Republic of Korea, USA, Indonesia, Thailand, Philippines, LAO PDR	80,000
ARCP2012-SGP01-Liu	The impact of global warming on ocean-atmosphere feedback strength at tropical Indian Ocean	Dr. Lin LIU, First Institute of Oceanography, State Oceanic Administration, CHINA	This project examines the impact of global warming on this ocean-atmosphere coupled event using the CMIP5 output. Particularly the output answers the questions 1) to what degree the global warming impacts the IOD event and 2) to explain the physical mechanism on how the IOD is influenced by the global warming as well as the relevant impact from IOD event.	China, Malaysia, USA, Thailand, Pakistan	29,000

## APPENDIX 4(A): CONTINUING MULTI-YEAR CAPABLE PROJECTS, FINANCIAL YEAR 2013/14

Original Project Reference No.	Project Title	Project Leader	Summary of Project	Regional Collaboration Countries Involved	Project Duration	2013/2014 Yearly award (US\$)
CBA2012-03NMY-Rasul	Impact of Climate Change on Glacier Melting and Water Cycle Variability in Asian River Basins	Dr. Ghulam Rasul, Pakistan Meteorological Department, PAKISTAN	Through this Project, drought related products will be prepared and shared, capacity building activities undertaken focusing on preparation of dry/wet climatology, indices, utility of numerical weather prediction, and drought advisories for planners and policy makers, and an interface between the users and service providers developed. Training of young scientist responsible for sustained continuity is a top priority.	Pakistan, Japan, Mongolia, Bhutan, Nepal, Uzbekistan	2 years	36,000
CBA2012-09NMY-Hashim	Global Environmental Change and Human Health: Extreme Events and Urbanisation in the APN Region	Dr. Jamal Hisham Hashim, UKM Medical Centre, MALAYSIA	The proposed UNU-GECHH-APN-EEU is a framework project fostering research and awareness of the impact of global environmental change on human health, and in particular the impact of extreme events (e.g., floods, cyclones) on human health in the urban environment (e.g., via water), within the APN region.	Malaysia, Australia, China, India	2 years	13,000

## APPENDIX 4(B): NEW CAPABLE PROJECTS, FINANCIAL YEAR 2013/14

Full Proposal Reference No.	Proposal Title	Proponent	Summary of Project	Regional Collaboration Countries Involved	2013/2014 Yearly award (US\$)
CBA2012-FP02-WCRP/CORDEX	International Conference on Regional Climate CORDEX 2013	Dr. R. Krishnan, Indian Institute of Tropical Meteorology ,INDIA. (WCRP),	The International Conference on Regional Climate CORDEX 2013, organised jointly by WCRP, IPCC and the European Commission will facilitate active dialogue and discussion among the diverse international regional climate modeling, and vulnerability, impact and adaptation research communities to address crosscutting challenges and opportunities to further improve our understanding of regional climate variability and change, and to support climate adaptation and mitigation policies. The support from APN will provide the opportunity for about 20 aspiring young scientists and students from Asia-Pacific developing countries to participate in this major international conference.	All APN member countries	50,000
CBA2012-FP11-Schuttenberg	Building Capacity for Socio-ecological Resilience to Coral Bleaching Events in Indonesia, Malaysia, and Thailand	Dr. HZ Schuttenberg, Commonwealth Scientific and Industrial Research Organisation (CSIRO), AUSTRALIA	The project will build capacity within scientific, government, industry, and non-governmental organisations in Indonesia, Malaysia, and Thailand for supporting the resilience of coral reefs and reef-dependent tourism to climate change impacts. Building on social and ecological data collected during an extensive bleaching event in 2010, project collaborators will hold multi-stakeholder learning workshops in each targeted country to raise awareness, provide scientific input on potential responsive actions, strengthen stakeholder relationships, identify key research questions and methodologies to guide future work, and to develop training materials for dive operators that will be incorporated into on-going training programs in the region.	Australia, USA, Indonesia, Malaysia, Thailand	44,000
CBA2012-FP09-SOLAS	Capacity building on Surface Ocean - Lower Atmosphere Study: The SOLAS Summer School	Dr. Emilie Brévière / SOLAS Executive Officer, Helmholtz Centre for Ocean Research SOLAS IPO Office (Germany)	The SOLAS Summer School is a 2-week advanced international capacity-building programme for early-career scientists and is an integral part of the project SOLAS. By providing excellent training on scientific techniques, soft skills, and understanding of global environment change issues, it adequately prepares future proficient scientists. Its comprehensive schedule provides the next generation of scientists opportunities to interact and network with their peers.	All APN member countries	23,000
CBA2012-FP12-Visco	Communicating and Operationalising Site-Specific Climate Change Adaptation Strategies in Selected Vulnerable Upland Communities in Southeast Asia	Dr. Roberto G. Visco, Philippine Agroforestry Education and Research Network, PHILIPPINES	The proposed project is the third sequel or the Phase 3 of the previous APN-funded project "Scaling-Up Agroforestry Promotion for Climate Change Mitigation and Adaptation in Southeast Asia", and the "Institutionalisation of Agroforestry as a Climate Change Adaptation Strategy via Local Capacity and Policy Development in Southeast Asia. After the awareness-building and assessment of various climate change adaptation strategies that work on-the-ground, which are basically, the major objectives of the two previous projects, the proposed project aims to communicate and operationalise these climate change adaptation strategies to the selected vulnerable upland communities in Vietnam. Indonesia and the Philippines.	Indonesia, Viet Nam, Philippines	36,000



Full Proposal Reference No.	Proposal Title	Proponent	Summary of Project	Regional Collaboration Countries Involved	2013/2014 Yearly award (US\$)
CBA2012-FP14-Fu	Promoting the sustainability science in monsoon Asian region	Prof. Congbin Fu, Institute of Atmospheric Physics, Chinese Academy of Sciences, CHINA	This APN project is to support Asian young scientists to attend MAIRS conference held in 3-6 March 2014 in Beijing, to encourage the information exchange and communication on sustainability science among senior and young scientists, scientists and policy makers. The objective of MAIRS conference 2014 is to show the latest research of integrated studies and sustainability science dealing with Asian environmental change, to promote success projects/cases of multi-disciplinary studies, to recognise the crucial gaps of science contribution to sustainable development of Asian countries, and capacity buildings to young scientist who are interested in global change and sustainability science.	China, Malaysia, Mongolia, Japn, India, USA, Australia	38,000
CBA2012-FP18-Dargantes	Strengthening the Capability of Colleges of Agriculture in Incorporating Food and Water Security and Climate Change and Climate Variability into Curricular Programs, Research and Extension Projects and Teaching Modules	Prof. Dr. Buenaventura B. Dargantes, Institute for Strategic Research & Development Studies (ISRDS), Visayas State University, PHILIPPINES	The major activities of the project include: a) an Asia-Pacific inter-university consultation; b) sharing of experiences and good practices, and formulation of inter-university research and extension agenda; and c) inter-university professorial exchange and academic visits.	Philippines, Indonesia, Cambodia, Japan	43,000
CBA2012-FP03-D'Arrigo	ACRE SE Asia – towards new weather and climate baselines for assessing weather and climate extremes, impacts and risks over SE Asia.	Prof. Roseanne D'Arrigo, Lamont-Doherty Earth Observatory, Columbia University, USA	Our primary goal is to build capacity within SE Asian institutions, agencies and NMS to improve and extend historical instrumental, documentary and palaeo databases of SE Asian weather/climate, in order to contribute to the generation of high-quality, high-resolution historical weather reconstructions (reanalyses). These new baselines will allow scientists and policy makers across the region to address weather/climate extremes, impacts and risks in ways and over time spans not previously possible.	USA, New Zealand, Indonesia, Malaysia, China, Philippines, Vietnam, Japan	65,000
CBA2012-FP07-Shrestha	Enhancing the groundwater management capacity in Asian cities through the development and application of groundwater sustainability index in the context of global change	Dr. Sangam Shrestha, Asian Institute of Technology (AIT), THAILAND	The proposed project aims to enhance understandings of policy makers and relevant stakeholders in selected Asian cities and develop their capacity to assess their situation of groundwater management through customisation and application of “groundwater sustainability index (GSI)” by themselves via various mean such as e-conferences and regional workshops.	Japan, Thailand, Indonesia, Viet Nam	42,000
CBA2012-FP16-Barik	Promoting algaculture in trapped waters as sustainable aquafarming and adaptive climate mitigation in inundated coastal areas.	Ms. Jyotiskona Barik, South Asian Forum for Environment, INDIA	The programme envisages a capacity building cum action research workshop in promoting algaculture in coastal village of Sundarbans in India as a sustainable alternative livelihood option and climate-smart aquafarming for community based adaptive mitigation. Hands on training on culture preparation, management and monitoring of growth, harvesting of algal biomass and usage will be demonstrated in a technology cooperation module. Carbon sequestered in culture period and cost-benefit analysis over return on investment will be integral to the programme.	India, Bangladesh, Sri Lanka, Korea	35,000
CBA2012-FP08-Dahal	Policy Brief ‘writeshop’ for Early Career Researcher: An Approach to Promote Greater Science-Policy Interface in South Asia	Assoc. Prof. Khem Raj Dahal, The Small Earth Nepal (SEN), NEPAL	This project intends to fill this gap between science and policy by building capacity. Four-day intensive training by policy research experts and policy practitioners, and writing fellowship to them to published peer reviewed journal on policy science interface will be career milestones for the young researchers.	Nepal, USA, Thailand, Australia	36,000

Full Proposal Reference No.	Proposal Title	Proponent	Summary of Project	Regional Collaboration Countries Involved	2013/2014 Yearly award (US\$)
CBA2012-FP17-Heinrich-Sanchez	Building Capacity on Marine Litter Management in the NOWPAP (Northwest Pacific Action Plan) Region	Mr. Eduardo (Edo) Heinrich-Sanchez, NPO Okinawa Ocean Culture and Environment Action Network, JAPAN	In order to enhance capacity for the effective management of ML in NOWPAP member states as well as the implementation of RAP MALI, 1.5 days workshop will be organised in collaboration with the relevant international organisations, focusing on strengthening regional cooperation by sharing best practices for ML management, including policy measures implemented in the region. Recommendations from the workshop will be communicated to governments, environmental NGOs and scientific community for initiating future activities to deal with ML problems.	China, Japan, Korea, Russia	33,000
CBA2012-FP15-Varma	Building Capacity for Adaptive Governance through Participatory Modelling: Rural and Urban Flooding in India	Mr. Navarun Varma, The Energy and Resources Institute (TERI), INDIA	The training program "Building Capacity for Adaptive Governance through Participatory Modelling: Rural and Urban Flooding in India" is aimed to enable policy makers, practitioners and researchers in sub-national level to practice adaptive governance. The policy focus of the training program is flood management in two varying socio-economic, political and ecological contexts, one in villages of Lakhimpur district of Assam in north-east of India and other in Bangalore city of Karnataka in south of the country.	India, Bangladesh, Sri Lanka, Nepal, Singapore	46,000
CBA2012-FP05-Sutrisno	The Implementation of multi sensors Remote Sensing Technology for Sustainable Disaster Management	Dr. Dewayany Sutrisno, Indonesian Society For Remote Sensing/ Geospatial Information Agency, INDONESIA	An international capacity building workshop is strongly needed to enhance sharing knowledge, experiences and exchanging idea for developing new technologies in remote sensing sciences among leading scientists and early careers especially those from the developing countries that are most vulnerable to the disaster related to climate change and nature variability. The support from APN will provide the opportunity for about 20 aspiring young scientists from Asia-Pacific region to participate in this workshop.	Indonesia, Japan, Singapore	38,000
CBA2012-FP13-Pakharkova	Scale in Earth System Governance: Local Case Studies and Global Sustainability	Dr. Nina Pakharkova, Siberian Federal University, RUSSIAN FEDERATION	The proposed project will organise a workshop as means for capacity building of early-career researchers from the Asia-Pacific region and Central and Eastern Europe to discuss the issue of scale in earth system governance with an emphasis on research challenges and analytical problems related to scale and local case studies. The workshop will also serve as an important networking opportunity and platform to initiate and combine momentum for new research.	Russia	38,000

## APPENDIX 5: LIST OF ACTION POINTS

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### **Election of Chair and Vice-Chair**

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Mr. Kazuhiko Takemoto assumed his seat as Chair of the 18th IGM/SPG Meeting and nominated Mr. Sundara Sem, as his Vice-Chair. This was accepted by acclamation.

**Action: Mr. Kazuhiko Takemoto and Mr. Sundara Sem**

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### **Item 1: Adoption of the Draft Agenda**

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The agenda was approved as presented.

**Action: 18th IGM/SPG Meeting**

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### **Item 3: APN Membership & Framework Document**

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#### *i. Changes in APN Membership*

Since the 17th IGM/SPG Meeting, new national Focal Points (nFPs) and SPG Members for Bangladesh, Japan, Lao PDR, Malaysia, Nepal, Republic of Korea and United States of America (USA) had been appointed and these changes were reflected in APN documentation. Some country positions remain vacant.

#### *ii. Approved Country status for Myanmar and Maldives*

IGM approved the Approved Country status of Myanmar and Maldives.

**Action: Secretariat (to update Framework Document)**

#### *iii. Changes in the APN Secretariat*

The new organisational structure comprises three divisions, namely the Division for Administration, the Division for Development and Institutional Affairs, and the Division for Communication and Scientific Affairs.

#### *iv. Proposed APN Internship Programme*

Through a secondment mechanism seen as a “Member Country in-kind contribution”, this internship programme would enhance the information flow between the Secretariat and APN Members, and also contribute to the APN’s increasingly active sub-regional cooperation activities.

Members welcomed the Secretariat changes under iii) and iv) by acclamation.

**Action: APN Members and Secretariat**

*v. Revisions to the APN Framework Document*

The additional suggestions from the 23rd SC Meeting are outlined below:

- increasing the Membership of Countries from three to five
- providing nFPs of donor Countries ex-officio status

Mr. Takemoto approved the amendments and announced that the “amended Framework Document” as presented is now in effect.

The IGM could discuss and clarify related issues later under Item 17 on day 3 of the present IGM/SPG Meeting.

***Action: APN Members, Secretariat***

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**Item 4: Financial Reports**

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Dr. Matthews took the opportunity to formally acknowledge Member Countries that have been supporting the APN through in-kind contributions of various forms. Members approved the financial reports by acclamation.

***Action: Secretariat***

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**Item 5: New & Continuing Activities**

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5.1 Sub-Regional Science-Policy Dialogues (SPDs)

Welcoming the implementation of the Science-Policy Dialogues, the Members approved the activity (and later approved the budget for the activities under Item 6), noting the careful design and considering the key points discussed.

***Action: Sub-Regional Committees and Secretariat***

5.2 Biodiversity and Ecosystem Services Framework

The Members approved the B&ES Framework and related activities as indicated in the Opportunity Paper. They later approved the budget allocation for potential activities.

***Action: Secretariat***

5.3 UNFCCC/SBSTA and Annual Research Dialogue with the Parties

In addition to showcasing the latest work of APN in relation to research and systematic observations, APN was also expected to provide input to SBSTA38.

The Members approved the activity (and later approved the budget for the activities under Item 6).

***Action: SC and Secretariat***

5.4 New Hyogo Activities

The Members approved the activities (and later approved the budget for the activities under Item 6).

***Action: Secretariat***

### 5.5 Climate Adaptation Framework, Disaster Reduction, Loss and Damage

A call for proposals for focussed activities that will be independent of the annual ARCP and CAPaBLE calls for proposals will be launched in 2013 to support the above-mentioned activities.

A series of expert workshops on CAF-RDD-L+D, with the aim of contributing to UNFCCC/COP19 will be organised.

The Members approved the activities (and later approved the budget for the activities under Item 6).

**Action: Secretariat**

### 5.6 New Focused Publications

The creation of publications under i, ii, iii and iv above were approved (the budgets for which were approved under Item 6).

**Action: Secretariat**

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## **Item 6: Proposed Work Programme and Budget Plan (2013/14)**

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The total revenue for the next fiscal year was presented as 3 separate line items:

- |                         |                |
|-------------------------|----------------|
| 1. Core Budget:         | US\$ 3,364,000 |
| 2. Committed Resources: | US\$ 1,203,500 |
| 3. AOF:                 | US\$ 1,289,000 |

The budget was approved.

**Action: APN Members, Secretariat**

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## **Item 8: APN Opportunity Fund**

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Procedural issues not only on how the AOF is allocated but where to report it under the list of items for the IGM would be undertaken at the SC Meeting immediately following the 18th IGM/SPG Meeting.

**Action: SC, APN Secretariat**

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## **Item 9: Scientific and Capacity Building Activities: Report from the SPG Co-Chairs**

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Dr. Luis Tupas, SPG Member for USA would take the lead to collect views from the SPG Members on how to more effectively implement the proposals and review process; one that ensures the robustness of the review while reducing the burden of the reviewers (both Member Countries and invited experts to the SPG).

Topics of interest for the Science Agenda under the 2013 Annual Calls for Proposals that are relevant to Global Change in a regional context the following holistic research topics that encompass multidisciplinary approaches:

1. *B&ES including resiliency and main issues highlighted under the new APN B&ES Framework;*
2. *Climate Impacts on health, agriculture, livestock;*

3. *Water security (inland and ocean): in the face of extreme events; including management, quantity, quality, etc.; and*
4. *Energy/energy efficiency, carbon capture, case studies at community-based levels, biofuels, etc.*

Important activities that would be undertaken, to varying degrees, by the SPG and CDC in the future were discussed at both the SPG-PM and CDC, including:

1. *The Evaluation of APN's 3rd Strategic Phase and approaches that are appropriate;*
2. *Capacity Building indicators for success, highlighting in particular good examples and best practices;*
3. *Science-Policy indicators for success;*
4. *Proposal Development Training Workshops; and*
5. *Showcasing 10th Anniversary of the CAPaBLE programme.*

**Action: CDC, SPG-SC, SPG and Secretariat**

<b>New SPG-SC Members</b>
<ul style="list-style-type: none"> <li>• Dr. Alexander Sterin (SPG Member, Russian Federation) as continuing Co-Chair for one more year</li> <li>• Dr. Luis Tupas (SPG Member, USA) as new SPG Co-Chair for 2-year term</li> <li>• Dr. Kensuke Fukushi (SPG Member, Japan) as SPG-SC Member for one more year</li> <li>• Dr. Jariya Boonjawat (SPG Member, Thailand) as new SPG-SC Member for one year, renewable</li> <li>• Dr. Amir Muhammad (SPG Member, Pakistan) as new SPG-SC Member for one year, renewable</li> </ul>

The IGM approved the new SPG Co-Chair and SPG-SC nominations by acclamation.

*Action: SPG Sub-Committee*

<b>New CDC Members</b>
<ul style="list-style-type: none"> <li>• Dr. Alexander Sterin; SPG Member for Russia SPG Co-Chair (<i>ex officio</i>)</li> <li>• Dr. Luis Tupas; SPG Member for USA as new SPG Co-Chair (<i>ex officio</i>)</li> <li>• 2013-15 SC Chair (<i>ex officio</i>)</li> <li>• Donor Member Japan (<i>ex officio</i>)</li> <li>• Dr. Andrew Matthews, invited expert for one year, renewable</li> <li>• Professor Roland Fuchs, invited expert for one year, renewable</li> <li>• Dr. Srikantha Herath, invited expert for one year, renewable</li> <li>• Dr. Harini Nagendra, invited expert for one year, renewable</li> </ul>

The IGM approved the new CDC by acclamation.

**Action: Capacity Development Committee**

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**Item 10: Report from South Asia Sub-Regional Committee (SA- SRCom)**

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Drawing from the successful initiatives of SEA, the SA-SRCom felt that lessons can be learnt, and international and regional partners such as START, CDKN and LEAD, etc can be engaged.

Members would provide further input via email to prepare a Summary Proposal for submission under the APN 2013 Annual Calls for Proposals.

The venue (for the 5th SA-SRC Meeting) will likely be Colombo, Sri Lanka and the tentative timing November 2013. Bhutan also offered to host the Meeting in the event that the other Member Countries were unable to do so.

***Action: SA SRCom, Secretariat***

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**Item 11: Report from Southeast Asia Sub-Regional Committee (SEA-SRCom)**

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APN Scoping Workshop on Climate Change Adaptation in Urban Planning in SEA would be held in Jakarta, 6-7 May 2013.

The SEA-SRCom also agreed they should participate in the SPD-Synthesis as part of the new SPD activities reported under Item 5.1 at the 18th IGM/SPG Meeting.

The SEA-SRCom supported and agreed to submit a proposal under the CAPaBLE Calls for Proposals 2013.

Concerning the new Approved Status of Myanmar, the SEA-SRCom will consider inviting Myanmar to the 6th SEA-SRC Meeting as an observer. This will be considered carefully when selecting the most appropriate representative for the activities as well as the budget available.

The 6th SEA-SRC Meeting will be hosted by Malaysia, tentatively in November 2013, and agreed on utilising the three Frameworks (CA, LCI and B&ES) for potential future activities by SEA, which would be included in the agenda of their 6th SEA-SRC Meeting.

***Action: SEA-SRCom, Secretariat***

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**Item 12: Report from Temperate East Asia Sub-Regional Committee (TEA-SRCom)**

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Future activities to be pursued in the region would include organising a PDTW for young scientists in research topics of interest particularly in the sub-region. The main objective would be for young scientists to formulate “real proposals” that would be submitted under the Annual Calls for Proposals. Members would communicate via email on the main topics for proposal development.

TEA-SRCom agreed to collate an inventory of interested scientists in the form of a TEA APN directory, from which researchers who can be involved in potential projects could be included.

Regarding the potential venue, date and plan for the first TEA-SRC Meeting and related back to back activities, he noted that the specifics would be communicated with the APN Secretariat after the IGM.

***Action: TEA-SRCom, Secretariat***

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**Item 13: Discussion on Sub-Regional Cooperation**

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(The SEA and SEA) sub-regions should communicate with each other to explore opportunities for collaboration in B&ES.

When organising future IGM/SPG Meetings, some time (for example 30 minutes) could be allocated for the Chairs of the three sub-regional SRComs to meet after the parallel sessions, in order to improve information exchange and cross-boundary cooperation.

Member Countries consider gathering information on key persons in their countries who are involved in IPCC activities, so that an inventory of resource persons could be compiled which might help the APN to formulate and develop its climate-related activities.

***Action: Members, SRComs, Secretariat***

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**Item 14: ARCP and CAPaBLE Recommendations for Funding**

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**ARCP Recommendations**

<b>Recommendations for New ARCP Proposals and Continuing Multi-Year Projects</b>	
13 continuing multi-year projects (secured from 2012/13)	<b>US\$ 475,750</b>
14 new projects from 32 full proposals	<b>US\$ 1,000,000</b>
2014/15 budget allocations for continuing multi-year projects pending successful review	<b>US\$ 90,000</b>
2015/16 budgets allocations for continuing multi-year projects pending successful review	<b>US\$ 73,000</b>

**CAPaBLE Recommendations**

<b>CAPaBLE Proposals and Continuing Multi-Year Projects</b>	
2 continuing multi-year projects Capacity Development Projects	<b>US\$ 49,000</b>
14 new projects from 17 full proposals	<b>US\$ 567,000</b>

The new and continuing activities under the ARCP and CAPaBLE programmes were approved by the Members and the Secretariat will proceed with arrangements to provide the results to the proponents.

***Action: Secretariat***

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**Item 15: Election of Steering Committee Members**

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The following nFPs will serve as SC elected Country Members for a term of two years, taking effect immediately following the 18th IGM/SPG Meeting.



Country	national Focal Point
Bhutan	Mr. G. Karma CHHOPEL
China	Dr. Chengyong SUN
Indonesia	Ms. Hermien ROOSITA
Nepal	Mr. Gorkana Mani DUWADEE
Sri Lanka	Mr. B. M. U. D. BASNAYAKE

***Action: nFPs for Bhutan, China, Indonesia, Nepal and Sri Lanka***

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**Item 16: Mitra Awardee Presentation**

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The abstract of the poster and the presentation will be posted on the APN website and appended in the final proceedings of the 18th IGM/SPG Meeting.

***Action: Secretariat***

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**Item 18: 3SP Evaluation & 4SP Planning**

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Secretariat was asked to proceed with the 3SP evaluation and 4SP planning process according to the discussion.

***Action: SC, Secretariat***

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**Item 19: Host Countries of 19th IGM and beyond**

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The offer from Mr. Sem to host the 19th IGM/SPG Meeting in Cambodia was accepted by acclamation.

Concerning the 20th IGM/SPG Meeting in 2015, Member Countries were asked to contact the Secretariat if they are interested in being the host country.

***Action: Cambodia, Member Countries and Secretariat***

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**Item 21 (a): Any Other Business (AOB)**

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The following experts will serve as co-opted Members of the SC for a term of one year (2013-2014): **Mr. Lou Brown, Professor Roland Fuchs, Dr. Andrew Matthews, and Dr. Kazuhiko Takemoto.**

Cambodia will serve on the SC for the next year as the host Country of the 19th IGM/SPG Meeting. The members welcomed this information by acclamation.

***Action: Steering Committee***

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**Item 20: Chairperson's Summary**

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A final summary would be prepared in close consultation with the Chair, Mr. Takemoto and the Vice-Chair, Mr. Sem, of the 18th Joint IGM/SPG Meeting and revisions could be submitted by delegates until the middle of May, 2013. The final summary will also include a list of action points (see Appendix 5) and abbreviations (see Appendix 6).

***Action: 18th IGM Chair, Vice-Chair and Secretariat***

## APPENDIX 6: LIST OF ABBREVIATIONS

<b>APAN</b>	Asia-Pacific Adaptation Network
<b>APN</b>	Asia-Pacific Network for Global Change Research
<b>AOF</b>	APN Opportunity Fund
<b>ARCP</b>	Annual Regional Call for Research Proposals Programme
<b>B&amp;ES</b>	Biodiversity and Ecosystem Services Framework of the APN
<b>CAF</b>	Climate Adaptation Framework of the APN
<b>CAPaBLE</b>	Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries Programme
<b>CDKN</b>	Climate and Development Knowledge Network
<b>DRR</b>	Disaster Risk Reduction
<b>EWC</b>	East-West Center
<b>G8</b>	Group of Eight
<b>GEC</b>	Global Environmental Change
<b>IGES</b>	Institute for Global Environment Strategies
<b>IGES KRC</b>	Institute for Global Environment Strategies – Kansai Research Centre
<b>IHDP</b>	International Human Dimension Programme on Global Environmental Change
<b>IGM</b>	Inter-Governmental Meeting
<b>L+D</b>	Loss and Damage
<b>LCI</b>	Low Carbon Initiatives Framework of the APN
<b>LEAD</b>	Leadership for Environment And Development
<b>MOEJ</b>	Ministry of Environment, Japan
<b>PDTW</b>	Proposal Development Training Workshop
<b>ROK</b>	Republic of Korea
<b>SA</b>	APN South Asia sub-region
<b>SEA</b>	APN Southeast Asia sub-region
<b>SC</b>	Steering Committee
<b>SPG</b>	Scientific Planning Group
<b>SRC</b>	Sub-Regional Cooperation
<b>SRCom</b>	Sub-Regional Committee
<b>SSC</b>	Special Steering Committee
<b>START</b>	SysTem for Analysis Research and Training
<b>TEA</b>	APN Temperate East Asia sub-region
<b>WCRP</b>	World Climate Research Programme
<b>UNU</b>	United Nations University

# APPENDIX 7: SUMMARY OF INTERACTIVE SESSIONS

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## Interactive Session I

### Climate Adaptation for Disaster Risk Reduction, Loss and Damage

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#### ► 1. Background

Decision 7/CP.17 of the United Nations Framework Convention on Climate Change (UNFCCC) on the “work programme on loss and damage” recommends that a series of expert meetings be conducted to enhance the understanding of its Parties and relevant stakeholders on the three thematic areas of 1) assessing the risk of loss and damage and current knowledge on the same; 2) a range of approaches to address loss and damage; and 3) the role of UNFCCC in enhancing the implementation of approaches to address loss and damage. (UNFCCC, 2011)

Attended by the international community including the APN, ICCCAD and several members of supporting organisations, the expert meetings identified, among others, the following needs: 1) accessible, high quality data relevant for decision makers and communities; 2) regional collaboration; and 3) more emphasis on slow-onset events.

The same decision also invites stakeholders to take into account the thematic areas identified when undertaking relevant activities, and share the outcomes of these activities, including lessons learned and good practices, with the Subsidiary Body for Implementation (SBI).

In response, and as an effort to exchange relevant information among countries in the Asia-Pacific region, APN organised an interactive session during its 18th joint Inter-Governmental Meeting/Scientific Planning Group Meeting held from 10-12 April 2013, to discuss the aforementioned needs in the context of APN member countries, in terms of research and capacity development.

#### ► 2. Loss and Damage in the Asia-Pacific

Ms. Erin Roberts, Coordinator, International Centre for Climate Change and Development (ICCCAD) provided a keynote talk on loss and damage, including its definition, UNFCCC’s approach, its implications for the Asia-Pacific region, lessons learned and future plans to address the issue at different levels of governance.

##### 2.1 Loss and damage in UNFCCC discussions

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Increasing evidence has emerged showing the inadequacy of the world’s overall ambition to reduce emission to fully prevent climate change. As a result, adaptation has become increasingly important in UNFCCC negotiations.

While the notion of loss and damage is not new, the term first appeared in UNFCCC documentations in 2007, as the Bali Action Plan called for Parties to consider strategies and means to address loss and damage associated with climate change impacts. (UNFCCC, 2007)

Subsequently, a work programme on loss and damage was established under the Cancun Adaptation Framework (CAF) as part of UNFCCC's key work stream on adaptation, in parallel with the Nairobi Work Programme, National Adaptation Plans (NAP) and National Adaptation Programmes of Action (NAPA).

***A working definition of loss and damage***

**Damage** can be seen as negative impacts that can be repaired or restored (such as windstorm damage to the roof of a building, or damage to a coastal mangrove forest from coastal surges which affect villages).

**Loss** can be characterised as negative impacts that cannot be repaired or restored (such as loss of geologic freshwater sources related to glacial melt or desertification, or loss of culture or heritage associated with potential population redistribution away from areas that become less habitable over time with climate change). (Germanwatch, 2012)

Since then, substantial work has been undertaken by the Subsidiary Body for Implementation (SBI) with regard to the approaches to addressing the above-mentioned thematic areas identified at its 34th session (SBI 34) in June 2011, with input from Parties, inter-governmental organisations, non-governmental organisations and other stakeholders. At the 18th Conference of the Parties to UNFCCC (COP18) in Doha, Qatar in 2012, Parties decided, among others issues, to establish institutional arrangements to address loss and damage at COP 19.

***Three thematic areas of the loss and damage work programme***

<b><i>Thematic Area I</i></b>	<b><i>Thematic Area II</i></b>	<b><i>Thematic Area III</i></b>
Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same	A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow-onset events, taking into consideration experiences at all levels	The role of the Convention in enhancing implementation of approaches to address loss and damage associated with the adverse effects of climate change

## **2.2 Loss and damage in Asia and the Pacific**

The Asia-Pacific region is particularly vulnerable to negative impacts of climate change. For example, coastal Asia faces severe issues of salinisation and inundation coupled with sea-level rise. In the Himalaya-Hindu-Kush region, changes in monsoon patterns are severely impacting agricultural production, which could have food-security implications for hundreds of millions of people. In Pacific Island Countries, coastal erosion is already leading to both economic and non-economic loss and damages.

Generally, addressing loss and damage requires a range of approaches to be implemented simultaneously, including risk reduction (emergency warning systems), risk retention (financial arrangements, contingency funds, etc.) and risk transfer (insurance schemes), in addition to approaches that specifically address slow-onset processes, which, as opposed to weather extremes, include non-discrete continuous processes such as “sea-level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinisation, land and forest degradation, loss of biodiversity and desertification.” (UNFCCC, 2010)

How best can Asia address the issue of loss and damage? Ms. Erin Roberts pointed out that national institutional arrangements are needed in order to benefit from the international arrangements. To illustrate this point,

she introduced the work being undertaken by the International Centre for Climate Change and Development (ICCCAD) to oversee a national study in Bangladesh to better understand loss and damage in a national context.

Commissioned by several key research institutions, the research aims to enhance understanding of approaches to address loss and damage. A national process on loss and damage was developed through the research, stakeholder workshops and engagement with policy makers and other stakeholders. A number of important lessons learned were highlighted: 1) engage key stakeholders who can influence policy makers; 2) maintain an open dialogue; 3) be patient for capacity building at the national level; and 4) link the local to the national to the global.

<i>Lessons learned...</i>		
<i>... on Risk Reduction</i>	<i>... on Risk Retention</i>	<i>... on Risk Transfer</i>
<ul style="list-style-type: none"> <li>• Incorporate local and indigenous knowledge.</li> <li>• Tailor information so that it is easily understandable by end users.</li> <li>• Maintain infrastructure needed for reducing the risk of loss and damage.</li> <li>• Climate change and disaster risk reduction should be mainstreamed into development policies and adaptation strategies.</li> </ul>	<ul style="list-style-type: none"> <li>• Target those who are most at risk to loss and damage.</li> <li>• Promote diversified livelihoods.</li> <li>• Develop flexible repayment policies such as microcredit.</li> <li>• Set aside contingency funds, which can help reduce loss and damage from both extreme events and slow-onset processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Make insurance products accessible and affordable.</li> <li>• Encourage new market entrants, including through launching incentive policies.</li> <li>• Develop and implement awareness raising programmes to address insurance illiteracy.</li> <li>• Explore innovative types of insurance to address loss and damage.</li> </ul>

### **2.3 Asia-Pacific Forum on Loss and Damage**

The Asia-Pacific Forum on Loss and Damage (APFLAD) was launched at the 3rd Asia-Pacific Adaptation Forum in Incheon, Korea on 20 March 2013. The objectives of the forum were:

- To share information on loss and damage within the Asia-Pacific region.
- To support and facilitate further research on different aspects of loss and damage and provide recommendations to relevant institutions.
- To support and facilitate convening of meetings, workshops, conferences and training courses on loss and damage.

The forum was open to organisations and individuals interested in sharing knowledge and expertise on loss and damage in the Asia-Pacific Region.

### ► 3. APN Country Presentations

#### 3.1 Bangladesh: Policy and Actions for Risk Management

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##### *Vulnerability Profile*

Bangladesh is highly at risk of damages by multiple climate-related hazards including floods, flash floods, droughts, salinity intrusion and tropical cyclones etc., which affect millions of people in the country and damage infrastructure, agricultural production and natural resources.

##### *Policy and Governance*

At the state level, the Ministry of Food and Disaster Management is gradually shifting its focus from disaster relief to disaster management, particularly risk reduction. An Inter-Ministerial Disaster Management Coordination Committee was formed under the National Disaster Management Council to coordinate disaster management activities across ministries.

A comprehensive set of national policies and regulations has been established to address disaster management planning and development from local to national levels. This includes guidelines for inter-ministerial coordination, mechanisms for effective information dissemination, disaster management training and public awareness campaigns etc., with involvement of all stakeholders including in the donor community.

At sub-national levels from unions to upazilas to districts, institutional arrangements for disaster management coordination, implementation and review are in place to deal with risk management at different stages, including risk reduction during regular time, emergency response and warning during disaster onset, and relief, recovery and rehabilitation during post-disaster periods. To assess loss and damage at the local level, a comprehensive two-tier assessment methodology was developed for emergency response and post-disaster recovery, etc.

##### *Gaps and Opportunities*

In addition to more research on the nature and trends of natural disasters, there remains a need for improved methodologies and tools for risk assessment and management. Another major need is to mainstream disaster risk reduction into the development process, where economic impacts are of particular concern.

Regional collaboration is crucial as countries in South Asia are prone to similar disaster risks, and this is particularly needed in areas such as research, capacity building for scientists, practitioners and policy makers, as well as public awareness-raising.

#### 3.2 China: Science and International Cooperation for Addressing Climate Change

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China, like the rest of the world, is experiencing the negative impacts climate change has on the natural environment. In China, this is manifested in the accelerated retreat of glaciers in the Tibetan plateau, more frequent floods and droughts, increased occurrences of climate extremes etc., across the country. With a population of more than 1.3 billion and an economy still under development, China is facing multiple challenges, particularly in a situation where social development and environmental protection are of equal importance.

China attaches high importance to address climate change. In June 2007, China launched the National Climate Change Programme, outlining the guidelines, basic principles and specific objectives in addressing climate

change, as well as policies and measures to mitigate and adapt to climate change in key areas (CNDRC, 2007). Later in the same month, the National S&T Action Plan for Addressing Climate Change was jointly published by 14 ministries and state-level governmental agencies, which recognises the urgency to address climate change from the science and technology standpoint (MOST et al., 2007).

Significant effort has been made at the state level to support the enhancement of research and capacity-building to address climate change, including through international cooperation. In this regard, clean and sustainable development has become a new focus, with key projects investigating options for energy conservation and efficiency, renewable energy and new energy, cleaner production, comprehensive resources utilisation, carbon capture, utilisation and storage technologies.

The Chinese government, in its Twelfth Five-Year Plan (2011-2015), highlighted the need for increased investment in research and development in order to provide strong support to address climate change. Enhanced international cooperation is also envisaged by the new development guidelines.

It was pointed out that China will not follow the development model of high energy consumption, and it will endeavour to readjust its industry structure toward a low carbon, green and sustainable pathway.

### **3.3 Japan: Climate Change Adaptation — Assessment and Action**

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In October 2009, the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan Meteorological Agency (JMA), and the Ministry of the Environment (MOEJ) jointly published a synthesis report entitled “Climate Change and its Impacts in Japan.” In March 2013, a revised version of the synthesis report was released, which provided comprehensive information on the mechanisms of climate change, the current status and future of the global climate, impacts of climate change, and adaptation to climate change in Japan. The report also introduces the various scientific approaches to addressing climate change, including observation, projection, impact assessment, and the development of data infrastructure necessary for the research. (MEXT, JMA, & MOEJ, 2013)

To facilitate such research, MOEJ and MEXT introduced competitive research support programmes for national researchers working on climate change projection, impact assessment and adaptation, etc. For example, MOEJ launched the Environment Research and Technology Development Fund to support policy-oriented research in various fields of study, ranging from global system change to innovative waste management. One of the supported projects is a comprehensive assessment of climate change impacts on Japan’s water resources, human health, agriculture, forests and coastal zones, and through economic assessment, looked at the distribution of damages, cost of damages under different emission scenarios, contributing to building a foundation for national climate change policies. Another project aims to develop climate risk management strategies through evaluation of critical risks and options for risk management.

As climate change impacts are already evident in some sectors, countermeasures are being taken in areas of agriculture, urban planning, ecosystems and biodiversity, among others. However, challenges still remain in terms of coordination and cooperation within the government, the need for more accurate projections, etc.

Risk reduction is considered the most cost-effective way of addressing loss and damage. Additionally, mitigation and adaptation should not be considered standalone issues when it comes to reducing loss and damage. The government encourages ongoing efforts, initiatives and networks at the regional, national and global levels to understand loss and damage in the Asia-Pacific region, to identify gaps and regional needs, and to develop policy planning methodology in response to loss and damage.

### **3.4 Pakistan: National Response to Disasters and Loss and Damage**

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The geography of Pakistan makes it one of the most vulnerable countries to climate change and a major victim of climate injustice. It is prone to erratic extreme floods, intense heat waves, cyclones, salinity intrusion, and increased occurrences of droughts, which has brought losses and damages to agriculture and biodiversity, and dislocated a sizable population, compromising national security. Climate change adaptation and mitigation are estimated to cost billions of dollars annually in the near future.

Pakistan has developed, and is constantly improving a structured response mechanism towards climate-induced disasters, which comprises multi-sector initial rapid assessments, early recovery assessments and mid- to long-term disaster needs assessments (DNA), which addresses direct and indirect costs, as well as costs for “build-back-smarter” reconstruction. Institutionally, disaster needs assessment is coordinated by a core team working in close collaboration with the government of Pakistan and a UN Early Recovery Team, together with focal points in local government and sectors.

A work programme for assessing loss and damage has been developed and includes the following elements:

- Comprehensive risk assessment;
- GIS-based risk analysis;
- Tools for integrating hazard information with data on exposure and vulnerability;
- Hazard risk maps and cost-benefit analysis;
- Support for the design of risk financing strategies; and
- National platform for all disaster risk related activities.

To help reduce the risk of loss and damage, especially for vulnerable low-income communities, the government has designed an insurance fund and insurance strategy that complements catastrophe risk insurances in the private sector.

#### ***Common messages from country presentations***

- Improved methodologies and tools are needed for risk assessment and management.
- Disaster risk reduction needs to be further integrated into adaptation and the development process.
- Regional research and capacity development for scientists and practitioners are crucial.
- Concerted inter-agency coordination is the key to addressing loss and damage.
- Data infrastructure need to be strengthened to support relevant research.

Further work is needed in order to mainstream disaster risk reduction into climate change adaptation. In addition, more collaborative research is expected in the fields of multi-hazard vulnerability risk assessment, early warning systems, and glacial lake outburst floods, among others.

### **3.5 Thailand: Master Plan and Action towards Addressing Climate Change**

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Thailand frequently faces disasters associated with imbalanced water cycles, including flood, landslide, drought and wildfire. Disaster management has been a focus area of the Department of Disaster Prevention and Mitigation, Ministry of Interior, and substantial work has been undertaken to assess the risk of loss and damage.



Social, economic and environmental loss and damages are assessed, but these approaches need to be integrated to identify loss and damage associated with climate change.

In Thailand, there remains the need to build integrated data and information systems for decision supported operation; enhance early-warning systems for disaster prevention; strengthen capacity-building for holistic approaches for economic, social and ecosystem sustainability; and improve community-based adaptation. Recently, the government launched the Thailand Climate Change Master Plan 2013-2050, a framework of integrated policies and action plans to support climate change preparedness initiatives, which aims to reduce loss and damage in Thai society, while ensuring Thailand's social, economic and ecological security. The master plan also aims to promote resilience to climate change related disaster through lessons learned among local and global communities.

Customisation of project implementation to fit the agency and area's context and the amount of budget available is considered crucial to transform the master plan into action. In particular, priority is given to those projects that integrate climate change dimension into existing action plans, especially for adaptation, and projects that promote cross-agency collaboration.

Further regional research and capacity development are needed in water management, biodiversity and ecosystem services, local knowledge development and promotion of pilot activities for sharing knowledge and best practice.

### **3.6 Viet Nam: Closing the Gaps in Research and Capacity Development**

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Viet Nam has recorded an increased frequency of tropical cyclones over the last 50 years, and more occurrences of extreme heavy rainfall. Temperature increase and sea-level rise are observed in some parts of the country. Under a 2030 scenario, 45% of the Ben Tre province would be at risk of salinity intrusion if the sea level raised by 1-2cm.

In building a strong governance framework for climate change adaptation, the government approved the National Target Programme on Climate Change Adaptation in 2008, National Climate Change Strategy in 2011, and established the National Committee on Climate Change in 2012. Shortly afterwards, Viet Nam started to implement climate change and sea-level rise response models, giving priority to coastal zones and the Mekong delta.

To address loss and damage induced by climate change, there is a need to close the gap in the assessing of risk of loss and damage, including data and information systems to support the assessments. Gaps also exist in linking relevant institutions, strengthening research on adaptation, assessment of suitable technology, capacity development, etc.

Key regional research and capacity development needs include:

- Assessment of climate change vulnerability and impact in Southeast Asia;
- Research in flood- and drought-tolerant crop species and improved production methods;
- Improved and refined predictions, including closing institutional and data gaps;
- Integrated research on irrigation system for flood control and salinity prevention;
- Sustainable natural resource utilisation and management; and
- Water quality monitoring and disease control.

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## Interactive Session III

### The Future of Global Change Research

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#### ► 1. Introduction

Interactive Session III provided an opportunity for the international science community to present their own perspectives on the future of global change research, and to showcase APN's niche in this area particularly in relation to its goals of "supporting regional cooperation in global change research on issues particularly relevant to the region" and "cooperating with other global change networks and organisations".

#### ► 2. A Short History of APN and Global Change Research

*Kazuhiko Takemoto, Senior Advisor to the Minister, Ministry of the Environment, Government of Japan*

The history of APN can be traced back to the 1990 White House Conference on Science and Economics Research Related to Global Change, where then President of the United States George Bush called for ambitious research to reduce the uncertainties surrounding global change and to advance the scientific understanding for decision-making. (Bush, 1990)

In January 1992, on the occasion of President Bush's visit to Japan, the United States and Japan jointly issued the Tokyo Declaration on the Japan-U.S. Global Partnership and its Action Plan, which outlines, among others, cooperation in the field of "Environment, Quality of Life, and Science and Technology," where both countries agreed to strengthen their commitment to global change research by supporting regional approaches, scientific and technological cooperation and data exchange. (USDS & MFA, 1992)

A series of preparatory workshops was held to discuss the scientific agenda and implementation for a regional network for the Asia-Pacific region, which led to the formal launch of APN at its first Inter-Governmental Meeting in Chiang Mai, Thailand in 1996. The first competitive call for research proposals was launched in 1998; and, in response to a decision by the World Summit on Sustainable Development in 2002, APN launched the CAPaBLE programme in 2003, which has become an important pillar of APN's activities focusing on capacity building and enhancement. Additional funding support was provided by the Hyogo Prefectural Government of Japan, as well as the governments of Australia, Republic of Korea and New Zealand following the launch of the CAPaBLE programme.

Today, APN has become a network of 22 member country governments, and is working with research institutions, universities, and global change research initiatives and networks at national, regional and global levels. *Thanks to the commitment of all member countries, APN has grown not only in terms of membership, but also in financial resources, partners and networks, and has become, and is expected to remain, a key player in the global change research community as it continues to shift towards a multidisciplinary and multi-stakeholder paradigm.*

#### ► 3. Future Earth in Asia and the Pacific

*Mohd. Nordin Hasan, Director, ICSU Regional Office for Asia and the Pacific (ICSU ROAP)*

Important shifts in governance and development paradigms are required, as growing evidence has shown that human activities are altering the Earth system in ways that threaten well-being and development, and transfor-

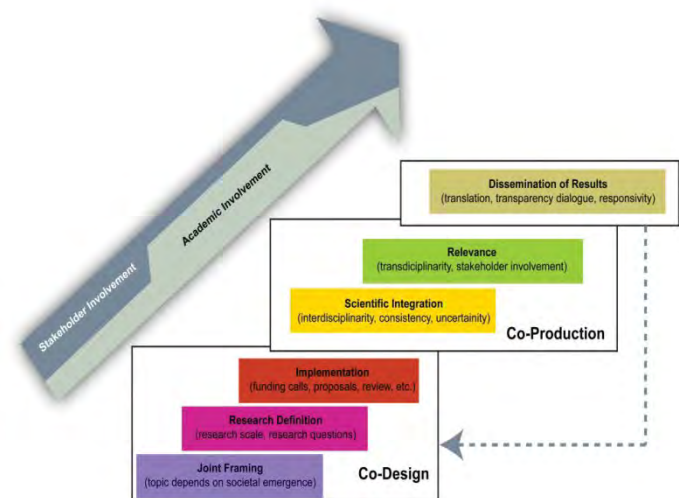
mation to global sustainability is necessary to secure global prosperity in the future (Galaz et al., 2012; Kanie, Betsill, Zondervan, Biermann, & Young, 2012; W. Steffen et al., 2004, p. 20; Will Steffen, Grinevald, Crutzen, & McNeill, 2011).

In order to provide the knowledge required for societies in the world to face risks posed by global environmental change and to seize opportunities in a transition to global sustainability, Future Earth—a global platform for international research collaboration on global environmental change—was envisaged, which is expected to augment Earth system science with impacts of environmental change on people, adaptation and transformation, deliver interdisciplinary research on global environmental change for sustainable development, and strengthen partnerships between researchers funders and users.

Future Earth will build on the current international programmes on global environmental change, namely WCRP (World Climate Research Programme), IGBP (International Geosphere-Biosphere Programme), DIVERSITAS (International programme on Biodiversity) and IHDP (International Human Dimension Programme on Global Environmental Change), which, back in 2001, took the first steps towards greater integration of global environmental change research by jointly establishing the ESSP (Earth System Science Partnership).

The Future Earth Regional Workshop for Asia and the Pacific was held in November 2012 to provide specific recommendations on the design of activities and initiatives, needs for learning and capacity development, and the stakeholder interfaces required for the achievement of Future Earth goals. The workshop also identified a number of regional priorities that will help shape the Future Earth research strategy in the Asia-Pacific region.

The Future Earth initiative puts an emphasis on the concept of “co-design” in the co-production of knowledge, through which academia and stakeholders (researchers, think tanks, policy makers, industry, educators, the media and the public) are able to work together to frame and define research topics, implement research activities, produce knowledge with stakeholder involvement, and disseminate results in a transparent and responsive way.



#### ► 4. IAI and its Future in Global Change Research

*Lou Brown, Chair, IAI Rules Committee; Co-opted Member of APN Steering Committee*

The IAI is an inter-governmental organisation supported by 19 countries in the Americas dedicated to pursuing the principles of scientific excellence, international cooperation, and the full and open exchange of scientific information to increase the understanding of global change phenomena and their socioeconomic implications.

*The IAI is conducting several capacity-building activities focusing on interdisciplinary science for policy- and decision-making, involving scientists, students, politicians and resource managers. At the outset of its third decade of operations, IAI started a number of newly funded science networks that focus on the following topics:*

- Climate variability of major marine ecosystems around South America;
- Assessment of marine ecosystem services at the Latin-American Antares network;
- Ecosystem services and territorial planning in southern South America;
- Farm management and governance of landscapes: climate, water and land use decisions;
- Eco-Informatics for decision-making;
- Risks and challenges of certification for ecosystem services in coffee production;
- Functional biodiversity, ecosystems and social dynamics;
- Provision of climate services to the agriculture and water sectors of South America;
- Nitrogen cycling in Latin America: drivers, impacts and vulnerabilities;
- Sensing the Americas' freshwater ecosystem risk from climate change;
- Changes in the hydrological cycle in the Cordillera;
- Strengthening water security for global change adaptation;
- Effects of habitat perturbation on rodent populations and risk of zoonoses; and
- Land use, climate and infectious disease in Western Amazonia.

A new management structure was also adopted by the Conference of the Parties to the IAI, under which the IAI Directorate's main functions of management, science-policy liaison and science integration, modelling and planning, will be shared by Uruguay, Argentina and Brazil.

## ► 5. The Regional Focus of WCRP

*Ghassem R. Asrar, Director, World Climate Research Programme*

The World Climate Research Programme (WCRP) coordinates international climate research, modelling and analysis to enable climate prediction and understanding of human influence on climate for use in an increasing range of practical applications of direct relevance, benefit and value to society.

### WCRP Grand Challenges

1. Provision of skilful future climate information on regional scales.
2. Regional sea level change.
3. Cryosphere response to climate change.
4. The interactions of clouds, aerosols, precipitation, and radiation, and their contribution to climate sensitivity.
5. Changes in water availability and distribution.
6. Science foundation for prediction and attribution of extreme events.

The work of WCRP is being carried out within the framework of four core projects: CLIVAR—Climate Variability and Predictability, CLIC—Climate and Cryosphere, SPARC—Stratospheric Processes and their Role in Climate, and GEWEX—Global Energy and Water Cycle Experiment. Examples include the deployment of ocean observing systems across the globe, coordination of climate prediction and projection experiments, ozone depletion assessments, and studies to understand the linkages among climate, human health and food security.

WCRP contributes to Future Earth initiatives through providing the underpinning climate science and information at the global and regional levels. Emphasis has been given to stakeholders and users of such knowledge

and information, with “actionable information,” “symbiotic relationship” and “capacity development” as key elements in addressing stakeholder engagement.

WCRP takes a regional approach to gain a deeper understanding of key questions under each core project. A recent example is the Coordinated Regional Downscaling Experiment (CORDEX), which is a modelling framework designed to evaluate and improve regional climate downscaling (RCD) models and techniques; it provides a coordinated set of RCD-based projections/predictions for regions worldwide, facilitates the communication with the vulnerability, impact and adaptation (VIA) community and the involvement of the research community from developing countries.

*With APN support, a series of three workshops will be held in 2013, 2014 and 2015 in South Asia, East Asia and Southeast Asia, respectively. The workshops will foster synergies and coherence between the various climate downscaling and VIA user communities in Asia and the Pacific through direct user engagement. The workshops will be scientific in nature and will cover state-of-the-art climate downscaling research, training and capacity building. A bottom-up approach will be applied with participants involved in the formulation of key science and VIA questions to be considered.*

## ► 6. START Perspectives on the Future of Global Change Research

*Gensuo Jia, Director, Institute of Atmospheric Physics, Chinese Academy of Sciences; START Regional Center for East Asia*

Founded in 1992, START’s projects and programmes support knowledge generation and dissemination for informed policy- and decision-making in and across climate-sensitive sectors in Africa and Asia-Pacific. START works on broad areas of agriculture and food security, innovations in education, biodiversity and ecosystems, communication, climate change and cities, and climate services, with foci on facilitating science-policy interfaces, international collaboration and knowledge sharing.

Soon afterwards, START established the regional Committees for South, Southeast and Temperate East Asia (TEA), and later regional centres based in India, Bangkok and Beijing, respectively. *The collaboration between APN and START dates back to the very beginning of APN, when START contributed actively to the establishment of APN and its Secretariat in areas of research focus, funding mechanism and institutional arrangement, etc. APN has since become an important partner of START and collaborated in many areas including regional science-policy dialogues and sub-regional activities.*

In Asia, START is currently managing an integrated research programme on disaster risk with a focus on Asia coastal megacities. Another ongoing focus is climate change modelling, which involves collaboration with WCRP, the Indian Institute of Tropical Meteorology (IITM), Monsoon Asia Integrated Regional Study (MAIRS), APN, KMRI, and the Asian Development Bank (ADB). A third theme includes projects on land use, ecosystems and goods/services provisioning, which encompasses research and training.

### START Research Priorities in the TEA Sub-Region

- Intensified monsoon climate change and extremes, and changing seasonality/phenology;
- Heavy pressures on natural ecosystems from human disturbances and climate change, sensitive temperate ecosystems to warming;
- Major land-use change and consequences;
- Large scale urban expansion and exposure to extremes and disasters;
- Increased human population and vulnerable food security;
- Declined water supply and quality;
- Changing coast: land–ocean–atmosphere and human interface; and
- Sensitive cryosphere: snow and permafrost;

Future activities of START TEA Regional Centre will focus on models (development of an East Asia regional earth system model, downscaling, impacts, risks, and adaptation), data (building regional capacity for the collection, calibration, and distribution of *in situ* and satellite data) and people (capacity building and networking through short training courses, as well as PhD and postdoctoral fellowships).

### ► 7. How to implement Future Earth in Asia?

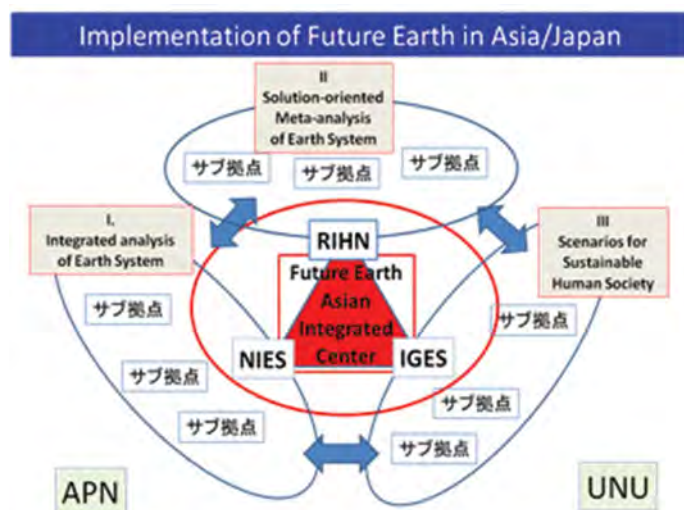
*Tetsuzo Yasunari, Director General, Research Institute for Human and Nature*

Future Earth builds on a framework where both natural systems and human activity are considered main drivers of global environment change, with significant implications for human well-being. The main research themes of the Future Earth initiative are: understanding Earth system dynamics, developing global wisdom and transition to sustainability, which build on regional and associated core/joint projects, underpinning disciplinary science, an integration and synthesis activities.

Asia faces many natural and socioeconomic challenges, such as rapid population and economic growth, urbanisation, great disparities of wealth within and between countries, and social and ecological vulnerability to the potential impacts of climate change. Associated with rapid growth is widespread air and water pollution, affecting regional to global climate change. The geographical location of the region also makes it prone to various natural disasters including massive earthquakes, tsunamis, landslides, typhoons, floods and droughts.

In order to effectively tackle these multiple challenges and efforts, Future Earth in Asia, including Japan, should adopt an integrative approach to analysing the Earth system, provide solution-oriented meta-analysis and develop scenarios for a sustainable human society based on such analyses.

*New approaches in science, technology and governance are required to address some contemporary sustainability challenges, but one has to keep in mind that the pursuit of “innovation” is not in conflict with actively recognising the wisdom already em-*



*bedded in traditional thoughts and patterns of livelihood.* This brings Asia and the world the broader question of how to design sustainable interactions between humanity and nature, without which global sustainability cannot be achieved.

To promote international collaboration on sustainability studies, there is a need for innovative funding and institutional support mechanisms, visionary political and scientific leadership, as well as closer integration of multi-disciplinary stakeholders, including through working closer with the Integrated Research on Disaster Risk (IRDR) programme and related projects.

Institutionally, the regional implementation of Future Earth in Asia could be centred on a Future Earth Regional Committee with active input from governments, inter-governmental organisations, non-governmental organisations, academia and research institutes, whose work could be further coordinated and supported within the framework of a regional Future Earth “integrated centre.” In Japan, a similar structure could also be set up for implementing Future Earth at the national level.

#### 8. Research Priorities for the Pacific Islands

*Roland Fuchs, Adjunct Senior Fellow, East-West Center*

Pacific Islands are particularly vulnerable to the impacts of global environmental change such as sea level rise, extreme weather events, changes in mean rainfall, impacts on coral reefs, agriculture and water supply, natural disasters, urban infrastructure and health.

For Pacific Islands, priority should be given to research designed to enhance understanding of regional climate risks and consequences, improve decision support and risk communication, and improve climate adaptation. Climate-change induced migration and governance have become an emerging issue, and capacity building needs to be enhanced to address these needs.

### ► 9. Belmont Forum: New Funding Opportunities for International Collaboration

*Maria Uhle, Program Director, International Activities, GEO Directorate, NSF*

The Belmont Forum was initiated by the United States National Science Foundation and the British Natural Environment Research Council, building on the International Group of Funding Agencies for Global Change Research (IGFA), to bring together the world’s leading funders of global environmental change research and international science councils to foster global environmental change research.

The “Belmont Challenge” is to deliver knowledge needed for action to avoid and adapt to detrimental environmental change including extreme hazardous events, and this requires assessments of risks, impacts and vulnerabilities through regional and decadal-scale analysis and prediction; information on the state of the environment through advanced observing systems; interaction of natural and social sciences; enhanced environmental information service providers to users; and effective international coordination mechanisms.

To facilitate the above activities, the Belmont Forum launched an International Opportunities Fund to support user-oriented interdisciplinary studies that are designed to address the abovementioned “Belmont Challenge.” A call for proposals was launched in April 2012 with a focus on coastal vulnerability and freshwater security, through which 137 pre-proposals from 37 countries were received. In addition to the above themes, future collaborative research action will focus on e-Infrastructures and data management, food security and land-use change, arctic science, and hazards and extreme events.



## ► 10. Key Messages from Panel Discussions

- It is important to establish a common understanding on key concepts before developing activities, which is especially true for multidisciplinary and multinational collaboration, where language and jargon are among the many challenges for success.
- Reducing uncertainties of downscaling caused by inter-model variability is a subject of research itself, and long-term international collaboration is crucial in the effort to enhance the accuracy of regional climate model downscaling.
- The urgency for implementing Future Earth cannot be overemphasised, as research has shown that many earth system processes have crossed, or on the verge of crossing, their respective “planetary boundaries,” thresholds beyond which very small change could bring large, perhaps catastrophic, impacts at the global scale.
- Future Earth aims to build concerted effort by providing a framework under which different stakeholders across sectors are motivated to join forces for solution-oriented strategies. Practitioners should be involved right at the beginning to co-design needs-based research activities.

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## Interactive Session IV

### Linking and Integrating Biodiversity and Ecosystem Services—Strengthening Engagement with International Science and Decision-Making Communities

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#### ► 1. Introduction

The Asia-Pacific region is spectacularly rich in biodiversity and home to more than half the world's human population. However, much of the knowledge needed to effectively link biodiversity and ecosystem services (BES) to policy- and decision-making processes is lacking in the region, particularly in developing countries. The United Nations created IPBES, a new science-policy platform, to provide scientific support for policy-making to protect the planet's biodiversity, its ecosystems and the services they provide to humanity. APN, through its Biodiversity and Ecosystem Services framework, seeks to identify and address opportunities and gaps of high priority to its members that cut across its core programmes, ARCP and CAPaBLE. The framework also highlights the need for partnerships and networks in the international community.

The present document summarises the presentations and discussions at an interactive session on biodiversity and ecosystem services organised by APN at its 18th IGM/SPG Meeting in Kobe, Japan. The session was designed to identify high priorities in Asia and the Pacific that are in line with international initiatives such as Rio+20's "The Future We Want" and IPBES, identify partnerships and networking in the international community that could address gaps and provide opportunities in research and capacity development, and share national-level experiences in policy implementation on biodiversity and ecosystem services.

#### ► 2. Linking and Integrating Biodiversity and Ecosystem Services to CBD/IPBES: Challenges and Opportunities

*Osamu Saito, United Nations University, Institute for Sustainability and Peace*

Many ecosystem services-related assessments have been conducted, including the Millennium Ecosystem Assessment (MA), which was initiated in 2001 and involved more than 1300 scientists worldwide (UNEP, 2005). However, the overall international landscape of ecosystem assessment is still fragmented with multiple frameworks and methodologies, whose scientific credibility varies. In view of this, countries call for a coordinated international framework to regularise the MA, which focused on ecosystem services and human well-being. This led to the formal establishment of IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) in April 2012, in Panama. The Platform focuses on four work programme areas: regular and timely assessments, knowledge generation, supporting policy formulation and implementation, and capacity building.

The work of IPBES on ecosystems is analogous to the effort of IPCC on climate change. But unlike IPCC, who looks at impacts of *one* driver (climate) on different systems, IPBES aims to integrate the effects of *multiple* drivers (climate change, land-cover change, biodiversity loss, nutrient loading, etc.) on all ecosystems, and contribute to multilateral environmental agreements (MEAs).

A workshop was held in October 2012 to consider a possible conceptual framework for IPBES. Key building blocks of such a conceptual framework could include: 1) biodiversity and ecosystem functioning; 2) ecosystem goods and services; 3) human well-being; and 4) institutions and decisions, which are key indirect and direct

drivers of all inter-linkages (IPBES, 2012). In order to answer the key questions derived from the proposal conceptual framework, the following challenges need to be addressed:

- Multi- and trans-disciplinary approaches and collaboration;
- Developing a new conceptual framework to mobilise relevant stakeholders, especially industry and commercial sectors;
- Distribution and cost-benefit sharing of ecosystem services in an efficient and equitable manner across a range of stakeholders;
- Institutional and governance models to oversee more sustainable management of biodiversity and ecosystem services across multiple scales; and
- Integration of local and traditional knowledge and modern science and technologies.

*With APN support under its Opportunity Fund, a workshop to scope activities associated with assessing impacts on biodiversity and ecosystem services is planned to be held in September 2013, with the objectives to contribute to IPBES, especially its regional assessment activities, through the following components: (1) development of a framework for IPBES-related regional activities, especially scientific assessment on biodiversity and ecosystem services; (2) preparation of an IPBES Information Document based on the outputs of (1), to be circulated at the second session of the plenary meeting of the IPBES in December 2013; and (3) further elaboration of the APN strategy to create strong synergies with IPBES.*

### ► 3. Biodiversity and Ecosystem Services in the Asia-Pacific Region

*Anna Hasemann, International Centre for Climate Change and Development*

A large variety of diverse ecosystems in the Asia-Pacific region provides income and livelihoods for millions of people and is worth billions of dollars annually in exports and national income (ADB & WWF, 2012). Five of the seventeen so-called “megadiverse” countries are from the Asia-Pacific region: China, India, Indonesia, Malaysia and the Philippines (Conservation International, 1998). The Asia-Pacific region contains the largest amount (42%) of the world’s remaining mangrove forests and coral reefs—the rainforests of the sea (Giri et al., 2011) compiled using disparate geospatial data sources and national statistics, need to be improved. Here, we mapped the status and distributions of global mangroves using recently available Global Land Survey (GLS).

However, increasing resource demand is putting these ecosystems under extreme pressure and leading to large biodiversity loss. Countries in East Asia and the Pacific are losing at least 0.6% percent of their forest cover each year—almost three times the global rate of forest loss (World Bank, 2006). In the Coral Triangle situated in the Western Pacific ocean, over 40% of coral reefs and mangroves have disappeared in the last 40 years, resulting in declining fish stocks (ADB & WWF, 2012). From 2002-2009, nearly 2,500 species in Asia and the Pacific were recorded in the Red List of the International Union for Conservation of Nature and Natural Resources (IUCN) as “critically endangered”, “endangered” or “vulnerable” (UNEP, 2010). Conservation activities are progressing relatively slowly in the region due to various issues such as a lack of awareness, funding, capacity, and technology (Ibid).

Changes to biodiversity/ecosystems, impacts of climate change and changes in human society are interconnected and all of them affect each other in direct and indirect ways. Sound environmental management can provide opportunities for tackling climate change and biodiversity loss, two of the biggest global challenges we face today in terms of securing a sustainable future.

This is where ecosystem-based approaches to adaptation fit in. For example, REDD+ strategies go beyond simply trying to stop deforestation and forest degradation, and include the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in reducing emissions. Another example is the protection of marine biodiversity, including through control and management of marine invasive species, which is crucial to fisheries, shipping and coastal management.

To ensure the success of ecosystem-based approaches, effective implementation of planned projects is imperative. Further capacity building, technology transfer, and funding are urgently needed. Local ownership needs to be increased through integrating livelihoods approaches into conservation projects. And last but not least, it is also important to engage the private sector.

## ► 4. Country Presentations

### 4.1 Lao PDR

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*Bounyaseng Sengkhamy, APN SPG Member for Lao People's Democratic Republic*

Lao PDR is a landlocked country bordering Myanmar, Cambodia, China, Thailand and Viet Nam, with a population of about 6.25 million, of which 67% live in rural, largely mountainous areas. Lao PDR is rich in biodiversity, with an estimated 8,000 to 11,000 species of flowering plants, and a fauna that comprises a reported 166 species of reptiles and amphibians, 700 species of birds, 90 known species of bats and over 100 species of large mammals. About 500 indigenous fish species are reported to live in the Mekong and its tributaries in Lao PDR. And the centre of origin of the glutinous rice types is recognised to be within Lao PDR and northern Thailand.

In 1996, the Government of Lao PDR acceded to the United Nations International Convention on Biological Diversity (CBD) and ratified its implementation. The National Biodiversity Strategy and Action Plan (NBSAP) helps to outline the issues, goals and actions needed to protect biodiversity resources and ensure their sustainable use. In June 2004, the Decree on Agreement and Endorsement of the National Biodiversity Strategy to 2020 and Action Plan to 2010 (NBSAP) was signed, with the goal to maintain biodiversity as a key to poverty reduction and to the protection of the current asset base of the poor.

In order to achieve the goal and objectives of the Strategy and Action Plan, it is necessary to define and implement the following programmes: scientific data and biodiversity knowledge development, biodiversity management, human resource development, public awareness and involvement, institutional and legal frameworks, NBSAP implementation, and international cooperation. In Lao PDR, a multi-stakeholder approach is applied to biodiversity and ecosystem services management, involving the Ministry of Natural Resources and Environment, Ministry of Agriculture and Forestry and other relevant ministries, local government departments, international organisations and non-governmental organisations.

### 4.2 The Philippines

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*Leuvina M. Tandug, SPG Alternate for the Philippines*

The Philippines contains two-thirds of the earth's biodiversity and between 70% and 80% of the world's plant and animal species (DENR, UNDP, ACB, & ADMU, 2009). It became a signatory to the CBD in 1992, and in the same year the government introduced the National Integrated Protected Areas System. To date, there are 240 protected areas in Philippines, covering a total area of 35,700 km<sup>2</sup> for terrestrial, coastal and marine ecosystems.

Among them, 206 are designated Key Biodiversity Areas (KBAs)—sites that are globally vulnerable, irreplaceable, and are the last strongholds for many threatened and geographically concentrated species.

Approaches to reduce biodiversity loss include ambitious and effective reforestation, a nation-wide greening programme, research and development on non-timber forest products, as well as legal and institutional framework for preventing illegal logging, conserving natural resources and species, managing river basins, among others. Ecotourism is also being mainstreamed in community-based natural resource management to improve local livelihood and sustainably manage natural and cultural resources.

An invasive alien species (IAS) framework is set up to enhance collaboration among the government, private sector, academia, local government units and local communities, and review of IAS status is included in the country and national risk assessments to support the development of a national policy and action plans.

Climate change would induce changes in the timing of biological events, species distribution and behaviour, increased vulnerability of species to extinction, increased pests and diseases intensity, and the potential reduction in ecosystem productivity. To reduce the risk of such changes an integrated framework is in place that combines adaptation with mitigation to climate change.

There is a need for more intensive research on how to stem the loss of biodiversity and move towards sustainable development, how to effectively communicate strategies for biodiversity conservation, and how to replicate indigenous sustainable utilisation of natural resources for biodiversity conservation. Capacity development is needed to develop strategies to control and manage IAS, to improve capacities on taxonomic and scientific monitoring, and to utilise biodiversity monitoring systems for sustainable biodiversity and ecosystems management.

### 4.3 Republic of Korea

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*Soojeng Myeong, SPG Member for Republic of Korea*

The Republic of Korea (ROK) is rich in biodiversity especially in the mountainous areas where major national parks are located, islands surrounding the Korean peninsula, and along the Korean Demilitarised Zone. The number of species indigenous to Korea has been estimated to be over 100,000, among which 39,150 species have been found.

To reduce biodiversity loss, the government issued major ordinances on biodiversity, which are enforced by the Ministry of Environment and other governmental departments such as the Ministry for Food, Agriculture, Forestry and Fisheries; the Ministry for Food, Agriculture, Forestry and Fisheries; the Ministry of Education, among others.

#### **Online Resources:**

National Biological Resources Integrated Management System: [www.kbr.go.kr/english](http://www.kbr.go.kr/english)

National Environmental Impact Assessment Support System: <http://www.eiass.go.kr/english/index.do>

A National Biodiversity Center was established in 2013 to manage systematic conservation and management, and the sustainable use of biodiversity. It is operated under the supervision of the National Institute of Biological Resources (NIBR), and supervises and manages biodiversity centres of other governmental ministries. The

objectives of the National Biodiversity Center are to manage an integrated system for information sharing; to establish a system to share information related to national biodiversity; and to promote collaboration with biological resource-related institutions.

The National Biological Resources Integrated Management System was established to connect data collection, management and application for government agencies, research institutes, industry, and the general public.

International cooperation is needed to monitor biodiversity distribution in the Asia-Pacific region, develop maps of the region's biodiversity, build models for major species movements due to climate change, and develop general strategies for international cooperation. There is also a need to jointly monitor vector-borne disease, study their spread caused by climate change, and similarly, develop international mechanisms for such joint efforts.

#### **4.4 Sri Lanka**

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*K. Ajith I. D. Silva, nFP Alternate for Sri Lanka*

Biodiversity conservation and ecosystem services management are a state priority in Sri Lanka, whose political willingness and leadership is included in the National Development Policy Framework. They are incorporated in policies, acts and ordinances in a wide range of sectors including agriculture, livestock, fishery, eco-tourism, watershed management, land use and bio-safety, which are implemented by relevant national institutions in a collaborative manner.

Sri Lanka is also party to major biodiversity-related international treaties, conventions and multilateral and bilateral agreements, under which many projects are ongoing in collaboration with the international community.

Through strategic assessments, national consultation, public-private partnerships, etc., the country incorporates biodiversity and ecosystem services in the process of policy implementation and practice.

The economics of biodiversity and ecosystem services, its links to adaptation and mitigation, impact assessments, and capacity-building and awareness-raising, are considered among the major areas where APN members can work together under the umbrella of biodiversity and ecosystem services.

#### **4.5 Russian Federation**

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*Andrey V. Adrianov, nFP for Russian Federation*

Russian Federation has the largest area of protected natural reserves in the world, with almost half of its territory free from the burden the presence of man and technology. Russian forests and permafrost bogs, where all decomposition processes are slowed down, are the main suppliers of oxygen to the planet.

In the Arctic area occupying a large portion of the Russian seas and territory, some of the most rapid ecological changes associated with warming have occurred in marine and freshwater environments. The Arctic biodiversity will be impacted by multiple stressors including climate change, leading to changes in distribution, ranges and abundance of species, decline in genetic diversity and changes in the behaviour of migratory species.

One of Russia's potentials for green investment is in its ecosystem services, which includes services from forests, wetlands and other natural ecosystems. However, as the majority of such reserves are located in those areas undisturbed by human activity, their large-scale development could have a negative impact on the global eco-

logical balance. Careful management of the country's valuable ecosystems would make Russia a major provider of ecosystems services, in addition to a producer of traditional forms of energy.

Russia has rich experience in biodiversity conservation—the current system of specially protected natural territories (EPNT) in Russia has been in place for about 100 years and now comprises more than 13,000 sites, covering about 11% of Russia's territory. A “Red Book” is being maintained, which provides data on the status of endangered plant and animal species for decision-making.

National and sub-national policies are in place for the implementation of biodiversity conservation. A strong control system for trade in rare species is being implemented under the framework of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In addition to international treaties, Russia is developing and implementing national policies and programmes, based on international norms and giving special consideration to the specific lifestyles of indigenous people, to address climate-induced threats to biodiversity loss, socioeconomic factors of biodiversity, among others.

Potential activities under the APN Biodiversity and Ecosystems Services framework include:

- Biological safety of the Northern Pacific;
- Sustainable use of biological resources and improving fisheries; and
- Anthropogenic pollution of the marine environment, the transboundary transport of pollutants from adjacent areas, and their impact on marine biodiversity.

## ► 5. APN Biodiversity and Ecosystems Services Framework

*Andrew Matthews, APN Steering Committee Member*

A series of meetings and workshops since February 2011 has identified important existing gaps for the Asia-Pacific region requiring attention through comprehensive scientific research, capacity development and science-policy mechanisms. With input from key experts from ASEAN ACB, DIVERSITAS, GEOBON, ICSU, MSU, UNU, among others; the gap analysis report outlines important thematic areas and key activities for the region, and underscores the need for APN to effectively align its scientific theme of Biodiversity, Ecosystems and Land Use with the international arena, importantly the work of UNCBD, Millennium Ecosystems Assessment, such as the impact of degrading ecosystems on the ability to achieve the Millennium Development Goals; UNFCCC through decisions on REDD+ mechanisms, ecosystems-based approaches to climate adaptation, among others ; UNCSD Rio+20; and IPBES, especially in this “United Nations Decade on Biodiversity 2011-2020”.

APN invites member countries, stakeholders, the donor and international research communities, etc., to propose collaborative activities that will provide opportunities, particularly in developing countries, to engage in activities under its B&ES Framework.

Encompassing a range of comprehensive, regional-based and collaborative scientific research, capacity development, and science-policy mechanisms, “thematic gaps” will include, broadly speaking:

Four main research themes:

1. Identification of drivers and pressures for biodiversity change that influence ecosystem services (land-use change; climate change, etc.);

2. Assessment of the impacts of biodiversity loss and vulnerability to the shrinking of ecosystem services;
3. Prediction of changes in biodiversity and ecosystem services through model-based scenarios; and
4. Adaptation, response and mitigation of the depletion of biodiversity and ecosystem Services;

Some of the key activities related to the above four themes are outlined in the Opportunity Paper that is available from the APN Secretariat. Activities of interest include:

5. **Awareness raising and activities that link and/or develop networks:** Research on the effectiveness of conservation education/awareness raising and capacity building on diversity in nature at all levels of biological organisation; Traditional knowledge and culture in nature conservation and management; Joint curriculum development or instructional material development; Updating stakeholders on more recent developments in research on the fundamental importance of diversity in nature and ecosystems; Improving standards of professional environmental practice; Making more visible the connections between losses in diversity at all levels of biological organisation and human well-being.
6. **Training:** Developing capacity for scenario-development tools, training on predictive modelling and systems analysis at various scales; Training to evaluate diversity and ecosystem services for incorporating into decision-making systems and models.
7. **Science-policy mechanisms:** Developing appropriate tools and processes to facilitate policy- and decision-making based on complex scientific understanding; Research to better understand the needs of policy makers and the private sector on biodiversity and ecosystem services; Research to better understand how to facilitate engagement and support of the private sector in education on biological diversity and nature conservation; Promoting research that is holistic, integrated and interdisciplinary in approach; Enhancing awareness of different types of uncertainties for model-based forecasts.

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# Section II

## Opening and Welcome Remarks



# OPENING REMARKS BY DR. RYUTARO YATSU, VICE MINISTER FOR GLOBAL ENVIRONMENT AFFAIRS, MINISTRY OF THE ENVIRONMENT, JAPAN

Honourable Governor of Hyogo Prefecture, Mr. Toshizo Ido, honourable Mr. Sundara Sem, Chair of the Steering Committee of APN, distinguished national Focal Points and Scientific Planning Group members, ladies and gentlemen,

A warm welcome to Kobe, Hyogo, Japan. It is my honour to host the APN IGM/SPG Meeting in Japan, 5 years after the 13th IGM/SPG Meeting, which was held here in Kobe in 2008.

If senior members of APN recall, I was Director of the APN secretariat from July 2000 to June 2002. Today, I am very happy to welcome all of you on behalf of the Government of Japan and in the capacity of the Vice Minister for Global Environment Affairs, Ministry of the Environment of Japan.

For APN's success over these years, I would like to extend my sincere appreciations, firstly, to its donors — to honourable Governor Ido for Hyogo Prefecture's contribution since the very beginning of the history of APN, to the United States National Science Foundation for the initiative and continued support and active contribution over the years, and to the Ministry of Environment of the Republic of Korea, and the Ministry for the Environment of New Zealand, for their committed support for enhancing APN activities.

Likewise, APN could not have achieved its status and reputation today without the ambition of those scientists and policy makers who play a leading role. My sincere gratitude also goes to all stakeholders who kindly cooperate with the APN, and the staff members at the APN secretariat for their great support to organise this meeting.

It is my great pleasure that today the APN membership has expanded to 22 countries, and that it

has earned a great reputation in supporting global change research and capacity building in the Asia-Pacific region. Another cheerful aspect is that there are so many participants in this meeting.

APN was established in 1996 as a research network in the Asia-Pacific region in accordance with a decision at the "White House Conference on Science and Economics Research Related to Global Change" held at the U.S. Executive Office of the President, and the "U.S.-Japan Partnership for the Advancement of Science, Technology, and the Environment" in 1992.

Then in 1999, with a great contribution of the Hyogo Prefecture, the APN centre as a secretariat was established. And the very next year, 2000, I came to assume the position of Director of the secretariat.

In 2002, the World Summit on Sustainable Development (WSSD) in Johannesburg decided to establish regular channels between policy makers and the scientific community, and to create and strengthen networks for science and education for sustainable development, with the aim of sharing experiences and best practices, and building scientific capacities, particularly in developing countries.

In response to this decision, the Government of Japan collaborated with APN and created the CAPABLE programme.

Since then, Japan has continued to support regional cooperation, taking into consideration international development such as the G8 Hokkaido Toyako Summit in 2008, UNFCCC COP15 in 2009, CBD COP10 in 2009 and so on.

The importance of scientific evidence for policy-making process in order to address global warming has recently been emphasised. MOEJ continues

to support research activities which will lead to national and international policy making.

Also, in 2008, G8 countries agreed to cut GHG emissions in the world by 50% by 2050. In response, Japan has supported to establish and manage a research network.

As the fastest growing region in the world, Asia needs to be transformed into a low carbon society. Under these circumstances, MOEJ proposed to establish a regional research network at the ASEAN+3 Environment Ministers Meeting, following which, in 2012, the Low Carbon Research Network (LoCARNet) was established. APN has been collaborating with LoCARNet since its foundation, which will lead to a complementary effort that contributes to GHGs emission reduction in the region.

In this connection, I am pleased to learn that at this IGM/SPG, there will be presentations on approved projects under the APN Low Carbon Initiative framework.

On the other hand, at the 17th Conference of the Parties to the UNFCCC, climate change adaptation became a focus of the Cancun Agreement. Particularly in Asia and the Pacific, there are great needs for taking adaptation measures in response to the impacts of climate change. I recognise that studies in this field have been conducted to some extent. Under these circumstances, I highly appreciate that there have been discussions, since last year, on APN's strategic and significant activities on climate change adaptation.

MOEJ has supported, since 2009, the Asia Pacific Adaptation Network (APAN) under the Global Adaptation Network of United Nations Environment Programme. As some of our distinguished participants are aware, the Third Climate Change Adaptation Forum was held last month in the Republic of Korea, as an annual event of APAN. This Forum is the biggest event in the field of adaptation, and I would appreciate APN to further strengthen its partnership with APAN in order to share scientific experiences and research results, which has been and will increase the presence of APN in the international climate change adaptation community.

Also, as most of you may know, the AR5 process of IPCC has been ongoing, and in March 2013, Japan will host the 38th Session of the IPCC Working Group II on Impacts, Adaptation and Vulnerability in Yokohama. Japan is looking forward to strengthened adaptation actions in the Asia-Pacific region through APN activities.

Loss and Damage associated with climate change impacts was one of the focused issues at the UNFCCC COP 18. The Asia-Pacific region is particularly vulnerable to climate-induced disasters and frequently suffers.

Japan also sustained damages from the Great East Japan Earthquake two years ago. I would like to take this opportunity to express our sincere gratitude for the valuable and generous support from all over the world. Kobe was hit by the Great Hanshin-Awaji Earthquake 18 years ago, and it has been reconstructed as you see now.

Japan has rich experience and knowledge in disaster prevention and disaster risk reduction. It is our pleasure to make them regional common resources and we expect APN's initiative and to cooperate with other networks to share the knowledge and experience.

Of course the APN science agenda goes beyond climate change issues. In the ecosystem and biodiversity field, discussion to start activities of IPBES has just been initiated. MOEJ, in collaboration with the Ministry of Environment of Republic of Korea and the United Nations University, is planning to hold a scoping workshop to discuss the regional activities for IPBES.

In addition to that, there are many problems needed to be considered in the region, regardless of borders, such as trans-boundary air pollution issues. APN activities are expected to contribute to resolve these problems.

I wish every success of the meeting and look forward to many fruitful discussions and productive results from all participants. Thank you.

# ADDRESS BY MR. TOSHIZO IDO, GOVERNOR OF HYOGO PREFECTURE

Good morning everyone. It is my great pleasure that the 18th Joint IGM/SPG Meeting is being held in Kobe, Hyogo today. I would like to extend a heartfelt welcome to you all.

This winter was a harsh one followed by the sudden arrival of spring in March, so unfortunately the cherry blossoms reached their peak about a week ago. Usually, the area surrounding the hotel would have been full of cherry blossoms by this time of the year. I know this meeting is being held here in Kobe after five years of absence, but I welcome you to hold it again next spring when the cherry blossoms will be in full bloom.

The establishment of the APN Secretariat in Kobe came as the result of fierce competition among various candidates, and I am grateful for the fact that I was able to play an important role in successfully bringing the secretariat to Kobe.

Following the Great Hanshin-Awaji Earthquake 18 years ago, various international organisations in fields such as disaster risk reduction, adaptation to climate change and public health were established one after another, including the World Health Organisation Kobe Centre and the APN Secretariat. Their presence contributed greatly to encouraging local communities to recover from the damage and loss caused by the earthquake. The United Nations World Conference on Disaster Reduction (UNW-CDR) was convened in Kobe to mark the 10th anniversary of the Great Hanshin-Awaji Earthquake, and the Hyogo Framework of Action (HFA) was adopted. The HFA became the international guideline for countries around the world who sought to increase their resilience to natural disasters. The world is now seeking a post-Kyoto Protocol framework to counteract global warming. Hyogo Prefecture has achieved an 8% cut of greenhouse gas emissions compared to the level in 1990. The industrial sector

played a significant role; while it is responsible for the majority of CO<sub>2</sub> emissions, it is now encouraging households as well as workplaces to cut down their own emissions. We plan to work out a strategic plan regarding energy by the end of this June. Although there are no nuclear power plants in Hyogo, thanks to more than 20 solar panel projects, a pumped-storage hydroelectric power generation plant of 3.4 million kW, two thermal power plants in Himeji and Ako, and a 1.2 million kW coal-fired power plant in Kobe, we are a major power generating area. As we recognise ourselves as an important power supplier, we are also aware of our responsibilities to be environmentally conscious. As such, Hyogo continues to be committed to adopting proactive environmental policies.

Finally, I hope that this meeting will serve as a platform to exchange ideas and new information among those in attendance and that, as we look towards a post-Kyoto Protocol framework, you will gain understanding of ideas from around the world.

## WELCOME REMARKS BY MR. SUNDARA SEM, nFP FOR CAMBODIA AND CHAIR OF THE STEERING COMMITTEE

His Excellency Dr. Ryutaro Yatsu, Vice Minister, Ministry Of Environment, Japan; His Excellency Mr. Toshizo Ido, Governor of Hyogo Prefecture; Mr. Hiroshi Tsujihara, APN national Focal Point for Japan; Dr. Akio Takemoto, Director of APN Secretariat; honourable APN delegates, distinguished guests, ladies and gentlemen,

It is a great honour and privilege in my capacity as the national Focal Point of the Asia-Pacific Network for Global Change Research (APN) for Cambodia, and on behalf of the APN Steering Committee Members, to offer the welcome remarks during the opening session of the APN 18th Inter-Governmental Meeting (IGM) and Scientific Planning Group Meeting (SPG) today in Kobe, a beautiful city of Japan.

Taking this opportunity, I would like to express my heartfelt admiration to Excellencies, ladies and gentlemen, the nFPs, SPGs, experts, SC members, CDC members, and APN Secretariat Director and staff for their efforts in fulfilling their duties and achieving fruitful results, special thanks to the Ministry of Environment of Japan (MOEJ) through H.E. Dr. Ryutaro Yatsu, Vice Minister, MOEJ and Hyogo Prefectural Government through H.E. Mr. Toshizo Ido, Governor of Hyogo Prefecture for support and hosting the 18th IGM/SPG Meeting, which is very important for considering and approval of the annual financial report and budget plan for the APN, programme and project activities relevant to climate change to be undertaken by the APN, and in particular supporting regional cooperation in global change research on issues relevant to the region.

At the same time, I highly appreciate concerned institutions, the scientific community, as well as development partners at all levels for their good cooperation and support to the APN Secretariat in performing its duties successfully to the global

change research through the Annual Regional Call for Research Proposal (ARCP) Programme and the Scientific Capacity Building for Sustainable Development in Developing Countries (CAPaBLE) Programme.

I would also like to express my deep thanks to country donors and financial institutions such as Government of Japan (Ministry of Environment and Hyogo Prefectural Government) , USA (National Science Foundation/United States Global Change Research Program), Government of New Zealand (Ministry of Environment), Republic of Korea (Ministry of Environment) and other partners for their support and assistance to the APN's activities in global warming research in the region related to climate, ecosystems, biodiversity and land use, change in atmospheric, terrestrial and marine domains, use of resources pathways for sustainable development and crosscutting and science-policy linkages; And of course, I also would like to sincerely thank the APN country members for their kind contributions and assistance through the nFP and SPG members to the APN Secretariat. Without them, the APN would not be able to complete and succeed in its duties.

We are pleased to welcome on board new national Focal Points, Focal Point Alternates, SPG Members and APG Alternates to this IGM/SPG Meeting, and to the APN Collaboration. We sincerely appreciate your experience and expertise that are crucial to the APN, and we eagerly look forward to working closely with you and creating positive impacts in the science and policy community at national and international levels.

Excellencies, ladies and gentlemen,

We are aware that global change in terms of social, economic and environment have the great consequence to mankind, particularly to the people living

in the Asia-Pacific region, which is the most diversified region in every dimension. Currently, global warming or the climate change problem is one of the most serious threats to the people around the world. Asia-Pacific is also one of the most vulnerable regions. Therefore, serious concerns have been taken in order to formulate the policy to tackle the problems, both in terms of mitigation and adaptation.

APN is one of the well-known networks that encourage and promote researches in global changes in the Asia-Pacific region. Numerous research projects on global change have been supported to implement in the region since APN established. At the same time, many training courses and seminars on climate change issues have been conducted by the APN to improve and strengthen capacity building in the region. It has been proven that networking is one of the efficient mechanisms that significantly contribute to the achievement of combating global warming in the region.

In pursuit of APN's strategic goal of maintaining and strengthening cooperation with other global change networks and organisations at the international level, we are currently working in close cooperation with the ICSU Regional Office for Asia and the Pacific (ICSU-ROAP) towards contributing to the design and development of the global Future Earth initiative, which is a new 10-year international initiative on Earth system research for global sustainability. At that time, APN and the University Network for Climate and Ecosystem Change Adaptation Research (UN-CECAR), a joint initiative of over 20 leading universities across Asia, are co-organising a training course on adaptation planning and implementation to raise the capacity of scientist and practitioners involved in the policy-making process on adaptation.

Moreover, Climate adaptation has long been an important area of the APN work programme and this year, under the new Climate Adaptation Framework, we have started renewed efforts to address research, policy and capacity needs in the region, by expanding partnership opportunities to build on one another's knowledge and resource base and working with key

partners in the climate adaptation domain to provide a series of training courses and workshops for scientists and practitioners in Asian countries. As a result of the discussions at the APN-ICAS Scoping Workshop to Enhance the Climate Adaptation Actions of APN Developing Countries, the APN will establish a multi-year strategic programme focusing on climate adaptation from FY2013 (April 2013), pending resource availability. This new programme aims to enhance science-based adaptation activities of APN developing countries and comprises of the following components: i) Regional research programme that has a capacity building element; ii) Capacity building programme, including projects at national and sub-national scales; and iii) Activities jointly conducted with other organisations and networks.

In addition, the APN has created and supported a new programme on Low Carbon Initiative and recently the Steering Committee has endorsed the fund for project implement according to the project calls for proposal done by the APN Secretariat. APN has invited shortlisted proponents to submit full proposals for further review. Also, as part of the main activities under the Low Carbon Initiatives programme, we are proud to have worked in collaboration with the Low Carbon Asia Research Network (LoCARNet) to successfully organise its first annual meeting to address a variety of themes including integrated assessment models (IAMs), land use and forestry, greenhouse gas inventories, low carbon cities, local level initiatives, green growth and technology; and brought together scientists, policy makers and major stakeholders to explore ways for enhanced interaction and synergy.

Excellencies, distinguished delegates, ladies and gentlemen,

The APN 22nd SC meeting was successfully held from 31 October to 1 November 2012 in Kobe, Japan and 23rd SC meeting was successfully held yesterday on 9 April 2013 in the ANA Crown Plaza Hotel, Kobe, Japan, delivering new momentum for the APN to move along a more clearly defined scientific and institutional pathway in its achievement of the



goals set forth in the Third Strategic Plan, especially in the lead up to the APN's 18th IGM/SPG Meeting today.

Taking this opportunity, I am pleased to inform you honestly about the APN's core activities related to science, policy, and institutional activities which were considered and approved by the 17th IGM/SPG meeting in Jakarta, Indonesia last year in March 2012. These were completed successfully based on the action plan and Third Strategic Plan. More detail of these activities will be given as I myself will present and report to you later on as stated in Item 2 of the agenda of this meeting.

I hope that the APN 18th IGM/SPG Meeting serves as an enlightened bridge for the practical collaboration and coordination of APN performance and activities to move forward the attainment of APN's strategic plan. I am quite confident that the outcomes of this meeting will pave the way to betterment of our cooperation among APN member countries in the region and across the world.

Once again, on behalf of the SC Members, and I myself would like to express my sincere appreciation to nFP and SPG members from all APN member countries, SC members, CDC members, APN partners and stakeholders, and of course the APN Secretariat, especially Dr. Akio Takemoto, Director, Dr. Linda Anne Stevenson, Executive Science Officer, Mr. Yukihiro Imanari, Executive Manager, Mr. Xiang Deng, and all APN's colleagues who have worked very hard for APN's success. Especially, thanks to the Ministry of Environment of Japan for hosting this important IGM/SPG Meeting.

I also would like to take this opportunity to extend sincere thanks to funding agencies and country donors, and hope they will be continuing to support APN's activities.

Finally, may I take this opportunity to wish your Excellencies, ladies and gentlemen great success and fruitful discussions in this meeting and to have a very pleasant and joyful stay in Kobe, Japan. Thank you.

## **OPENING REMARKS BY DR. AKIO TAKEMOTO, APN SECRETARIAT DIRECTOR**

Honourable Dr. Ryutaro Yatsu, Vice-Minister for Global Environmental Affairs, Japan; honourable Mr. Toshizo Ido, Governor of Hyogo Prefecture, Japan; honourable Mr. Sundara Sem, Director, Department of ASEAN and International Cooperation, Ministry of Environment, Kingdom of Cambodia; distinguished national Focal Points and Scientific Planning Group members of the APN; invited experts, ladies and gentlemen,

Good morning. At the opening of the APN's 18th Joint Inter-Governmental Meeting (IGM) and Scientific Planning Group (SPG) Meeting, I would like

to express my special thanks to all participants who have travelled far and wide to visit Kobe. Secondly, I would like to express my sincerest appreciation to Ministry of the Environment, Japan and the Hyogo Prefectural Government for hosting this important meeting.

On behalf of the APN Secretariat, I am honoured that we are holding the Joint IGM/SPG meeting in Kobe, where the Secretariat is based. Looking back into the history of APN, I learned that Kobe has hosted three IGM/SPG meetings before the present one. The first one was the 4th IGM/SPG in 1999, the

year the Secretariat was relocated to Hyogo. The other one was the 10th meeting, which marked the 10th anniversary of APN and the establishment of the Steering Committee.

I recalled that I myself attended the meeting as Deputy Director of Research and Information Office at MOEJ with Mr. Kazu Takemoto, or Senior Takemoto, who is attending today as a Steering Committee member. The Meeting very successfully concluded, a major outcome being the establishment of the Steering Committee, which led to a better organisational structure of APN.

The third meeting in Kobe was the 13th IGM in 2008, when the international community was paying special attention to the Toya G-8 Summit as well as the G8 Environment Ministers Meeting here in Kobe to talk about the Environment Agenda, including a long-term goal for stabilising greenhouse gas concentration.

And today's meeting is the fourth meeting in Kobe. The aforementioned history of IGM makes it clear that they have contributed to accelerating environment policies in Asia-Pacific regions.

So, what outcomes can we expect from today's IGM/SPG?

In recent years, we are experiencing severe global environmental change including natural disasters such as heavy rain, floods, strong winds, heat waves, which are now ubiquitous everywhere in the region. One of Hyogo's traditional industries is Sake brewing, which is rice wine. This is thanks to the very good water running across Rokko mountain ranges and the mild climate for growing rice; I heard however, it has become hard to produce good sake because rice production is affected by the abnormal increase of temperature.

We can identify lots of similar climate impacts and loss and damage caused by extreme climate events, and this is high time for APN to engage more in climate adaptation, disaster risk reduction and loss and damage under the Adaptation Framework.

Another global environmental issue people pay increased attention these days is low carbon development. Hyogo prefectural government is very active in promoting renewable energy, particularly solar energy to industries, commercial and public sectors to address climate change and energy security.

To facilitate information sharing in this regard, the APN organised an international Symposium in Kobe last February. It was successful in providing the latest knowledge on deployment of renewable energy in Japan and other Asian countries. I hope that our Low Carbon Initiative Framework launched last year will enhance low carbon research and capacity building activities, which will in turn contribute to low carbon policies in the region.

We can also expect an outcome related to ecosystem and biodiversity. Hyogo Government is engaging satoyama activities, which can contribute to enhancing regional and global research and capacity development activities through APN's ecosystem and biodiversity framework.

Ladies and Gentlemen, I believe that APN has unique strengths. One of them is continuity. APN has been continuously conducting global change research activities in developing countries for more than 17 years thanks to the strong support by member countries and the Hyogo prefecture. The other strength is ownership of developing countries. Their sense of ownership for APN has actually changed a lot over the past 10 years. Thanks to the active engagement of developing country members, we can accomplish our missions in a right way.

Finally, ladies and gentlemen, I hope that the 18th IGM/SPG Meeting will work towards a fruitful outcome, thanks to the continuous support and ownership by member countries, which will better address global change challenges in the region.

Thank you very much.

# Section III

Main Item Papers of the 18<sup>th</sup> IGM/SPG Meeting





**DRAFT AGENDA**  
**APN Joint 18<sup>th</sup> Inter-Governmental Meeting (IGM)/**  
**Scientific Planning Group (SPG) Meeting**  
**Kobe, Japan, 10-12 April 2013**

**Day One: Wednesday 10 April 2013**

<b>Session I: Inaugural Session</b>		Document Reference (Action)
09:00-09:20 (IGM/SPG)	<p><b>Opening Ceremony and Opening Address by Guests of Honour</b>  <i>Dr. Ryutaro Yatsu, Vice Minister, MOEJ</i>  <i>Governor Toshizo Ido, of Hyogo Prefectural Government</i></p>	
09:20-09:50 (IGM/SPG)	<p><b>Welcome Remarks</b>            Mr. Sundara Sem, APN Steering Committee Chair            Dr. Akio Takemoto, APN Secretariat Director</p>	
09:50-10:00	<p><b>Group Photograph</b>            All members, experts, guests and staff have a group photograph taken.</p>	
10:00-10:20	<p><i>TEA/COFFEE BREAK (20 minutes)</i></p>	
<b>Session II: Institutional Issues</b>		
10:20-10:40 (IGM/SPG)	<p><b>Participants' Self-Introduction</b>            All participants, via a <i>tour de table</i>, will introduce themselves and their affiliation.</p>	
10:40-10:50 (SPG observes)	<p><b>Election of Chair and Vice-Chair</b>            IGM delegates will elect a Chair and a Vice-Chair. SPG members, experts and guests observe this session.  <u><i>SPG members, experts and guests observe this session</i></u></p>	
10:50-11:00 (IGM/SPG)	<p><b>Item 1: Adoption of the Draft Agenda</b>            The elected Chair of the meeting will seek adoption of the agenda. Items of Any Other Business (AOB) may be raised.</p>	<p style="text-align: center;"><i>Item 1:</i>  <b>IGM-SPG/18/01</b>            (for adoption)</p>
11:00-11:20 (IGM/SPG)	<p><b>Item 2: 2012 Activities &amp; Action Points</b>            APN Steering Committee Chair and nFP for Cambodia, Mr. Sundara Sem, with support from the APN Secretariat will report the main highlights and activities of the APN from April 2012 to March 2013.</p>	<p style="text-align: center;"><i>Item 2:</i>  <b>IGM-SPG/18/02</b>            (for information)</p>

11:20-11:40  
(IGM/SPG)

**Item 3: APN Membership & Framework Document**

Mr. Xiaojun Deng, Programme Officer for Communications & Development will briefly report on APN Membership and introduce new APN Members. Mr. Lou Brown, on behalf of the SC, will introduce an item related to the Framework Document for further discussion and approval on Friday 12 April.

11:40-12:00  
(SPG observes)

**Item 4: Financial Reports**

Mr. Yukihiro Imanari, Executive Manager, will present a final financial report for 2011/12 for approval by the IGM and a draft financial report for 2012/13. SPG members, experts and guests observe this session.

12:00-13:00

*LUNCH (60 minutes)*

13:00-14:20  
(IGM/SPG)

**Item 5: New & Continuing Activities**

A number of proposed continuing and new activities for 2013/14 will be presented for discussion and approval.

***Budgets for the activities will be requested for approval under Item 6.***

**5.1 Sub-regional Science-Policy Dialogues (SPDs)**  
(15 min) Dr. Linda Anne Stevenson, Executive Science Officer

**5.2 Biodiversity & Ecosystems Services Framework**  
(15 min) Dr. Andrew Matthews, Invited Expert to the SC

**5.3 UNFCCC SBSTA & Research Dialogues**  
(10 min) Dr. Andrew Matthews, Invited Expert to the SC

**5.4 New Hyogo Activities**  
(15 min) Dr. Akio Takemoto, Secretariat Director

**5.5 Climate Adaptation Framework, Disaster Risk Reduction, Loss & Damage**  
(15 min) Dr. Akio Takemoto, Secretariat Director

**5.6 Focused Publications**  
(10 min) Dr. Linda Anne Stevenson, Executive Science Officer

14:20-14:50  
(SPG observes)

**Item 6: Proposed Work Programme and Budget Plan (2013/14)**

Mr. Yukihiro Imanari will propose the APN 2013/14 budget plan for discussion and approval. SPG members, experts and guests observe this session.

14:50-15:10

*TEA/COFFEE BREAK (20 minutes)*

**Item 3:**  
**IGM-SPG/18/03-01**  
(for information)  
**IGM-SPG/18/03-02**  
(for approval on Friday 12 April 2011)

**Item 4:**  
**IGM-SPG/18/04-01**  
**IGM-SPG/18/04-02**  
(for approval)

**Item 5**

**IGM-SPG/18/05-01**  
(for discussion and approval)

**IGM-SPG/18/05-02**  
(for discussion and approval)

**IGM-SPG/18/05-03**  
(for discussion and approval)

**IGM-SPG/18/05-04**  
(for discussion and approval)

**IGM-SPG/18/05-05**  
(for discussion and approval)

**IGM-SPG/18/05-06**  
(for discussion and approval)

**Item 6:**  
**IGM-SPG/18/06**  
(for discussion and approval)

**Session III: Parallel Sessions**

15:10-16:40  
(IGM/SPG)

**Item 7: Parallel Sessions: Sub-Regional Cooperation**

Members will break into sub-regional groups to discuss issues of mutual importance, action and development from recent sub-regional meetings. The Chairs of the Southeast Asia, South Asia and Temperate East Asia regional committees will report back to the IGM on Friday 12 April under Items 10, 11 and 12.

**Item 7:**  
**IGM-SPG/18/07**  
(for information)

*(Agendas for the SRC Meetings will be provided separately.)*

**Interactive Session I: Climate Adaptation for Disaster Risk Reduction, Loss & Damage**

17:00-18:30  
(IGM/SPG)

*Moderators:*  
Mdm Hermien Roosita (nFP Indonesia)  
Dr. Akio Takemoto

See information provided separately

**Interactive Session II: Networking and Poster Presentation**

18:30-20:00  
(IGM/SPG)

Global Change Community Exhibit, APN Low Carbon Development Display, and Young Scientists GC Poster Competition (Mitra Award)

See information provided separately

20:15-

*Reception Dinner*

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

**DRAFT AGENDA**  
**APN Joint 18<sup>th</sup> Inter-Governmental Meeting (IGM)/**  
**Scientific Planning Group (SPG) Meeting**  
**Kobe, Japan, 10-12 April 2013**

**Day Two: Thursday 11 April 2013**

**Session IV: Scientific Activities**

09:00-09:50  
(IGM/SPG)

**Item 8: APN Opportunity Fund (AOF)**

Dr. Linda Anne Stevenson will provide an update of the status of the AOF, including activities, strategies and criteria for allocation.

09:50-10:30  
(IGM/SPG)

**Item 9: Scientific Research and Capacity Building Priorities**

Dr. Madan Lall Shrestha and Dr. Alexander Sterin, SPG Co-Chairs, will report to the IGM on scientific research and capacity building priorities for 2013/14 and beyond.

10:30-11:00

*TEA/COFFEE BREAK (30 min)*

**Interactive Session III: Future of Global Change Research**

11:00-13:00  
(IGM/SPG)

Moderators:

Dr. Linda Anne Stevenson

Dr. Wan Azli Wan Hassan (nFP Alternate Malaysia)

Panel Discussion: Facilitated by Dr. Kazuhiko Takemoto & Dr. Andrew Matthews

13:00-13:05  
(IGM/SPG)

**Announcement of Best Poster**

The IGM Chair or Vice-Chair will announce the winner of the Mitra Award. He/she will receive the award and have the opportunity to provide a 20-minute presentation on Friday 12 April under Item 16.

13:05~

**LUNCH**

*Field Trip and/or Free Time*

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

**Document Reference**

(Action)

**Item 8:**  
**IGM-SPG/18/08**  
 (for information, discussion and approval)

**Item 9:**  
**IGM-SPG/18/09**  
 (for information and discussion)

(see information provided separately)



**DRAFT AGENDA**  
**APN Joint 18<sup>th</sup> Inter-Governmental Meeting (IGM)/**  
**Scientific Planning Group (SPG) Meeting**  
**Kobe, Japan, 10-12 April 2013**

**Day Three: Friday 12 April 2013**

<b>Session V: Sub-Regional Cooperation</b>		<b>Document Reference</b>
<i>09:00-9:20</i> <i>(IGM/SPG)</i>	<b>Item 10: Report from South Asia SRCom</b> Representative(s) of the South Asia Sub-Regional Committee (SA-SRCom) will report to the IGM the SASRC activities and plans.	(Action)  <i>Item 10:</i> <i>IGM-SPG/18/10</i> (for information and discussion)
<i>09:20-9:40</i> <i>(IGM/SPG)</i>	<b>Item 11: Report from Southeast Asia SRCom</b> Representative(s) of the SEA Sub-Regional Committee (SRCom) will report to the IGM the SEA-SRC activities and plans.	 <i>Item 11:</i> <i>IGM-SPG/18/11</i> (for information and discussion)
<i>09:40-10:00</i> <i>(IGM/SPG)</i>	<b>Item 12: Report from Temperate East Asia SRCom</b> Representative(s) of the TEA Sub-Regional Committee (SRCom) will report to the IGM the TEA-SRC activities and plans.	 <i>Item 12:</i> <i>IGM-SPG/18/12</i> (for information and discussion)
<i>10:00-10:20</i> <i>(IGM/SPG)</i>	<b>Item 13: Discussion on Sub-Regional Cooperation</b> The Chair and Vice-Chair will facilitate the discussion on SRC development in general, including for other sub-regions.	 <i>Item 13:</i> <i>IGM-SPG/18/13</i> (for information and discussion)
<i>10:20-10:50</i>	<i>TEA/COFFEE BREAK (30 min)</i>	
<b>Session VI: Recommendations for 2013 Projects</b>		
<i>10:50-11:50</i> <i>(SPG Observes)</i>	<b>Item 14: ARCP and CAPaBLE Recommendations for Funding</b> On behalf of the SPG and CDC, the SPG Co-Chairs will recommend ARCP and CAPaBLE Continuing Multi-Year Projects and New Projects for approval by the IGM. <u>SPG members, experts and guests observe this session.</u>	 <i>Item 14:</i> <i>IGM-SPG/18/14-01</i> <i>IGM-SPG/18/14-02</i> (for discussion and approval)
<i>11:50-12:10</i> <i>(SPG Observes)</i>	<b>Item 15: Election of Steering Committee Members</b> The Chair/Vice-Chair will facilitate the election of three national Focal Points as new members of the Steering Committee.	 <i>Item 15:</i> <i>IGM-SPG/18/15</i> (for discussion and approval)
<i>12:10-12:30</i> <i>(IGM/SPG guests/observers)</i>	<b>Item 16: Presentation from the Mitra Awardee</b> The IGM will present the Mitra Award for Best Poster and the winning young scientist will deliver a presentation about his research/work.	

12:30-14:00

*LUNCH (90 minutes)*

**Interactive Session IV: Biodiversity & Ecosystem Services**

14:00-15:30  
(IGM/SPG)

Moderators:

Mr. Hari Ghimire (nFP Alternate Nepal)

Mr. Bayarbat Dashzeveg (nFP Mongolia)

15:30-16:00

*TEA/COFFEE BREAK (30 min)*

**Session VII: Institutional Issues, Summary and Closing**

16:00-16:30  
(SPG observes)

**Item 17: Amendments to the Framework Document**

The Chair will revisit the Framework Document regards suggested amendments by the SC.

16:30-16:50  
(IGM/SPG)

**Item 18: 3SP Evaluation & 4SP Planning**

Mr. Yukihiro Imanari will present on the plan of work for 3rd Strategic Phase (2010-2015) Evaluation & 4th Strategic Phase (2015-2010) Planning, including science, membership and funding matters.

16:50-17:00  
(IGM/SPG)

**Item 19: Host Countries of 19th IGM and beyond**

Dr. Akio Takemoto will announce/discuss hosts for the 19th and 20th IGMs.

17:00-17:30  
(IGM/SPG)

**Item 20: Chairperson's Summary**

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

17:30-17:40  
(IGM/SPG)

**Item 21: Any Other Business and Closing**

Chair and Secretariat Director will make closing remarks. Secretariat will provide logistical details as necessary.

*(see information provided separately)*

*Item 17:  
IGM-SPG/18/17  
(for discussion and adoption)*

*Item 18:  
IGM-SPG/18/18  
(for information and discussion)*

*Item 19:  
IGM-SPG/18/19  
(for discussion and approval)*

*Item 20:  
IGM-SPG/18/20  
(for discussion and adoption)*

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

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## Item 2: Summary of Activities and Action Points since the 17th IGM/SPG Meeting

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This paper summarizes major highlights of the work undertaken and the action points addressed by the APN since the 17<sup>th</sup> IGM/SPG Meeting in Jakarta, Indonesia.

### Project Management

Annual Regional Call for Research Proposals (ARCP) Programme: the Secretariat is supporting/managing 23 projects (15 new and 8 continuing).

Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries Programme (CAPaBLE): the Secretariat is supporting/managing 17 projects (15 new and 2 continuing).

The Secretariat is supporting/managing a number of new and continuing focused activities under AOA (new activities in 2012) and EBLU/RUSD (continuing activities since launch in 2011).

### Annual Calls for Proposals

The 2012 APN Annual Call for Proposals under ARCP and CAPaBLE Programmes was launched in June 2012 and 57 Letters of Intent and 99 Summary Proposals were received.

### APN Opportunity Fund (AOF)

Following the IGM a request for suggestions for AOF activities was circulated to APN member countries and partners in the global change research community. A total of 34 suggestions were received, which were collated and posted on a secure site on the APN website and members were invited to provide feedback.



In July 2012, the Steering Committee met in a special meeting (SSC) to review the suggestions received. A set of criteria was proposed and applied to the selection process. A number of suggestions were considered appropriate for funding under the AOF while others were recommended to be submitted through the ARCP/CAPaBLE processes. Details will be reported under Item 8.

### Climate Adaptation Framework

A scoping workshop on “Enhancing the Climate Adaptation Actions of APN Developing Countries” was held in Kobe, Japan, 20–22 August 2012. Discussions led to the development of a framework to enhance science-based adaptation activities of APN developing countries. Potential future partnerships were also identified that could be undertaken at the



regional and international levels utilizing existing and new platforms. Details of the workshop: <http://www.apn-gcr.org/2012/08/30/scoping-workshop-on-adaptation-actions/>

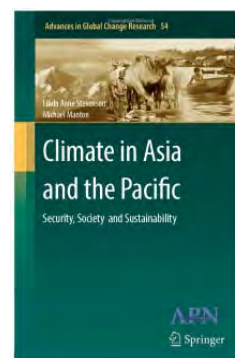
### Climate Book

The manuscript for the book entitled “*Climate in Asia and the Pacific: Security, Society and Sustainability*” was prepared and submitted to Springer. The book is expected to be published in mid 2013.

Chapters: (1) Introduction; (2) Climate change & climate variability; (3) Urbanisation; (4) Security: food, water, energy; (5) Society: governance, remote communities, human health; (6) Sustainability: energy, ecosystems services.

Authors: 31 Authors from the GC Community

Editors: Linda Anne Stevenson and Michael Manton



### Low Carbon Initiatives Framework

Under the Low Carbon Initiatives (LCI) framework, the Secretariat launched the 2012 Call for Expressions of Interest for a Focussed Activity on LCI.

Forty-four Expressions of Interest were submitted, of which 13 full proposals were invited; and 7 (5 research and 2 capacity building) were approved for funding. Details: <http://www.apn-gcr.org/2013/02/27/lci-approved-projects-announced/>

APN is also collaborating with the International Research Network for Low Carbon Society (LoCARNet), a newly established network in Asia for Low Carbon issues. See: [http://lcs-rnet.org/about\\_locarnet.html](http://lcs-rnet.org/about_locarnet.html)

### Biodiversity and Ecosystem Services Framework

A Workshop was held in Bangkok, back to back with the Science-Policy Dialogue to finalise APN’s Biodiversity and Ecosystems Framework. A 2-page Opportunity Paper will be presented to the 18<sup>th</sup> IGM for discussion. Details will be elaborated under Item 5.

### First Southeast Asia Science-Policy Dialogue

APN, in collaboration with START International and the Southeast Asia START Regional Center, organized the first Science-Policy Dialogue focusing on Southeast Asia.

Policy makers, leading scientists, practitioners and representatives from partner organizations participated in the dialogue and shared knowledge on recent issues in global change science, ranging from disaster risk management, through vulnerability and resilience, to climate adaptation and mitigation.



### Sub-Regional Cooperation

A range of sub-regional cooperation activities significantly contributed to strengthening the sense of ownership among members and enhancing their involvement in APN activities.

The Fifth Southeast Asia Sub-Regional Cooperation (SEA-SRC) Meeting was held in Siem Reap, Cambodia in October 2012. The Fourth South Asia (SA) SRC Meeting was held in Kathmandu, Nepal in January 2013. Climate Adaptation Seminars and Proposal Development Training Workshops were held back-to-back with both SRC Meetings.

For Temperate East Asia (TEA), a scoping meeting was held in Vladivostok, Russia, in February 2013. The TEA group had a fruitful discussion highlighting shared issues and areas for possible future collaboration. A sub-regional committee (TEA-SRCom) was proposed and a possible agenda for an initial TEA-SRC Meeting was discussed. A Proposal Development Training Workshop was also organized following the scoping meeting.

### Proposal Development Training Workshops (PDTWs)

PDTWs are an important tool for APN to better enable young scientists to develop competitive proposals to the APN and provide these young scientists with the networking opportunities for career development. The workshops, when held back-to-back with SRC meetings, also enabled new APN members to better understand APN's proposal process.

More than 45 young/early-career scientists from 17 countries received training in the PDTWs held for the SEA, SA, and TEA sub-regions.

### Communications and Outreach

#### *Communications*

A major redesign was made to the APN E-Lib (metadata portal) interface. The new structure makes it much easier for users to locate projects information and publications using the simple/advance search tool, category listing, etc. The data migration to the new interface has been completed and new project outputs/publications, once available, will be added to the portal. The E-Lib interface is located at: <http://www.apn-gcr.org/resources/>

As part of the effort to implement the Communications Strategy, new APN newsletters, a policy brief for the Rio+20 Conference, a generic brochure, posters, and other new information materials were produced to raise awareness of APN's activities and achievements. About 20 press releases were prepared and disseminated through APN website, email list and social network.

#### *Outreach activities*

The APN was represented in various national and international events by SC members and Secretariat staff who showcased APN activities and outputs through presentations and/or booth exhibits.

### Strengthening APN Institutional Mechanisms

To strengthen the institutional mechanism, the Secretariat continues to maintain close communication among the APN organs and members and provide Members with information material and updates.

### Collaboration with Hyogo Prefectural Government

In collaboration with the Hyogo Prefectural Government and other partners, APN organized three events focusing on information sharing and promotion of best practices:

APN/DIVERSITAS/IHDP/UNU Second Workshop "Building Resilience with Common Capital—Managing Shared Resources", Colombo, Sri Lanka

APN/DIVERSITAS/IHDP/UNU Third Workshop "Building Resilience with Common Capital—Managing Shared Resources", Kobe, Japan

APN/IGES/Hyogo Symposium on Low Carbon Society in Asia through Dissemination of Renewable Energy Technology, Kobe, JAPAN

## Representation at National and International Events

5th GEOSS Asia-Pacific Symposium, Tokyo, Japan, 2–4 April 2012, Dr. Akio Takemoto and Ms. Taniya Koswatta

7th Scientific Steering Committee Meeting of MAIRS: Zhangjiajie, Hunan, China, 23–24 April 2012, Dr. Linda Anne Stevenson

6th UN-CECAR International Conference on Renewable Energy, 22–23 May 2012, Dr. Linda Anne Stevenson

UNFCCC SBSTA36 and Research Dialogue, Bonn, Germany, 19 May 2012, Dr. Andrew Matthews

2nd Adaptation Futures Conference, Tucson, USA, 29-31 May 2012, Dr. Akio Takemoto, Linda Anne Stevenson

United Nations Conference on Sustainable Development (Rio+20), Rio de Janeiro, Brazil, 20–22 June 2012, Dr. Amir Muhammed and Dr. Linda Anne Stevenson

4th International Forum for Sustainability in Asia and the Pacific (ISAP), 23-24 July 2012, Yokohama, JAPAN, Ms. Taniya Kowsatta and Ms. Ratisya Radzi

Needs Assessment for Capacity Development for IMBER in the Asia-Pacific Region, Shanghai, China, 31 July to 4 August, Mr. Xiaojun Deng

UNFCCC Regional Expert Meeting on a Range of Approaches to Address Loss and Damage Associated with the Adverse Effects of Climate Change, Including Impacts Related to Extreme Weather Events and Slow Onset Events, Bangkok, Thailand, 27-29 August 2012, Dr. Akio Takemoto

9th AWCI International Coordination Group (ICG) Meeting and the Workshop on Climate Change Adaptation, Tokyo, Japan, 29-30 September 2012, Dr. Linda Anne Stevenson, Ms. Taniya Koswatta

IGFA Annual Meeting, Stockholm, Sweden, 4-5 October, Mr. Yukihiro Imanari

PICES 21st Annual Meeting, Hiroshima, Japan, 12-21 October, Mr. Xiaojun Deng

South Asia Meeting of CORDEX, Pune, INDIA, 17-20 October, Dr. Linda Anne Stevenson

1st Annual Meeting of LoCARNet, Bangkok, Thailand, 16-17 October, 2012, Akio Takemoto

ACP FORENET Workshop, Bogor, Indonesia, 12 November 2012, Dr. Erna Sri Adiningsih

Regional Workshop on Future Earth, Kuala Lumpur, Malaysia, 21-23 November 2012, Dr. Andrew Matthews, Dr. Akio Takemoto, Dr. Linda Anne Stevenson

Future Asia Symposium, Kyoto, JAPAN, 12-14 December 2012, Dr. Linda Anne Stevenson

3rd Innovators Environmental Symposium, Yokohama, Japan, 20-21 December 2012, Mr. Xiaojun Deng, Ms. Taniya Koswatta

Earth System Governance Tokyo Conference, Tokyo, Japan, 28-31 January 2013, Dr. Akio Takemoto, Ms. Taniya Koswatta

Aid and International Development Forum, Bangkok, Thailand, 30-31 January 2013, Dr. Linda Anne Stevenson

APAN Asia-Pacific Climate Adaptation Forum, Incheon, Republic of Korea, 18-20 March, 2013, Dr. Akio Takemoto and Ms. Ratisya Radzi

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### Item 3-1: APN Membership

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#### New APN Members

Since the 17th Inter-Governmental Meeting (IGM)/Scientific Planning Group (SPG) Meeting in Jakarta, Indonesia, new national Focal Points (nFP) and SPG Members for Bangladesh, Japan, Lao PDR, Malaysia, Nepal, Republic of Korea and United States of America have been appointed (see tables below).

The following positions remain vacant:

- nFPs for New Zealand, Australia and Fiji;
- SPG Members for Australia and Fiji.

#### New Approved Countries

Myanmar and Maldives now have "Approved Country" status under which individuals and organizations in these countries are able to participate in all APN programmes and receive funding from APN.

**Table 1: Changes of national Focal Points**

Country	New Member	Former Member
<b>Bangladesh</b>	<p><b>Mr. Faiz AHMED</b>            Joint Secretary (Administration)            Ministry of Environment and Forests,            Bangladesh Secretariat            Dhaka-1000, BANGLADESH            Tel: +88-02-9514766; +88-01712-062875            Email: fahmedpkh@gmail.com</p>	<p><b>Mr. A. N. Shamsuddin Azad CHOWDHURY</b>            Joint Secretary (Administration)            Ministry of Environment and Forests, Bangladesh            Secretariat            Dhaka-1000, BANGLADESH            Tel: +88-02-9514766; +88-01712-062875            Email: jsadmin@moef.gov.bd</p>
<b>Japan</b>	<p><b>Mr. Hiroshi TSUJIHARA</b>            Director            Research and Information Office, Global            Environment Bureau            Ministry of the Environment, Japan            1-4-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-            0013, JAPAN            Tel: +81-3-35813351; Fax: +81-3-55218247            Email: hiroshi_tsujihara@env.go.jp</p>	<p><b>Mr. Yutaka MATSUZAWA</b>            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: yutaka_matsuzawa@env.go.jp</p>
<b>Lao PDR</b>	<p><b>Mr. Sangkhane THIANGTHAMMAVONG</b>            Deputy Director General            Natural Resources and Environment Institute            Ministry of Natural Resources and Environment            (MONRE)            PMO Building#100; 3rd Floor, Nahaidieo,            Vientiane, LAO PDR            Email: th.khan@yahoo.com</p>	<p><b>Dr. Bountanh BOUNVILAY</b>            Deputy Director General, Water Resources and            Environment Research Institute, P.O. Box 2270,            Vientiane, LAO PEOPLE'S DEMOCRATIC            REPUBLIC            Tel: +856-21-219003; Fax: +856-21-263799            Email: boun28@yahoo.com</p>

Country	New Member	Former Member
<b>Malaysia</b>	<p><b>Ms. Che Gayah ISMAIL</b>            Director-General            Malaysian Meteorological Department            Ministry of Science, Technology and Innovation            Jalan Sultan, 46667 Petaling Jaya, Selangor,            MALAYSIA            Tel: +60-3-7967-8003; Fax: +60-3-7955-0964            Email: cgayah@met.gov.my</p>	<p><b>Dr. Kok Seng YAP</b>            Director-General, Malaysian Meteorological            Department            Jalan Sultan, 46667 Petaling Jaya, Selangor,            MALAYSIA            Tel: +60-3-7967-8046; Fax: +60-3-7955-0964            Email: yks@met.gov.my</p>
<b>Nepal</b>	<p><b>Mr. Gokarna Mani DUWADEE</b>            Chief of Planning, Evaluation and            Administration Division            Ministry of Science, Technology and            Environment            Singha Durbar, Kathmandu, NEPAL            Tel: +977-9841-454474            Email: gduwadee@hotmail.com</p>	<p><b>Ms. Meena KHANAL</b>            Joint Secretary, Chief of Environment Division,            Ministry of Environment, Science and            Technology, Singha Durbar, Kathmandu, NEPAL            Tel: +977-1-4225596; Fax: +977-1-4225474            Email: meenakhanal@most.gov.np</p>
<b>Republic of Korea</b>	<p><b>Mr. Kyeong Yun JEONG</b>            Director, Global Environmental Division,            Ministry of Environment</p>	<p><b>Ms. Eunhae JEONG</b>            Director, Global Environmental Division,            Ministry of Environment            Government Complex, Gwacheon 1, Joongang-            dong            Gwacheon-si, Gyunggi-do, 427-729, REPUBLIC            OF KOREA            Tel: +82-2-2110-6557; Fax: +82-2-504-9206            Email: trees@korea.kr</p>
<b>United States of America</b>	<p><b>Dr. Maria UHLE</b>            Program Director for International Activities            Directorate for Geosciences, National Science            Foundation            4201 Wilson Boulevard Room 705, Arlington, VA            22230, USA            Tel: +1-703-292-2250            Email: muhle@nsf.gov</p>	



Table 2: Changes of Scientific Planning Group Members

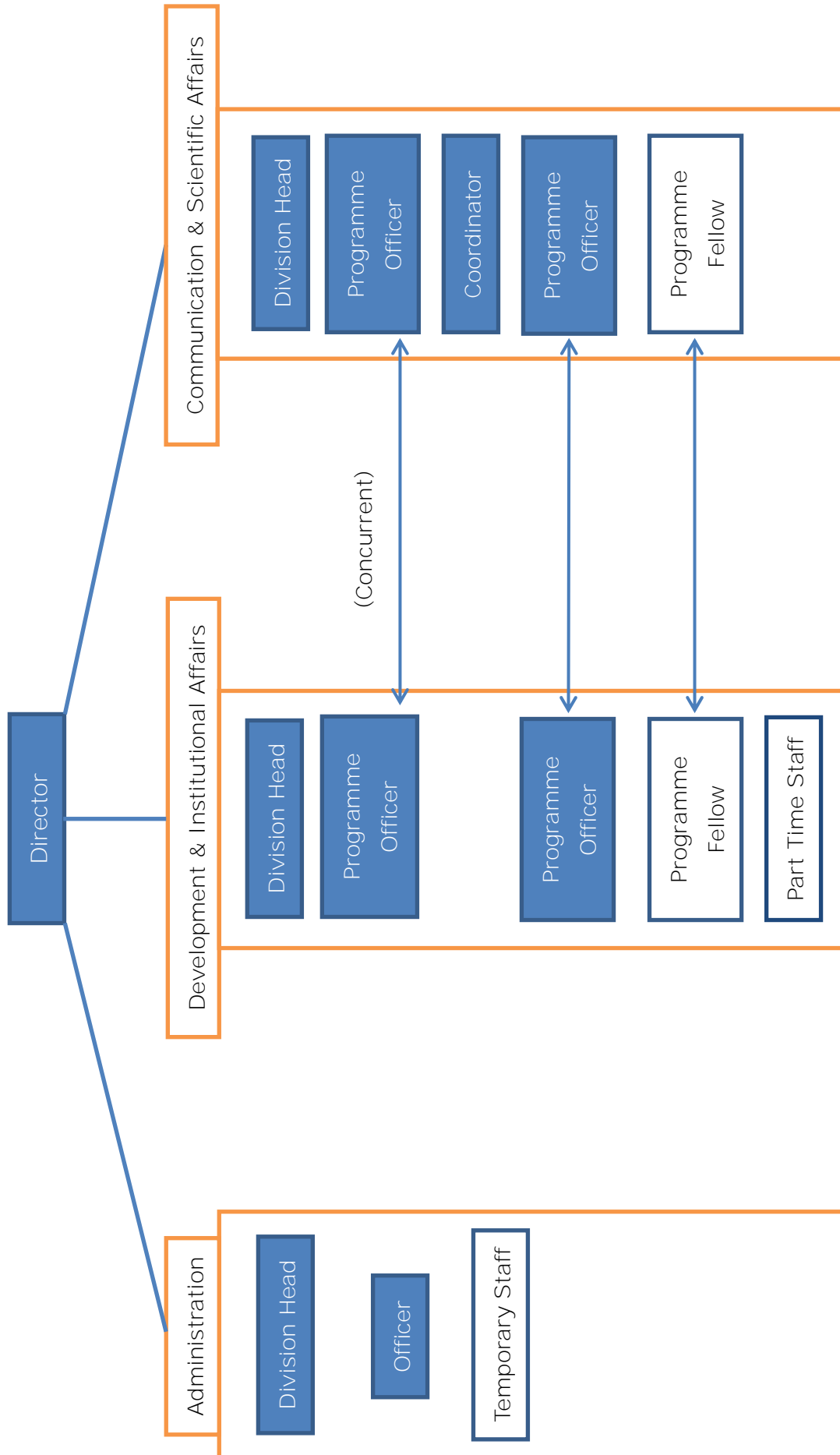
Country	New Member	Former Member
<b>Lao PDR</b>	<b>Mrs. Bounyaseng SENGKHAMMY</b> Acting Chief Environment Research Center, Natural Resources and Environment Institute Ministry of Natural Resources & Environment -MONRE PMO Building#100; 3rd Floor, Nahaidieo, Vientiane, LAO PDR Tel: +85-620-22484092; Fax: +85-621-263799 Email: bounyaseng@gmail.com	<b>Mr. Oulaphone ONGKEO</b> Deputy Chief, Water Resources Research Center Water Resources and Environment Research Institute P.O. Box 2270, Vientiane, LAO P.D.R. Tel: +856-21-219003; Fax: +856-21-263799 Email: kho-do@yahoo.com; OULAPHONEwrea.gov.la
<b>Republic of Korea</b>	<b>Soojeong MYEONG (SPG Member)</b> Research Fellow, Korea Environment Institute/Korea Adaptation Center for Climate Change 613-2 Korea Environment Institute Bulgwang dongg, Eunpyung-gu, Seoul, 122-706, REPUBLIC OF KOREA Tel: +82-2-380-7649 / Email: <a href="mailto:simyeong@kei.re.kr">simyeong@kei.re.kr</a>	<b>Dr. Changsub SHIM</b> Research Scientist, Korea Adaptation Center for Climate Change Korea Environment Institute 290 Jinheungno, Eunphyeong-Gu, Seoul, 122-706, REPUBLIC OF KOREA Tel: +82-2-3807701; Fax: +82-2-3807788 Email: marchell@gmail.com; cshim@kei.re.kr
<b>Sri Lanka</b>	<b>Mr. S. H. KARIYAWASAM</b> Director General, Department of Meteorology 383, Bauddhaloka Mawatha, Colombo 07, SRI LANKA Tel: +94-11-2694104; Fax: +94-11-2698311 Email: meteol@sltnet.lk; meteo@slt.lk; meteo2@slt.lk	<b>Mr. G.B. SAMARASINGHE</b> Director General of Meteorology, Department of Meteorology Bauddhaloka Mawatha, Colombo 07, SRI LANKA Tel: +94-11-269-4104; Fax: +94-11-269-8311 Email: sbaladev_24@yahoo.com
<b>United States of America</b>	<b>Dr. Luis M. TUPAS</b> Division Director, Global Climate Change United States Department of Agriculture National Institute of Food and Agriculture 800 9th St. SW., Washington, DC 20024, USA Tel: +1-202-4014926 Email: ltupas@nifa.usda.gov	

### New Organisational Structure of the APN Secretariat

In the light of the official authorisation of the Institute for Global Environmental Strategies (IGES)<sup>1</sup> as a “Public Interest Incorporated Foundation” under the new Japanese Civil Code in April 2012 the APN Secretariat was asked to define and formulate its structural organisation.

Having taken up this request, as well as in its continuing efforts to improve its efficiency and performance, the APN Secretariat decided to constitute a new structure as shown in the next page.

<sup>1</sup> The Secretariat of the APN operates under the administrative umbrella of IGES.



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## Item 3-1, Appendix 2

### Proposed Internship Programme at the APN Secretariat

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#### APN Internship Programme (Draft)

##### **Purpose**

The APN Internship Programme offers opportunities for young professionals from APN Member Countries to gain first-hand experience of working in an international setting at the APN Secretariat in Kobe, Japan, and have a better insight into the management and scientific aspects of APN's daily operations.

Upon completion of the internship, interns are expected to have gained an overall understanding of APN's work programmes and the key elements of work under its scientific, communication and institutional agendas. They should also have become familiar with international working environments and interaction with scientists, policy makers and practitioners within and outside of the Asia-Pacific region.

The period of internship varies from 3 to 12 months, and is agreed based on consultation by the candidate's host institution and the Secretariat. The internship is not paid by the APN, and all costs of the intern's stay in Japan are the responsibility of his/her home institution.

##### **Benefits for Member Countries**

The internship programme is expected to further strengthen the sense of ownership and engagement of APN Member Countries, while enhancing the information flow between the Secretariat and member countries. This will also contribute to the APN's increasingly active sub-regional cooperation activities. Additionally, through this participatory secondment mechanism, Member Countries will have a better understanding about APN's core programme of work; as well as new and planned activities and frameworks, such as the Low Carbon Initiatives, Climate Adaptation Framework, Biodiversity and Ecosystem Services Framework, etc.

##### **Procedure of Recommendation/Nomination**

1. A national Focal Point, in consultation with the SPG member in his/her country, provides nomination/recommendations of a suitable candidate for the internship.
2. The nominated candidate submits to the APN Secretariat the following documents:
  - A copy of his/her latest CV.
  - A cover letter that includes at the minimum the following information:
    - What time period you would like join the APN Secretariat;
    - How your internship will be funded.
  - An official letter from the candidate's home institution confirming that necessary funds for his/her travel and stay in Japan, including overseas travel and health insurance, will be covered by the institution.
3. The Secretariat communicates with the candidate and referrer to facilitate visa application and other necessary arrangements.

### **Basic Eligibility**

Eligible candidates should be those who:

1. Are junior professionals working/have interest in the technical and/or managerial aspects of global environmental change research programmes;
2. Are from an APN member country and have endorsement from the national Focal Point of their country;
3. Have secured financial support from their home institutions;
4. Are willing to learn through on-the-job training;
5. Are proficient enough in English;
6. Can work from 9:00-17:30, five days a week, for at least 3 months (up to 12 months); and
7. Have basic PC skills in Microsoft Office applications.

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### Item 3-2: Proposed Amendments to the Framework Document

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On 12 February 2013, an email was circulated among the national Focal Points (carbon copied to SPG Members and the Steering Committee) drawing attention to a number of suggested amendments to the Framework Document, upon request by the Steering Committee at its 22nd Meeting.

All the suggested changes are shown in paper *IGM-SPG/18/03-02-App1.Suggested-Amendments*, a summary of the main changes is highlighted as follows:

- General edits for improved clarity;
- Amendments to *Section 6: Organs*
  - Updated the mandate and meeting procedures of the IGM;
  - Updated the mandate and membership of the SC;
  - Reorganized the text for 6.E, the Secretariat;
- Removed specific references to partner organizations (such as the GC programmes, etc).

For reference, the currently effective version of the Framework Document is available as paper *IGM-SPG/18/03-02-App2.Framework-Document*.

Members are requested to consider all the changes proposed, and discussions will be facilitated **under Item 17 on Day 3**, where IGM approval of the proposed amendments will be sought.

**APN Framework Document**

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## Framework of the Asia-Pacific Network for Global Change Research

### 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

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.

### 2. 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. The APN, therefore, supports investigations that will:

- 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.

### 3. 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, including the transfer of know-how and technology
- Goal 4. Cooperating with other global change networks and organisations

### 4. Core Strategies

The core strategies of the APN are to:

- i. 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;
- ii. Promote and encourage activities that will develop scientific capacity and improve the level of awareness on global change issues specific to the region; and
- iii. Identify and help address, in consultation with policy-makers and other end-users, present and future needs and emerging challenges.



## 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 ~~who is~~ responsible for coordinating national activities and participating in the annual Inter-Governmental Meeting (IGM); and
  - b. a global change research expert, ~~who~~ is ~~acts as~~ the scientific contact in the respective country and participates in the annual Scientific Planning Group (SPG) ~~Meeting.~~
- iii. A country in the region may become a member subject to IGM's approval of an official governmental request from that country. ~~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 Capacity Development Committee (CDC);
- iv.v. the SPG sub-Committee (SPG-SC); and ~~oversees the processes related to the operation of the CAPaBLE Programme and the development of strategies for its development and future~~
- ~~—the Secretariat.~~
- ~~v.~~ ~~maintains the daily operations of the APN and staffs the IGM, the Steering Committee and the SPG~~
- ~~—~~
- vi. ~~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), ~~is~~ the APN's general policy and decision-making body. The IGM:

- 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, the Capacity Development Committee and the Secretariat;
- vii. conducts regular reviews of, evaluates and approves the APN's ~~identifies, approves and keeps under review the implementation of~~ long-term plans, especially its ~~including the~~ APN's Strategic Plan, and the implementation of these plans; and
- ~~viii. — carries out regular evaluations and reviews of the Strategic Plan~~
- ~~ix.~~ viii. 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; a member country may designate an alternate national Focal Point to participate in an IGM if the national Focal Point is unable to attend;
- 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 Secretariat following consultation with the Steering Committee, following consultation with national Focal Points;
- iv. International global change research and research-related 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 national Focal Points in attendance; ~~member country delegates.~~
- iii. The Chair facilitates all sessions of the IGM. He/~~She~~ 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 national ~~member country~~ Focal Points may participate in approval of ~~approve~~ APN policies and programmes.
- vi. The Secretariat maintains a record of the IGM; and
- vii. The Chair will prepare, with the assistance of the Secretariat, a Chair's Summary of the IGM for ~~is adopt~~ 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; ~~and with assistance from the Secretariat~~
- ii. facilitates administrative and management arrangements necessary to implement the programme of activities of the APN, especially through; ~~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.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 research and research-related organisations ~~agencies~~ and encouraging seeking their involvement in and support for ~~and involvement in~~ APN activities and programmes; and
- ~~vi.~~vii. regarding the potential attendance of observers as referred to in section A.2.iii.-

## 2. Membership

- i. The SC includes:
- a. three national Focal Points elected by the IGM, each to serve for a two-year term (renewable); ~~in addition to one~~
  - ~~a.~~ the national Focal Point from the country to host the next IGM, to serve for a one-year term;
  - 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;
  - e. experts co-opted by the SC, each to participate in SC activities for a one-year term (renewable); and
  - ~~e.~~f. national Focal Points from donor countries invited by the SC to participate in SC activities as resource persons.
- ii. The full SC is elected every other year~~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 selects from among its elected national Focal Points a Chair, a First Vice-Chair, and a Second Vice-Chair. Should the position of Chair become vacant, the First Vice-Chair shall become Interim Chair until the next IGM. This procedure shall be followed until the SC can hold a normal election for this post. Similarly, should the position of First Vice-Chair become vacant, the Second Vice-Chair shall become Interim First Vice-Chair. This procedure shall be followed until the SC can hold a normal election for this post; and-
- 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 [global research and research-related organisations](#); ~~and 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. [willingness and availability to participate in the SPG's activities, especially its proposal review process and 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 (SPG-SC)

- 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. three other SPG Members, elected by the SPG at its meeting in the previous year
- iv. the SPG Sub-Committee may invite additional ~~representatives~~ experts to attend its meeting as observers

#### D. The Capacity Development Committee (CDC)

##### 1. Mandate

The Capacity Development Committee (CDC) is responsible to the Inter-Governmental Meeting (IGM), while reporting to the ~~Steering Committee (SC)~~ during the intersessional periods between IGMs. The CDC:

- i. oversees the processes related to the operation of the CAPaBLE Programme; and
- ii. develops strategies for the development and future of the CAPaBLE Programme.

##### 2. Membership

- i. the membership of the CDC consists of:
  - a. the Steering Committee Chair (ex officio);
  - b. the two SPG Co-Chairs (ex officio); and
  - c. one donor representative, invited by the IGM.
- ii. 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 ~~i~~International ~~o~~rganisations ~~(such as DIVERSITAS, IAI, IGBP, IHDP, START, WCRP, etc.)~~ and regional programmes that are involved in capacity development activities.

### 3. Meeting Procedures

- 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 may invite additional representatives to attend its meeting as observers.

## E. The Secretariat

### 1. Mandate

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.

### 2. Operations and Support

- a. The Secretariat operates under the administrative arrangements of the Institute for Global Environmental Strategies (IGES). For further information, refer to Appendix 2.
- b. 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. ~~1. Mandate~~
  - ~~i. 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.~~
  - ~~ii. 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.~~
  - ~~iii. The Secretariat operates under the administrative arrangement of the Institute for Global Environmental Strategies (IGES). For further information, refer to Appendix 2 (page 13).~~

## 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, E.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.~~
- ~~iii.~~
- ~~iv.~~ Expected roles of the nFPs, SC Members, SPG Members, CDC Members and the Secretariat are specifically elaborated in Appendix 3 (pages 14-19) as guidance.
- iii.

## 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  
Bhutan  
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 [the following countries may](#) ~~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:

~~-.Pacific Island Countries~~  
[Singapore](#)

**Appendix 2.**

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 3.

#### 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 ~~responsible~~ ~~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, the Capacity Development 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 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 fulfill 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 during a meeting (e.g., because of a conflict of interest), the highest level Vice-Chair present shall serve as Acting Chair for the duration of the Chair's absence/unavailability. If no Vice-Chair is present, another SC Member may be asked to serve as Acting Chair on an interim basis. The Acting Chair shall, while serving in this capacity, 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 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 Capacity Development Committee (CDC) Members**

Designated and accountable to the IGM, the CDC will ~~perform, among others, the following tasks:~~

- i. Ensure that CAPaBLE operates and develops in accordance with the Objectives of the APN vis-à-vis 1) fostering global change research, 2) promoting developing-country scientists' participation, 3) science-policy interfacing, 4) specific objectives of CAPaBLE, and 5) directives of the Intergovernmental meeting and/or the APN Steering Committee.
- ii. Ensure that CDC deliberations and actions are transparent and communicated widely, especially to the APN Steering Committee and the Inter-Governmental Meeting.
- iii. Establish and review the procedures of the CAPaBLE Programme related to:
  - call(s) for proposals for funding through the Programme;
  - the selection of proposals for funding including the disciplinary areas of research and regional focus that reflect the priorities established by the IGM;
  - the review of overall performance of the projects;
  - ensuring the dissemination of materials generated; and
  - developing guidelines to focus activities around current and developing themes in global change.

- iv. Identify contact point persons<sup>1</sup> who will 1) act as a link between a specific CAPaBLE project and the CDC providing feedback to the CDC, 2) assist APN recipients of CAPaBLE support to achieve their objectives, and 3) provide advice and mentoring to the project.
- v. Establish effective mechanisms for the communication of activities and outcomes of the CAPaBLE Programme to all members and stakeholders.
- vi. Assist with the development of strategies for the growth of investment in APN's capacity building activities and ensure not only continuity of the CAPaBLE Programme but that capacity building is imbedded as a core activity of APN.

This will include:

- (a) developing a strategy for the transition from CAPaBLE Phase I (climate change) to Phase II (water and food security comprehensive research proposals), while continuing to address the general global change issues under capacity development.
- (b) developing a strategy for building the financial support, diversity, continuity and reporting for the programme, including:
  - more inclusive financial participation from across the members nations
  - higher profile of CAPaBLE within members nations (government) and appreciation of the value of capacity development
  - engagement with alternative funding sources
- vii. Through its membership, the CDC will use its networks to create linkages into the activities of a range of international agencies ~~(e.g. UNESCO, IOC, ICSU, IPCC)~~ and programmes ~~(e.g. WCRP, IGBP, IHDP, DIVERSITAS, START)~~ involved in global change research and capacity building activities so that the APN's work aligns and complements the works of the other agencies but also provides for the continued development and integration of those individuals and groups supported by APN.
- viii. Develop a conceptual framework of the Science-Policy Interface, explicitly identifying the role of APN and CAPaBLE and develop methodologies for enhancing the process and promoting the incorporation these methodologies into research activities.

### Guidance for the APN Secretariat

The Secretariat performs the daily operations of the APN and, in particular, assists the IGM, the ~~Steering Committee~~ [SC](#), [the CDC](#) and the SPG in implementation of the APN's Strategic and Operational Plans; [programme](#); 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 [and CDC](#) Meetings. This support should include, but may not be

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<sup>1</sup> A contact point person will normally be a senior scientist from the country in which the Project is being performed who will by virtue of his/her experience be available to the [Project members as a source of advice and as a formal contact with the Capacity Development Committee](#). Project members as a source of advice and as a formal contact with the Capacity Development Committee.

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~~ called upon 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.



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**Item 3-2, Appendix 3:**

**Supplementary Suggested Amendments to the Framework Document**

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Following discussions at the 23<sup>rd</sup> Steering Committee (SC) Meeting immediately prior to the present IGM/SPG Meeting, SC Members expressed the need to increase the number of national Focal Points serving on the Steering Committee and suggested the following additional amendments<sup>1</sup> to the Framework Document:

**1. Section 6.B.2 i.a (Steering Committee Membership)**

*Current:*

i. The SC includes:

a. **three** national Focal Points elected by the IGM, each to serve for a two-year term (renewable)

*Amendment:*

i. The SC includes:

a. **five** national Focal Points elected by the IGM, each to serve for a two-year term (renewable)

**2. Section 6.B.2 i.f. (Steering Committee Membership)**

*Current:*

i. The SC includes:

...

f. national Focal Points from donor countries **invited by the SC to** participate in SC activities as **resource persons**.

*Amendment:*

i. The SC includes:

...

f. national Focal Points from donor countries **may** participate in SC activities **ex officio**.

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<sup>1</sup> Note from the Secretariat: the proposed changes herein are based on the earlier proposed amended version of the Framework Document as reflected in paper *IGM-SPG/18/03-02-App.1 Proposed Amendments*.

## Final Financial Report for Fiscal Year 2011

<b>Resources Available</b>	<b>Approved Budget FY 2011</b>	<b>Final F-Report FY 2011</b>
Operative Assets from Previous Fiscal Year	233,000	231,000
Japan Ministry of the Environment	2,394,000	2,394,000
Hyogo Prefecture	334,000	334,000
U.S.A. NSF/USGCRP	600,000	600,000
New Zealand Ministry for the Environment	18,000	18,000
Republic of Korea Ministry of Environment	40,000	45,000
<b>Total Resources Available</b>	<b>3,619,000</b>	<b>3,622,000</b>

<b>Use of Resources</b>	<b>Approved Budget FY 2011</b>	<b>Executed and Committed Resources</b>	<b>Uncommitted Resources</b>
<b>Science, Policy, Institutional Activities</b>			
ARCP	1,240,000	1,240,000	--
CAPaBLE	916,000	916,000	--
Ecosystems, Biodiversity and Land-Use: - Kobe-Oxford Symposium	50,000	50,000	--
Resources Utilisation and Pathways for Sustainable Development: - Scoping Workshop/International Symposium	50,000	50,000	0
Climate Synthesis	70,000	70,000	--
Proposal Development Training WS	50,000	55,000	--
UNFCCC SBSTA	30,000	22,500	7,500
Biodiversity Framework	40,000	40,000	--
Science-Policy Dialogue	90,000	90,000	--
Planet Under Pressure	100,000	100,000	--
Hyogo Activities	105,000	105,000	--
Rio +20 (Earth Summit 2012)	40,000	40,000	--
Sub-Regional Cooperation	80,000	53,000	27,000
IGM/SPG and SC Meetings	110,000	120,000	--
Posts (Science, Policy, Institutional)	256,000	311,000	--
Programme Fellowship	61,000	71,000	--
Travel	60,000	84,000	--
Publication & Website	40,000	47,000	--
Reserve	34,000	0	34,000
<b>Sub Total Science, Policy, Institutional Activities</b>	<b>3,422,000</b>	<b>3,404,500</b>	<b>68,500</b>
<b>Administrative/Operative Costs</b>			
Posts (Administration)	55,000	69,000	--
General Operational Costs, including Supplies Materials and Equipment	70,000	53,000	17,000
<b>Sub Total Administrative/Operative Costs</b>	<b>125,000</b>	<b>122,000</b>	<b>17,000</b>
<b>Reimbursement for Services</b>			
IGES Overhead (3% of MOEJ contribution)	72,000	72,000	--
<b>Sub Total Reimbursement for Services</b>	<b>72,000</b>	<b>72,000</b>	<b>--</b>

**Executed and Committed Resources for Activities and Projects of FY 2011****3,598,500****Uncommitted Resources****85,500**

All figures are shown in US\$.

Exchange Rates Applied in FY 2011:

US\$ 1 = Yen 85

NZ\$ 1 = Yen 72

**Note:** The Financial Report of the APN accounts of FY 2011 was audited and approved by the external auditors in June 2012, following the Japanese accounting regulations.

APN Interim Financial Report, Fiscal Year 2012

Exchange Rates FY 2012:<sup>21</sup>  
 US\$ 1 = JPYen 80  
 US\$ 1 = NZ\$ 1.20

	Column 2
	<b>Core Budget</b>
	85,500
Operational Cash Balance from FY 2011 <sup>21</sup>	2,276,500
Japan	Yen 182,115,000 /80
	Yen 25,500,000 /80
U.S.A.	NSF/USGCRP
	486,000
ROK	Ministry of Environment
	50,000
New Zealand	Ministry for the Environment
	NZ \$ 30,000 /1.20
<b>Total<sup>22</sup></b>	<b>3,242,000</b>

Column 3
<b>Opportunity Fund</b>
<b>1,664,000</b>

	Core Budget				Opportunity Fund				
	Column 1	Approved Resources from Core Budget	Executed Resources	Committed Resources	Uncommitted, Unspent Resources	Approved Allocation from Opportunity Fund	Executed AOF	Committed AOF	Uncommitted AOF
ARCP <sup>23</sup>	1,240,000	1,240,000	607,500	632,500	0	0	0	0	0
CAPABLE	720,000	720,000	409,000	311,000	0	0	0	0	0
Climate Synthesis <sup>24</sup>	20,000	0	0	0	0	0	0	0	0
Climate Synthesis <sup>25</sup>	60,000	0	0	0	0	0	0	0	0
Proposal Devtpt Training WS: 3 Sub-Region x 20,000 <sup>27</sup>	30,000	30,000	11,500	0	18,500	0	0	0	0
SBSTA36 + UNFCCC18/SBSTA37 <sup>28</sup>	60,000	20,000	12,500	0	7,500	0	0	0	0
Rio+20: PROVIA <sup>9</sup>	50,000	50,000	37,000	0	13,000	0	0	0	0
Hvoro Activities <sup>13</sup>	130,000	110,000	87,500	0	22,500	0	0	0	0
New Commons <sup>10</sup>	40,000	40,000	31,500	0	8,500	0	0	0	0
Climate Adaptation <sup>11</sup>	300,000	300,000	40,000	260,000	0	0	0	0	0
Hvoro/APN/IGES-KRC <sup>12</sup>	0	0	0	0	0	0	0	0	0
Low Carbon Initiative <sup>14</sup>	80,000	40,000	24,000	0	16,000	0	0	0	0
Future Earth Sub-Regional Workshop Asia-Pacific <sup>15</sup>	120,000	0	0	0	0	0	0	0	0
Sub-Regional Cooperation: 4 Sub-Region x 20,000 <sup>16</sup>	370,000	370,000	367,000	0	3,000	0	0	0	0
IGM/SPG, incl. SC <sup>17</sup>	66,000	0	0	0	0	0	0	0	0
Posts SC Inst. <sup>18</sup>	65,000	65,000	54,500	0	10,500	0	0	0	0
New Coordinator <sup>19</sup>	70,000	70,000	83,000	0	-13,000	0	0	0	0
Programme Fellowship <sup>20</sup>	40,000	40,000	39,000	0	1,000	0	0	0	0
Travel <sup>21</sup>									
Publications <sup>22</sup>									
Posts Adm. <sup>23</sup>	76,500	76,500	88,000	0	-11,500	0	0	0	0
Accounting Consultant, outsourced <sup>24</sup>	7,900	0	0	0	0	0	0	0	7,900
Office Supplies <sup>25</sup>	55,000	55,000	77,000	0	-22,000	0	0	0	0
IGES Adm Overhead <sup>26</sup>	68,000	68,000	68,000	0	0	0	0	0	0
		<b>Executed Resources:</b>	<b>2,037,000</b>						
		<b>Committed Funds for not finalized Projects:</b>	<b>1,203,500</b>						
		<b>Uncommitted unspent Funds:</b>	<b>54,000</b>						
		<b>Executed AOF:</b>	<b>330,000</b>						
		<b>Committed AOF:</b>	<b>45,000</b>						
		<b>Remaining AOF:</b>	<b>1,289,000</b>						

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**Item 05: Proposed New and Continuing Activities**

(Funding allocation approval for the below is to be deferred until the next item on “2013/14 Programme of Work and Budget Plan“)

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**Please refer to separate papers for the following sub-items\*\*.**

- **Item IGM-SPG/18/05-01**  
Sub-Regional Science and Policy Dialogues
  
- **Item IGM-SPG/18/05-02**  
Biodiversity & Ecosystem Services Framework
  
- **Item IGM-SPG/18/05-03**  
UNFCCC & SBSTA38 Research Dialogues
  
- **Item IGM-SPG/18/05-04**  
2013/14 Hyogo Related Activities
  
- **Item IGM-SPG/18/05-05**  
Climate Adaptation Framework
  
- **Item IGM-SPG/18/05-06**  
Focussed Publications

\*\*Note that the papers provided are draft and may be subject to change (any changes will be re-printed for your convenience)

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Item 05: Proposed New & Continuing Activity

**Item 05-01: Sub-regional Science-Policy Dialogues**

(Funding allocation and approval for the below is to be deferred until the next item on "2013/14 Programme of Work and Budget Plan")

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**Background**

The Regional Science-Policy Dialogues on Challenges of Global Environmental Change, the first of which was undertaken in Southeast Asia in July 2013 (see Appendix 1 and 2 as well as supplemental materials provided by the local organizers), aim to promote informed decision-making on actions to reduce Global Environmental Change (GEC) vulnerability and promote climate adaptation strategies. Following a mutually agreed upon decision between START and APN, the Southeast Asia START Regional Center (SEA START RC) in Thailand has been selected as the local host for the Science-Policy Dialogue, to be held in Bangkok, Thailand during 19-21 July 2012.

**PROPOSED ACTIVITY (CONTINUING):**

In essence, the dialogues aim to bring together regional scientific and policy communities and media to foster communication between scientists and policymakers by:

- Providing scientific input to policy decision-making and promoting participation in facilitated discussions, session on communicating recent advances in scientific knowledge pertaining specific areas of vulnerability (for example, exacerbated flood events and associated disaster risk reduction was considered in the gaming sessions in the SEA SPD).
- Participants will also consider implications for the decision-making and policy communities, inform them of potential actions to reduce vulnerability and promote effective responses and tools for decision-making under uncertainty and multiple stressors.

The issue of Science-Policy dialogues were discussed in detail at the recent South Asia and Temperate East Asia sub-regional meetings (the latter being their first scoping workshop to form a TEA SRCom).

It is proposed that a paper be developed by the APN in collaboration with START that develops science-policy dialogues similar to that held in Southeast Asia in other sub-regions of: South Asia and Temperate East Asia according to the following timelines:

1. **2014 South Asia SPD** in collaboration with South Asia START regional committee (SASCOM: Anand Patwardhan) and other relevant partners
  - Funding: US\$40,000 (from APN AOF)
2. **2015 Temperate East Asia SPD** in collaboration with Temperate East Asia START regional committee (TEACOM Director: Jensuo Jia) and other relevant partners
  - Funding: US\$40,000 (from APN AOF)
3. **Synthesis of 3 Sub-Regional Science-Policy Dialogues**
  - Funding: US\$20,000 (from APN AOF); further funding to be considered later under the core budget and from START.
  - Results brought to a 2016/17 SPD in Kobe as a potential Hyogo-based activity (this idea needs further consideration and development).

- Results reflected in the 4<sup>th</sup> Strategic Plan of the APN (from April 2015)

4. **Additional Funding Considerations and other issues:**

- Funds be leveraged by START International at minimum US\$30,000 for each sub-regional SPD (total for SPD in SEA was US\$90,000; with US\$60,000 from START through funding from the NSF).
- Organisation/logistics of the, etc., will be at the sub-regional level by a sub-regional committee with assistance from START and APN Secretariat on agenda, invited partners, institutions and speakers, etc.
- There may be a need for a similar dialogue in Oceania and the IGM may wish to discuss this with the aim, specifically, of engaging the Pacific Island developing countries in such dialogues.
- Would a synthesis workshop in 2016, perhaps held in Kobe, be useful in terms of synthesising the results and inputting into the medium-term goals of the 4<sup>th</sup> Strategic Phase of the APN?

Funding, to be considered under “2013/14 Programme of Work and Budget Plan”, in the next item is **US\$100,000 from the APN Opportunity Fund** with leveraged funding from START of US\$60,000 (US\$30,000 for SA and TEA, as minimum).

**SUPPLEMENTAL INFORMATION (SEE APPENDICES):**

**1. Background & Results on the Southeast Asia SPD, Bangkok July 2012**

- a. Reports and Outputs of the Science-Policy Dialogue produced by START Southeast Asia
  - i. Executive Summary ([Appendix 1](#))
  - ii. SPD Report and other CD-ROM soft outputs (provided later by SPG member for Thailand, Jariya Boonjawat)
- b. APN Science-Policy Brief ([Appendix 2](#))

**2. Excerpts from the 4<sup>th</sup> South Asia Sub-regional Committee Meeting ([Appendix 3](#))**

**3. Notes from START on Science-Policy Dialogues at the Sub-Regional Level ([Appendix 4](#))**

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**Appendix 1: Executive Summary of the SPD Report**

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**APN-START Science-Policy Dialogue (SPD) on Challenges of Global Environmental Change in Southeast Asia**

The APN-START Science-Policy Dialogue (SPD) on Challenges of Global Environmental Change in Southeast Asia held in Bangkok, Thailand from 19-21 July 2012 was attended by 98 scientists and mid-level policy makers from Southeast Asia, invited experts on global change science, senior policy makers in the Southeast Asia region, and observers from Temperate East Asia and South Asia.

Hosted by the Southeast Asia START Regional Center, with support from APN and START (through a grant from the USGCRP Agencies), a three-day dialogue confirmed the need for fostering stronger partnerships between the scientific and policy communities, and the need to entrain others from the private sector to shape adaptation strategies. Such sustained partnerships would benefit from a range of science-based policy options for the near-and longer-terms.

Recognizing that countries have their development priorities, such as poverty-alleviation, ensuring food security and livelihoods, the participants emphasized the need to link adaptation strategies to a pro-poor agenda, including livelihood issues and economic resilience. Participants noted the need to address disaster risk reduction/management strategies and the importance of engaging the private sector, business communities, and purveyors of local knowledge, NGOs, and local political figures in this context.

The participants also noted that adaptation to global environmental change is a dynamic social process of adjustment and hence emphasized the need for sustained and regular dialogues.

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**Appendix 2: APN Policy Brief: SEA Science-Policy Dialogue**

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An APN Policy Brief was prepared by the APN Secretariat, with the most relevant points gleaned from the Science-Policy Report provided by the local organising committee, copies of which have been provided for delegates.

The policy brief is available for download at: <http://www.apn-gcr.org/resources/items/show/1880>



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**Appendix 3: Excerpt from 4<sup>th</sup> South Asia SRC Chairperson's Summary**

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**Item 6. Science-Policy Dialogue in South Asia**

General excerpts:

- The Secretariat noted some South Asian members have expressed their interest in holding a science-policy dialogue for South Asian members and request input from participants regarding their readiness for such an event.
- The Chair noted there is **clearly a need in South Asia to strengthening science-policy interaction**. A strong and effective mechanism is needed, and the APN SPD could be a platform for such a mechanism.
- The nFP Pakistan noted that he was a strong advocate of science-policy interaction in his country. He acknowledged that **there is a lack of understanding about technical issues among policy makers due to various reasons including the dilemma that, when an official develops some level of understanding of a particular scientific issue, he or she has to move on to a new position**.
- **Strongly support the idea of holding such a dialogue for South Asia**, noting that there must be a mutual understanding of the existing gap between scientists and policy makers.
- **Stressed the importance of such interaction and expressed support for such a dialogue in South Asia**, noting that the gaps could be first addressed at the mid-level of governments, which could influence decision-making at the parliament level.
- A dialogue for South Asia from the perspectives of **water resources** is needed.
- **South Asia would have the advantage of drawing experience from Southeast Asia if members decide to hold such a dialogue**.
- Strong voice on having an SPD in South Asia. Information exchange between the scientific community and policy-making community is a never-ending process, but links can be strengthened. **Such dialogues are particularly necessary for South Asia because there is still a marked lack of coordination between the two communities**.
- START International is interested in collaborating; it would be timely to involve South Asia START Committee. Prof. Anand Patwardhan, Chair of South Asia START Committee is interested in engaging with the APN.
- Further consideration at the **18th IGM with a request to earmark funding from APN's core budget for fiscal year 2013 for such an activity**.

*Action: SA-SRCom, Secretariat*

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**Appendix 4: Notes on Sub-regional Dialogues from START**

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**From START International**

- A joint activity between our organizations is desirable, of course (and I am very hopeful that we can secure collateral funding for this purpose). I look forward to the concept paper for the event in Nepal being developed by APN's Sub-regional Committee; and happy to contribute ideas once an initial draft is at hand.
- Experience with the successful event we held in Bangkok last July suggests that that strategic actions to follow-up and sustain the dialogues has to be an essential activity; I am not quite convinced that we collectively have managed to accomplish that as yet.
- Selection and engagement of participants from the policy community needs additional careful consideration.
- Consider the idea of targeted dialogues with the cohort of media-savvy journalists; this too deserves careful consideration in broadening and sustaining the dialogue-process.
- Consider idea of a synthesis of lessons learned and way forward SPD event to be held in Kobe (during 2016/2017) with collaborative engagement of the Hyogo Prefecture

## APN Biodiversity and Ecosystem Services Framework

### DRAFT OPPORTUNITY PAPER

*The present paper invites member countries, stakeholders, the donor community, and the international research communities and networks to propose and engage in collaborative activities with the APN that embarks on underpinning regional-based research; capacity development via training and technology transfer; strengthening, establishing and/or interacting with science-policy mechanisms in key thematic areas under its framework for biodiversity and ecosystem services for the Asia-Pacific region, especially in developing countries.*

### 1. Introduction

Home to more than half the world's population and a region that is spectacularly rich in biodiversity, Asia and the Pacific is rapidly developing economically.

Policy- and decision-making in the region to realise sustainable, green growth practices need to be underpinned by sound scientific knowledge, and mechanisms that effectively link biodiversity and ecosystem services (B&ES) to sustainable development and green growth is lacking.

With this rationale the APN has undertaken a series of activities over two years culminating in the present *Opportunity Paper* for the APN B&ES framework (*Appendices 1 and 2*).

In the lead up to establishing the present document, questions of "What do we know about ecosystem services?" and "How do we want to manage them?" were raised.

While it was generally agreed that the B&ES framework must include green growth and sustainable development, the question to "What extent is economics involved?" was stressed, particularly in the context of policy- and decision-making in the region.

### 2. Underpinning the science of B&ES for policy

Effective ways of collaborative science that ensure policy- and management- decisions are informed by the best available information, and good understanding of uncertainties associated with science, are needed.

An example of such an established, effective process is the Intergovernmental Panel for Climate Change (IPCC), particularly via its synthesis reports, for example, the IPCC Fourth Assessment Report (IPCC, 2007).

An IPCC fifth assessment is underway and a report for policy makers is expected in 2014.

A similar mechanism was established recently for B&ES called the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES; see [www.ipbes.net](http://www.ipbes.net)), as agreed by Governments in the Busan Outcome (IPBES, 2010). The first plenary of IPBES established preliminary rules and procedures for its work (IPBES, 2013).

An IPCC for biodiversity, IPBES recognises the global importance of freshwater, marine and terrestrial ecosystems, and the services they provide.

In June 2012, the landmark United Nations Rio+20 sustainability conference presented the outcome "The Future We Want" (UNSKDP, 2012a).

Under its B&ES framework, the APN supports activities that are in line with Rio+20 outputs, in particular those highlighted in Parts: (II)61; (IV)E97-99, 102, 111, 122; (V)A 160,163-165, 205, 174, 177, 193, 197, 198, 201, 202, 204, 205, 212; (VI)B275, 276; and (VI)C 280 (UNSKDP, 2012b; see *Appendix 3*).

These areas are not intended to be exclusive but rather complement the goals of the APN B&ES Framework as well as underscore the importance of marine, coastal, freshwater, forest, and wetland and dryland ecosystems for livelihoods and human well-being.

### 3. Opportunities under the B&ES framework

A series of meetings and workshops since February 2011 has identified important existing gaps for the Asia-Pacific region requiring attention through comprehensive scientific research, capacity development and science-policy mechanisms (APN, 2011a).

With input from key experts from ASEAN ACB, DIVERSITAS, GEOBON, ICSU, MSU, UNU, among others; the gap analysis report (*Appendix 2*) outlines important thematic areas and key activities for the region, and underscores the need for APN to effectively align its scientific theme of Biodiversity, Ecosystems and Land-Use with the international arena, importantly the work of UNCBD, Millennium Ecosystems Assessment (MEA, 2005), such as the impact of degrading ecosystems on the ability to achieve the Millennium Development Goals (see <http://www.un.org/millenniumgoals/>); UNFCCC through decisions on REDD+ mechanisms, ecosystems-based approaches to climate adaptation, among others (UNFCCC, 2012); UNCSD Rio+20 (2012a,b); and IPBES, especially in this "United Nations Decade on Biodiversity 2011-2020" (UNCBD, 2011).

APN invites member countries, stakeholders, the donor and international research communities, etc., to propose collaborative activities that will provide

opportunities, particularly in developing countries, to engage in activities under its B&ES Framework.

Encompassing a range of comprehensive, regional-based and collaborative scientific research, capacity development, and science-policy mechanisms, “thematic gaps” will include, broadly speaking:

**Four main research themes:**

- i. *Identification of drivers and pressures for biodiversity change that influence ecosystem services (land-use change; climate change, etc.)*
- ii. *Assessment of the impacts of biodiversity loss and vulnerability to the shrinking of ecosystem services*
- iii. *Prediction of changes in biodiversity and ecosystem services through model-based scenarios*
- iv. *Adaptation, response and mitigation of the depletion of biodiversity and ecosystem Services*

Some of the key activities related to the above four themes are outlined in *Table 1* (page 3).

Other activities that may be considered in line with the key activities in *Table 1* in are A) awareness-raising, B) capacity development, and C) science-policy mechanisms as elaborated below.

**A. Awareness raising and activities that link and/or develop networks:** Research on the effectiveness of conservation education/awareness raising and capacity building on diversity in nature at all levels of biological organisation; Traditional knowledge and culture in nature conservation and management; Joint curriculum development or instructional material development; Updating stakeholders on more recent developments in research on the fundamental importance of diversity in nature and ecosystems; Improving standards of professional environmental practice; Making more visible the connections between losses in diversity at all levels of biological organisation and human well-being.

**B. Training:** Developing capacity for scenario-development tools, training on predictive modelling and systems analysis at various scales; Training to evaluate diversity and ecosystem services for incorporating into decision-making systems and models.

**C. Science-policy mechanisms:** Developing appropriate tools and processes to facilitate policy and decision-making based on complex scientific understanding; Research to better understand the needs of policy-makers and the private sector on biodiversity and ecosystem services; Research to better understand how to facilitate engagement and support of the private sector in education on biological diversity and nature conservation;

Promoting research that is holistic, integrated and interdisciplinary in approach; Enhancing awareness of different types of uncertainties for model-based forecasts.

**4. Framework that is forward looking**

Ensuring that the framework is dynamic in nature, the following actions will be undertaken in the APN’s present third strategic phase (APN, 2011b) from April 2013 (mid-term) until March 2015 (end):

- Identifying from the present paper selected topics for the annual calls for proposals (ARCP and CAPaBLE programmes) for 2013 and 2014.
- Developing an “opportunities brochure” inviting collaboration with organizations, stakeholders and other interested parties from the member countries and international community.
- Seeking investment from the donor community.
- Synthesizing results of activities under the APN’s “Ecosystems, Biodiversity and Land-Use” Focused Activities programme (EBLU, 2011), and other relevant activities.
- Addressing and incorporating gaps identified for ecosystems services in the APN book on *Climate in Asia and the Pacific: Security, Society & Sustainability* (Stevenson & Manton, 2013).
- Undertaking an 18-month review (from September 2014) with the aim of integrating key activities under the B&ES framework into the 4<sup>th</sup> Strategic Plan of the APN (from April 2015).

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Table 1. Key activities for thematic areas under the APN Biodiversity and Ecosystems Framework	
Thematic Area	Key Activities for the Asia-Pacific Region
1	<ul style="list-style-type: none"> <li>– Supporting the articulation of biodiversity and ecosystem indices</li> <li>– Understanding the dynamics of land and land-use change on biodiversity resources and ecosystem services including the influence of climate change</li> </ul>
2	<ul style="list-style-type: none"> <li>– Enhancing knowledge and understanding on the role of biodiversity in nature as a way of conferring ecosystem resilience and reducing vulnerabilities in the face of global environmental change</li> <li>– Research that will identify and document ecological tipping points; Research that will illustrate the linkages between socio-cultural knowledge and livelihoods to different levels of biodiversity</li> <li>– Case studies that will support the work of international programmes on evaluation of changes in biodiversity and ecosystem services AP-BON</li> </ul>
3	<ul style="list-style-type: none"> <li>– Build spatially-explicit models for areas of interest within the Asia-Pacific region that enable the potential for future change in biodiversity and ecosystem services to be assessed as a function of plausible scenarios of change in land use, climate and invasive species</li> <li>– Extending these models to incorporate the potential consequences of spatially-explicit configurations of management responses in terms of multiple values of diversity in nature and ecosystem services</li> <li>– Establishing links between models and associated models of human-natural systems and between these models and global-scale scenario modeling of biodiversity and ecosystem services</li> </ul>
4	<ul style="list-style-type: none"> <li>– Elucidating parsimony and conflict between carbon management and biodiversity conservation as key mitigation strategies</li> <li>– Integrating the human dimensions into action for biodiversity conservation and carbon management</li> <li>– Restoring biodiversity in disturbed or managed ecosystems</li> <li>– Synthesizing best practices for adaptation and mitigation for biodiversity and ecosystem services</li> </ul>

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 For more information on the APN or on the present framework, contact the APN Secretariat at [info@apn-gcr.org](mailto:info@apn-gcr.org) or visit the APN Website: [www.apn-gcr.org](http://www.apn-gcr.org)

## SUMMARY OF WORKSHOP

### Biodiversity and Ecosystem Services Framework

22 July 2012, Bangkok, Thailand

#### 1. PARTICIPATION

The workshop was attended by 4 members of the APN Steering Committee Members (expert members from New Zealand National Commission for UNESCO, the International Scientific Cooperation, USA; and East West Center from the USA); 1 steering committee alternate from Ministry of Environment, Indonesia; and representatives from Hiroshima University, International Council for Science Regional Office for Asia and the Pacific. The APN Secretariat facilitated the workshop, which was chaired by Dr. W.A. Matthews.

#### 2. FLOW OF THE WORKSHOP

The opening session focused on a 10-minute PowerPoint presentation by Dr. W.A. Matthews entitled “Preamble: why are we here and what do we want to do?” This was followed by session 1 which focused on the draft framework. It highlighted 2 working group discussions – one on the current state of the framework and the other one on revising and finalizing the framework. Session 2 touched on revising the draft framework and session 3 was on sewing the threads and finalizing the framework.

#### 3. HIGHLIGHTS OF THE DISCUSSION

In discussing ecosystems services and biodiversity, the question of “what do we know about them, how do we want to manage them?” was raised. It was also suggested that the study of biodiversity and ecosystem services should also include green growth and sustainable development. Biodiversity is also thought to be too broad, raising the suggestion that biodiversity should be linked to other areas such as water, food security, urban development etc. On the economics of biodiversity and ecosystems, the question on to what extent are the economists involved was raised.

ICIMOD has undertaken quite good ecosystems evaluation for water, for example. Other than forest, other ecosystems must also be pursued such as mountain, coastal, marine, ecosystems. It was also conveyed that when talking about ecosystem services, the economic evaluation should also be considered at the same time. Output can be used in decision-making process. They are looking for a base. However it's controversial whether we can give a price tag to ecosystems. Are there any extra tools besides economic analysis?

It was added that that the PUP wanted to have strong input to Rio+20, and that these inputs should be examined, pulled out and put to use for APN's future work. APN is a network and is strong in networking. APN may want to think of establishing networks that could do good work on long-term basis (not only supporting projects with at least 3 involving countries, etc.). This is important but can APN move forward and look at new relationships in the APN region and beyond (in terms of networks)?

The essence of the meeting will be presented to SC and IGM and it was suggested that some funds be allocated for this specific area, whether this may be a new specific call for proposals with due consideration to the secretariat's workload. But where will the fund come from? From additional extra contributions from donating countries or from the existing core budget? This discussion is needed among APN members.

APN could start thinking about a new programme for a strategic approach in SP dialogue as there is a need for real dialogue between good science and wise political decisions. On forest management, the question on how to teach people

so they would change their way of doing business was raised. Sustainable forest management is quite a problem of forest. Extra money is needed for sustainable forest management. Many do not understand the sustainability issue of forests. What benefits do they get? So the question is what to do? Something different is needed. On the level of primary education BD/ES must be taught. Many data are available making it even more difficult for policy makers to make decision. It was suggested that maybe APN wants to look at scientific data better understandable for policy makers and public. It was suggested that the Tokyo Scoping WS report (Gap Analysis Report) be revised by also taking up points from PuP and Rio+20 reports.

The group expressed that one area to be enhanced is the Science-Policy linkage. In the previous discussion, the question should have been what are the next steps, and that the focus should be more on the contribution of APN to the development of the SP interface.

APN, therefore, could begin to design a programme to take the process step-wise, progressively, i.e. not one or two activities. Rather, a strategic programme to develop science policy relationship. It has to be driven and APN can substantially contribute to that if there were a strategic approach to that. Taking biofuel as an example, which compromises food production but make no contribution to change. APN as a science-based organization must provide scientific context no matter if or how much it is heard.

The group expressed that they must also look more closely on what is really relevant for APN, by taking into account the results from PUP and Rio+20. The group is now working on an “opportunity paper” rather than “gap paper”. This was followed by a concern that too much time could be needed to go through the whole process of having the idea approved by IGM.

The group may want to discuss this idea with MOEJ for their input, as well as with ROK and Indonesia, at an early stage. It was also suggested that in the light of ROK’s request of feeding them with ideas of justification of good idea the green growth may be a good area that can be suggested. The idea of creating a short paper that can provide policy makers with few basic ideas. So highlights from the PUP and Rio+20 papers will be lifted to serve what is essential for the purposes, as well as extract from Tokyo Scoping WS what is really needed.

It was agreed that the gap analysis paper is relevant and useful to be converted and used as a basis for a programme within the APN. The group shall look at gaps that might exist and gaps that are of higher priority to APN. Then the paper can be augmented to include relevant information from PUP/Rio+20 to give relevance and authority to the activities and to align with what governments agreed.

#### 4. ACTION POINTS FROM THE WORKSHOP

- a. A two-page Opportunity Paper with some appendices will be prepared and circulated among participants to the meeting, who will comment on what should be added, what should be deleted or what should be joined together. Then the document will be submitted to the SC and also to current and future potential funding agencies.
- b. The paper is to be augmented in line with the Planet Under Pressure, Rio+20 and give relevance to the policy community.
- c. Paper should highlight and cut across ARCP/CAPaBLE (i.e. in order to potentially invite proposals related to high priority areas in the next round of proposals)
- d. The paper should highlight the need for partnerships and networks such as with ADB, JST, GGGC (UNEP-funded), etc.
- e. The paper is to be circulated among the SC for comments and revisions and then presented at the 18<sup>th</sup> IGM for endorsement.

**APN Gap Analysis Report and Framework:**  
*Linking and Integrating Ecosystem Services and Biodiversity<sup>1</sup>*

**A. OVERALL RATIONALE**

*Preamble*

In April 2002, the Parties to the Convention on Biological Diversity ([www.cbd.int](http://www.cbd.int)) committed themselves **to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth.** This target was subsequently endorsed by the World Summit on Sustainable Development (WSSD) and the United Nations General Assembly and was incorporated as a new target under the Millennium Development Goals. However, while the 2010 CBD targets failed to be met, the United Nations capped its Biodiversity Year 2010 on a high note creating a new science policy platform to aid the reversing of the steep decline in biodiversity and ecosystem services. The new body is the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES; [www.ipbes.net](http://www.ipbes.net)) and was approved by Governments in June 2010 at a meeting in Busan, Republic of South Korea and finally approved at the UN headquarters in December 2010.

*"IPBES represents a major breakthrough in terms of organizing a global response to the loss of living organisms and forests, freshwaters, coral reefs and other ecosystems that underpin all life - including economic life - on Earth," said Achim Steiner, Executive Director of the UN Environment Programme.*

The Asia-Pacific region is spectacularly rich in biodiversity, but also home to more than half the world's human population. Policy- and decision-making to realise the objective of establishing sustainable, green growth practices in the Asia-Pacific region needs to be underpinned by sound scientific knowledge. However, much of the knowledge needed to effectively link biodiversity and ecosystem services to sustainable development and green growth is lacking throughout the region, particularly in developing countries.

With the above rationale and in the present "United Nations Decade on Biodiversity 2011-2020<sup>2</sup>," the APN seeks to contribute to this crucial and urgent period by promoting comprehensive scientific research, capacity development and science-policy connections in a new Biodiversity Framework: **Linking and Integrating Ecosystems Services and Biodiversity**

*Gap Analysis Workshop*

With funding from the Ministry of the Environment, Japan (MOEJ), and as a contribution to the International Year of Biodiversity 2010, the APN conducted a Biodiversity and Ecosystem Services Gap Analysis Workshop (February 13-15, 2011). The aim of the workshop was to identify gaps in scientific research and capacity development and to establish APN's role in developing an agenda for this important area of research. The agenda would be in line with the UN Decade of Biodiversity, and contribute not only to the UNCBD, but also to the UNCSD (specifically the 2002 WSSD's Johannesburg Plan of Implementation [JPOI]<sup>3</sup>) and its lead up to Rio+20<sup>4</sup>; the Millennium Development Goals; and, where appropriate, contribute to the Second Millennium Ecosystems Assessment (MEA2) and the IPBES.

Prior to the Gap Analysis Workshop expressions of interest were sought from experts in the global change community, particularly from those working in the Asia-Pacific region. As a result, the workshop included participation from key experts from ICSU, DIVERSITAS, United Nations University and ASEAN ACB, GEOBON and other key organisations.

Following an open questionnaire to all participants, the gaps and priorities identified in the present document were the culmination of questionnaire responses and input from reputable scientists and experts on biodiversity and ecosystem services.

<sup>1</sup> Also referred to as Biological Diversity

<sup>2</sup> Official launch will be on the International Day for Biological Diversity, 22<sup>nd</sup> May 2011:

<http://www.cbd.int/doc/notifications/2011/ntf-2011-027-un-en.pdf>

<sup>3</sup> WSSD JPOI: [http://www.un.org/esa/sustdev/documents/WSSD\\_POI\\_PD/English/WSSD\\_PlanImpl.pdf](http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf)

<sup>4</sup> Rio+20 Summit, 4-6 June 2012: <http://www.uncsd2012.org/rio20/>



## B. GAPS AND PRIORITIES

Gaps and priorities outlined in this section are based on analysis of feedback received from the global change community and invited experts to the APN Gap Analysis Scoping Workshop. Initially, the following issues were considered: vulnerability and predictions; impacts; adaptation and mitigation. The workshop also reviewed and took into account key publications and background papers on biodiversity and ecosystem services and all relevant issues at the sub-regional level.

### B.I Research

**Research Theme Area 1: Drivers and pressures for biodiversity change that influence ecosystem services (land-use change; climate change, etc.)**

#### Introductory Statement

Over the last 60 or more years, human society's pursuit of development has intensified resulting in the unsustainable and inequitable use of nature. While this has brought unprecedented economic growth for many countries in the Asia-Pacific region, it has also exerted tremendous pressures on all aspects of biological resources and the abilities of ecosystems to provide the broad range of fundamental natural services. The Global Biodiversity Outlook 3, (GBO3<sup>5</sup>), released in 2009, presented the critical state of the global biodiversity resources in spite of the expressed commitments by governments and intensified efforts over the last ten years to address this global concern. All levels of biodiversity continue to erode at rates way beyond nature's abilities to replenish them. The same GBO3 report identified the primary drivers of biodiversity loss. These are undeniably attributed to human activities, land use change and the physical modification of water resources and are the most significant factors for the continuing losses in biodiversity. It is projected, based on current evidence that climate change will add to the pressure points on an already overstressed resource base. Thus, societies in the region are confronted with the challenge of how to effectively respond to this very urgent issue at an appropriate scale.

#### Rationale

The full implications of the stresses exerted by human activities on the environment are not well understood. The conventional wisdom of biodiversity loss (at all levels of biological organisation) has focused largely on the most obvious and common services that ecosystems provide: provisioning for food and shelter. Many still do not fully understand or appreciate the complex dynamics between diversity in nature and ecosystem services. As a result, many initiatives designed and/or pursued to address biodiversity loss do not produce the desired results because the approaches fail to establish the links between ecosystems and biodiversity. The research agenda under this theme will seek to support efforts to address this particular gap of knowledge and understanding. It will support research initiatives that will, at a minimum, examine the following:

- The scale and intensity of drivers and pressures points for loss at various levels of biodiversity
- Methodologies and approaches for measuring aspects of biodiversity loss and estimating the economic and other values provided by ecosystem services; and
- Establishing the chain of cause and effect relationship of identified drivers of biodiversity loss (at specific levels of biological and ecological organisation).

For the purposes of the research relevant to this theme, biological diversity (biodiversity) is defined as in the Convention on Biological Diversity. Given the importance of 'diversity' at all levels of biological organisation, researchers will need to clearly describe at what level of biological organisation they propose to research and justify that level. The work should focus on diversity and its role in sustaining humans and human well-being.

<sup>5</sup> Global Biodiversity Outlook 3: <http://www.cbd.int/gbo3/ebook/>

**Key Activity Areas (initial listing)**

- Support in the articulation of biodiversity and ecosystem indices.  
*Narrative:* The ability to monitor and track changes of biodiversity and ecosystems depends largely on the having clear, measurable and trackable sets of indicators. There are existing sets of indicators that are currently being utilized in reporting progress of interventions on biodiversity. But these sets need further enhancement and in particular, linked to ecosystems services in order to provide clear picture of the effects and impacts of human activity on the ecosystems and biodiversity.
  - Developing indices for biodiversity and ecosystem services for 2020 biodiversity targets;
  - Improving monitoring mechanisms; and
  - Traditional knowledge and culture in biodiversity conservation and management.
  
- Understanding the dynamics of land and land-use change on biodiversity resources and ecosystem services including the influence of climate change.  
*Narrative:* While it is recognized that there have been a number of studies at the global level that projected the impacts of land and land-use change on biodiversity and connections to climate change, there is still a wide gap that establishes the connections of such dynamics in the Asia-Pacific region. Support is needed to build a robust body of work for the region that should provide solid basis for policy makers and implementers, which best actions can be taken to address this particular driver of biodiversity loss.
  - Pollution-induced changes in relation to biodiversity loss (both inorganic and organic pollutants)
  - Build on previous land-use change studies to better understand implications for biodiversity
  - The interactions between natural disasters and climate change
  - The relationship of biodiversity and climate change and vice-versa
  - Linkages between blue-carbon and marine biodiversity;

**Research Theme Area 2: Assessment of impacts of biodiversity loss and vulnerability to the shrinking of ecosystem services**

**Introductory statement**

Current knowledge and information for understanding the complex dynamics between biodiversity and ecosystem services does not highlight the critical importance of their connections. Most assessments undertaken using the current set of indicators have been developed based on area (e.g. how much forest is lost - in the case of landscapes) and the quantity of species (i.e. species richness), which are more relevant in provisioning services. While these indicators are essential, other equally valuable services, such as supporting, regulating and cultural service functions, need to be assessed, or at the very least accounted for as well. The Millennium Ecosystem Assessment<sup>6</sup> Report points out that, more often than not, the approach to enhancing one particular service of an ecosystem has a cost to other ecosystem services due to trade-offs. This complex relationship makes it difficult to actually determine the full cost and value of biodiversity loss and its impacts in the region at appropriate scales and levels.

**Rationale**

Viewed in this light, there is an urgent need for building the knowledge base that uses ecosystem services as the fundamental basis for assessing the state and condition of some levels of biodiversity resources; and integrating with it other measures such as species variability, function, quantity and distribution; in order to fully understand the role of biodiversity and the implications of its loss to human well-being. The need to build a robust knowledge base especially on the aspect of ecosystem services is imperative for the region. The region as cited earlier is home to unique biodiversity resources. But these resources are base for human development and economic activities. Support is needed to build a robust knowledge base by undertaking systematic and continuing assessments of the impacts of biodiversity loss to human societies. Initiatives should also be encouraged on undertaking vulnerability assessments of ecosystems services by human activities and identify measures that would minimize the impacts of such activities.

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<sup>6</sup> Links to the various Millennium Assessment Reports: <http://www.maweb.org/en/Index.aspx>

**Key Activity Areas**

- Enhancing knowledge and understanding on the role of biodiversity in nature as a way of conferring ecosystem resilience and reducing vulnerabilities to extinction in the face of global environmental change
- Research that will identify and document ecological ‘tipping points’<sup>7</sup>
- Research that will illustrate the linkages between socio-cultural knowledge and livelihoods to different levels of biodiversity.
- Case studies that will support the work of international programmes on evaluation of changes in biodiversity and ecosystem services such as GEO-BON, but at the regional level (e.g. those that may be undertaken by AP-BON).

**Research Theme Area 3: Model-based prediction of changes in biodiversity and ecosystem services****Introductory statement**

The overall objective of this research theme is to develop models to help assess the potential for future changes in biodiversity and ecosystem services in the Asia Pacific as a consequence of scenarios of global change (particularly land-use change, climate change, and species invasion). These models would further help to assess how alternative, spatially-explicit configurations of management responses might alter these outcomes and, in doing so, provide the basis for trading-off, and identifying co-benefits between, multiple ecosystem services and biodiversity values.

This work needs to make effective use of outputs from previous and on-going APN projects mapping and modelling land-use change, and needs to integrate site, landscape and historical effects of land use on biodiversity and ecosystem services. Wherever possible, developed models also need to incorporate best-available information about ecological thresholds or ‘tipping points,’ and link to coupled models of human-natural systems and relevant global modelling initiatives.

**Rationale**

This research theme is needed to help translate the findings and outputs from work conducted in themes 1 and 2 into quantitative, spatially-explicit assessments of the potential for future change in defined levels of, or aspects of, biodiversity and ecosystem services under scenarios of global change and management. This will thereby provide a stronger foundation for assessing the implications of alternative management responses considered in Theme 4. In this sense, Theme 3 provides the methodological connection that bridges the gap between the generation of fundamental information and understanding in Themes 1-2, and the application of this knowledge to planning and decision-making in Theme 4.

**Key Activity Areas**

- Build spatially-explicit models for areas of interest within the Asia-Pacific region that enable the potential for future change in biodiversity and ecosystem services to be assessed as a function of plausible scenarios of change in land use, climate and invasive species. These models should, wherever possible: make effective use of outputs from APN projects mapping and modelling land-use change; integrate site-landscape-historical effects; and incorporate best-available information about ecological thresholds (tipping points).
- Extend these models to incorporate the potential consequences of spatially-explicit configurations of management responses (particularly those involving proactive changes in land, or sea, use), thereby providing an objective basis for assessing the relative expected benefit of alternative responses (or sets of responses) in terms of multiple values of diversity in nature and ecosystem-services (for use in trade-off and co-benefit analyses in Theme 4).
- Establish links between these particular models and associated models of human-natural systems (thereby enabling consideration of more complex interactions and feedbacks between biodiversity, ecosystem services and other environmental, social and economic factors) and between these models and global-scale scenario modelling of biodiversity and ecosystem services (thereby allowing changes in aspects of biodiversity and

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<sup>7</sup> Tipping point (or threshold): *Wikipedia defines an ecological threshold as “a point at which a relatively small change in external conditions causes a rapid change in an ecosystem... when an ecological threshold has been passed, the ecosystem may no longer be able to return to its state.”*

ecosystem services in the Asia-Pacific region to be viewed within a broader global context, and allowing modelling from this region to help refine global modelling efforts).

**Research Theme 4: Adaptation, Response and Mitigation of the Depletion of Biodiversity and Ecosystems Services**

**Introductory statement**

Loss of diversity at all levels of biological organisation is an urgent and extremely important threat to human well being. Therefore, methods and approaches to mitigation are important priorities for research. In addition, it is well recognized that adaptation is important as it focuses on ways to cope and address the pressures on different aspects of biodiversity. There has been considerable emphasis on finding means for climate adaptation, but there has been less interest in understanding global change effects on aspects of biodiversity. Research needs to be developed that focuses on mitigation strategies, building on existing research on climate change dynamics and land use change forecasts.

**Rationale**

The Asia-Pacific region is a significant area for this kind of research. The pressures on many aspects of biodiversity, including man-made, are acutely high. Moreover, the long history of human adaptation of agriculture and forestry systems in the region has resulted in a wide range and abundance of culturally endowed nature. Society as a whole does not understand well the interrelationship between ‘natural’ diversity in nature and culturally endowed nature, and how pressures on both will affect human wellbeing and systems. In this Region, there is a need to develop a programme activity that is focused on adaptation and mitigation of losses in nature in both the natural and managed environments. Currently, we are not aware of any such research in Asia-Pacific region that addresses these issues. Land use transformation is the most important form of forest and other land-use and land-cover conversion.

**Key Activity Areas**

- *Elucidating Parsimony and Conflict between Carbon Management and Biodiversity Conservation as Key Mitigation Strategies*  
*Narrative:* The development of strategies that mitigate climate change and decline in nature at all levels of biological organisation is an important priority in global change research. Yet interventions that maximize one may minimize or lessen the latter. For instance, land management for carbon using plantation species that sequester carbon quickly may not be a good strategy for nature conservation or restoration. On the other hand, strategies that emphasize conservation, such as assisted natural regeneration with native species, may delay the response to carbon removal from the atmosphere. Nonetheless, there may be opportunities to enhance carbon sequestration and nature at an optimal level, such that multiple mitigation benefits can be achieved. This area of research is aimed at understand these tradeoffs or mutual-benefits across the region, at various scales, geographies and landscape systems.
  - Research focused on understanding better the interrelationships between actions and interventions that focus on increasing carbon stored in landscapes and flora across landscapes.
  - Synthesis of approaches available to practitioners, land managers, policy makers etc that can maximize both carbon benefits and nature conservation. Best practices and novel approaches for “win strategies” development
  - Integration of conservation attributes and activities into the emerging protocols for carbon management, such as REDD+. A/R in the CDM and agroforestry and other agricultural schemes.
  - Development of broad integrated approaches that maximize a range of ecosystem services, beyond carbon sequestration together with nature conservation and management (e.g. Sustainable Forest Management that reduces local people’s impact on forest resources).
  
- *Integration of the human dimensions into action for biodiversity conservation and carbon management and other ecosystem services*  
*Narrative:* The first (above) bullet under this them focuses on advancing our understanding of tradeoffs between carbon-oriented interventions and biotic- oriented interventions. The present activity recognises the importance of considering the human dimensions of agriculture, forestry and fisheries. Research needs to be

done that considers the livelihoods of land managers – people, communities and institutions who use the land and its resources – in a way that integrates these human dimensions into the strategies for mitigation. For example, agriculture and its expansion is one of the most important agents of ecosystem degradation and habitat change and fragmentation. Yet at the same time, agricultural land offers some of the best opportunities for mitigation of losses in diversity in nature and enhancement of livelihoods, through systems that incorporate biodiversity and ecosystem services. For instance multi-species agro-forestry systems can produce a range of natural capital and ecosystem goods and services that simultaneously increase some aspects of biodiversity, carbon stocks, and economic welfare. It can also reduce further pressures on existing ecosystems, including protected areas.

- Research focused on coupling an understanding of livelihood systems and their role and impact to/from efforts at nature conservation or interventions.
  - Research focused on adaptive land management for agriculture and agro-forestry, and management of fisheries and other aquatic resources, that enhance and/or restore diversity in nature and enable improved livelihoods.
  - Research focused on coupling nature conservation and management with low carbon management in agriculture, agro-forestry and aquatic production systems.
  - Research that identifies and integrates social and cultural knowledge, local practices, traditional knowledge as measures for diversity at different levels of biological organisation support.
- *Research on restoration of biodiversity in disturbed or managed ecosystems*  
*Narrative:* This activity is focused on understanding how human interventions can play an important and useful role in restoration of nature and ecosystem services that have heretofore been lost or degraded. This would be focused on both natural environments where human restoration could bring some of the critical elements of certain levels of biodiversity or ecosystem services back from their degraded states, even if the full range of ecosystem services that existed in the natural system cannot be recovered. One important element of this research area is to understand how intensively managed, but highly degraded, agro-ecosystems can be strengthened through restoration of and heterogeneous production systems.
    - Supporting and testing, or application of existing: 1) ecological research to restore diversity in nature at different scales ; 2) land management research to restore diversity in managed systems at different scales; and 3) aquatic management research to restore diversity in fisheries and other freshwater and marine systems at different scales
- *Synthesis and outreach of best practices for Adaptation and Mitigation for Biodiversity and Ecosystem Services*  
*Narrative:* There is a growing literature of experience and best practices in this field that is not being captured and organized. The result has been a considerable redundancy in research that could better be channelled into action. This area of research is clearly more application-oriented than the others, but it is important to begin to translate science into practice. This area of the program would focus primarily on a synthesis of practices that have been successful in this region and elsewhere and then a concerted effort focused on communication and outreach.
    - Agroforestry and urban forestry at the local level, household initiatives, home gardens, community-based forest and other measures.
    - Promoting healthy oceans, such as programs including UNEP Blue Carbon, MPAs etc
    - Promotion of various practices for marine and terrestrial ecosystems, such as Mangroves for the Future, Seagrass Network, Integrated Coastal and River Basin Management, ESABII, AP BON, GEO BON, Satoyama, Satoumi, etc.
    - REDD+
    - Conservation areas and reserves
    - Low ecological footprints

## B-II Capacity Building

### Introductory statement

The well-being of every individual and the state of the global economy is intrinsically linked to sustainable and equitable use of biodiversity at all levels of biological organisation. However, overall there is a poor understanding of the value of biological diversity. Good science must be complemented by competent practitioners and highest standard of practice. Good science by itself is not enough to address the complex issues relating to the losses in and damage to diversity in nature. Capacity building, education and training needs to be associated with and built on APN research. In doing so, it is logical to also build modern understanding on traditional knowledge. There is a strong need to support more effective ways of awareness-raising, educational and training programmes.

### Rationale

To build on existing biological diversity science research, the scientific community must have strategic science communication mechanisms in order to assure that all stakeholders are properly informed.

### Key Activity Areas

- **Awareness-raising at all levels**
  - Research on the effectiveness of conservation education/awareness-raising and capacity building on diversity in nature at all levels of biological organisation.
  - Traditional knowledge and culture in nature conservation and management
  - Joint curriculum development or instructional material development so many teaching practitioners can learn from each other
  - Updating stakeholders on more recent developments in research on the fundamental importance of diversity in nature and ecosystems
  - Improving standards of professional environmental practice such as encouraging practitioners to be certified
  - Making more visible the connections between losses in diversity at all levels of biological organisation and human well being
- **Training**
  - Develop capacity for scenario-development tools, predictive modelling and systems analysis at various scales
  - Training to evaluate diversity and ecosystem services for incorporating into decision-making systems and models
- **Research on Effective Communication**
  - Promoting dialogues through different media
  - Communicating for adaptation and mitigation
  - Effectively disseminating information materials in local languages
  - Enhancing the appreciation of concepts related to the greening of the economy

## B-III Science-Policy

### Introductory statement

The well-being of every individual and the state of economy is intrinsically linked to sustainable and equitable use of biodiversity at all levels of biological organization. However, as noted in B-II above and reiterated here, overall there is a poor understanding of the value of biological diversity. Good science must be complemented by competent practitioners and highest standards of practice. However good science by itself is not enough to address the complex issues relating to

the losses in and damage to diversity in nature. Capacity building, education and training need to be built on APN research. In doing so, it is logical to build on traditional knowledge. Furthermore, there is evidence to support the need for more effective ways of awareness-raising, educational and training programmes.

### **Rationale**

There is an urgent need for better links between policies that would develop the science of conservation of diversity in nature, environmental and socio-economic development policies aimed at improving livelihoods and human wellbeing. There is also an urgent need for more effective ways of working collaboratively with the scientific community thereby ensuring that policy and management decisions are informed by best-available information and good understanding of uncertainties associated with scientific discoveries.

### **Key Activity Areas**

- Development of appropriate tools and processes to facilitate policy and decision-making based on complex scientific understanding
- Research to better understand the needs of policy-makers and the private sector on biodiversity and ecosystem services
- Research to understand better how to facilitate engagement and support of the private sector in education on biological diversity and nature conservation
- Promote research that is holistic, integrated and interdisciplinary in approach
- Enhance awareness of different types of uncertainties for model-based forecasts

## **C. NEXT STEPS and WAY FORWARD**

*Some issues for consideration:*

- Establish a steering group and have a follow-up meeting to further develop the framework ***Linking and Integrating Ecosystem Services and Biodiversity with Green Growth & Sustainable Development***, integrate into APN's activities and establish mechanisms (under existing APN mechanisms) for funding from 2012;
- Update the endnotes of the APN 3SP that list the range of topics and activities that APN supports to help achieve its objectives;
- Regards mechanisms for undertaking the activities under the framework, consider:
  - Establishing a 3 to 5-year framework under the ARCP programme: in line with the contents of the attached report;
  - Considering the CAPaBLE comprehensive research pillar with a fourth 3-to-5-year phase from 2012 to 2014 (or 2017)? (and/or as a Post Rio+20- initiative); and/or
  - Launching a Special Call for Proposals for Focussed Activities based on the above-mentioned research and key activity areas.

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## Item 05-03: UNFCCC and SBSTA

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### Background and Report

For the past number of years, APN has been attending the research dialogues that have been requested by SBSTA under their agenda Item 6: Research and Systematic Observations. Additionally in 2011, in response to an invitation from the UNFCCC Secretariat, SBSTA36 was attended by the APN Secretariat Director and formal representation by Dr. Andrew Matthews, who reported to SBSTA36 on APN issues relevant to the dialogue (see [SC/23/02-03 Appendix 1](#)).

### International Research Dialogue at SBSTA38

UNFCCC/SBSTA38 is scheduled to take place from 3-14 June 2013, in Bonn Germany. The dialogue date has not been fixed at the time of writing. The agenda will address some of the decisions made in Doha (COP18) at SBSTA37 [http://unfccc.int/documentation/documents/advanced\\_search/items/6911.php?preref=600007215](http://unfccc.int/documentation/documents/advanced_search/items/6911.php?preref=600007215) (see [SC/23/02-03 Appendix 2](#))

Specifically, UNFCCC SBSTA has invited the APN to present on issues related to regional research and capacity development on the following:

- On the technical and scientific aspects of emissions by sources, removals by sinks and reservoirs of all greenhouse gases, including emissions and removals from terrestrial ecosystems, such as steppe, savannah, tundra and peatlands, with a view to identifying and quantifying the impact of human activities.
- Information on other on-going developments in research activities relevant to the Convention, in particular emerging findings from the science, research priorities and related activities (e.g. on capacity building or engagement of developing country researchers), i.e. similar to the submission that APN has provided in the past.

SBSTA are also planning for a technical-scientific workshop on ecosystems with high carbon reservoirs, such as coastal marine ecosystems, that has been requested at SBSTA 37. It will take place in the second half of the year, some time before COP 19 in Warsaw. APN will be requested for its input.

### SBSTA38 Attendees:

- Dr. Andrew Matthews, Invited Expert to the Steering Committee
- Dr. Akio Takemoto, Secretariat Director

### Budget requested (for approval under the next item):

- US\$14,000 (for SBSTA38 and other potential activities)



**SBSTA36 Research Dialogue****Submission from the Asia-Pacific Network for Global Change Research (APN)****19<sup>th</sup> May 2012, Bonn Germany**

**Acknowledgment:** The APN welcomes and appreciates the continuing opportunity to inform, and engage in a dialogue with SBSTA on issues of global change research, capacity development and science-policy interfacing mechanisms within the Asia-Pacific region that is relevant to the convention. The present brief summarises the current main activities undertaken by APN to address some of the issues outlined in the recently published document FCCC/SBSTA/2012/MISC.2 regards those topics for discussion at the dialogue meeting to take place during SBSTA36, taking into account developments in research activities outlined in document FCCC/SBSTA/2007/4, **Paragraph 47 (a–f)**.

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**Contents****1. What is the APN****2. New and Ongoing APN Activities Relevant to the Convention****2.1 APN Climate Synthesis and Related Activities**

2.1.1 Climate in Asia and the Pacific: A Synthesis of APN Activities

2.1.2 Book: To be published by Springer in its Advances in Global Change Research Series.

**2.2 Selected Ongoing Research Activities related to:**

2.2.1 Coastal and Marine Ecosystems

2.2.2 Land use and Land Cover Change

**2.3 New Opportunities for Developing Countries in the Asia-Pacific Region**

2.3.1 New Opportunities Climate Change Adaptation for Developing Countries in the Asia-Pacific Region

2.3.2 New Opportunities: Low Carbon Initiatives for Developing Countries in the Asia-Pacific Region

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**1. What is the APN:**

Established in 1996, the Asia-Pacific Network for Global Change Research (APN) is a network of twenty-two member governments in Asia and the Pacific whose vision is to enable countries in the region to successfully address global change (GC) challenges through science-based response strategies and measures, effective science and policy linkages, and scientific capacity development.

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

conducts regular synthesis and assessment activities of the projects its supports in order to identify important outcomes, research gaps and/or emerging issues that could be used to support policy development.

APN is financially sponsored by the Governments of Japan (Ministry of Environment [MOEJ]; Hyogo Prefectural Government), New Zealand (Ministry for the Environment), Republic of Korea (Ministry of Environment [MEV]) and the United States (National Science Foundation [NSF]; United States Global Change Research Program [USGCRP]).

The APN goals are achieved through a number of activities selected from the APN's two main programmes, which involve **two annual open Calls for Proposals in which scientists based in APN member or approved countries can submit proposals for funding support**. The two main programmes are the *Annual Regional Call for Research Proposals (ARCP)* and the *Scientific Capacity Development Programme (CAPaBLE)*. Particularly encouraged to submit APN proposals are developing-country researchers working in collaboration with the APN's international Global Change partners including DIVERSITAS, ESSP, IGBP, IHDP, START, WCRP and their related core and joint projects.

Research and capacity building activities under the ARCP, CAPaBLE and other related initiatives of the APN focus on four scientific themes identified in the APN's Science Agenda. These are (i) **Climate Change and Climate Variability**; (ii) **Ecosystems, Biodiversity and Land Use**; (iii) **Changes in Atmospheric and Terrestrial Domains**; and (iv) **Resources Utilisation and Pathways for Sustainable Development**. Under these scientific themes, the APN supports activities that are interdisciplinary in nature and cut across natural, social, economic and political sciences.

Examples of the kinds of activities APN undertakes are:

- Promoting and strengthening GC research, including identifying gaps via syntheses and assessment work
- Identifying and developing existing methodologies and developing new methodologies and tools for effective transfer of scientific knowledge
- Strengthening the interface of policy- and decision-making processes and society in general for mainstreaming environmental concern
- Encouraging initiatives from developing countries for place-based, integrative research
- Aligning with programmes of the GC community

## 2. Ongoing APN Activities Relevant to the Convention:

### 2.1 APN Climate Synthesis Report and Work towards Springer Publication: Climate in Asia and the Pacific: Society, Security and Sustainability

The APN Climate Synthesis activities began in November 2009 and involve key scientists from the Asia-Pacific region, all of whom have been involved in APN activities either through leading APN-funded projects and/or through being a member country or expert member in the APN.

#### 2.1.1 Climate in Asia and the Pacific: A Synthesis of APN Activities

ISBN978-4-9902500-1-0

Citation: Manton MJ, Heath, L, Salinger, J and Stevenson, LA. 2011. *Climate in Asia and the Pacific: A Synthesis of APN Activities*, pp78. Asia-Pacific Network for Global Change Research.

Work for the present Synthesis – Climate in Asia and the Pacific: A Synthesis of APN Activities began in November 2009 with a scoping workshop followed by an authors' workshop in August 2010. The work entailed summarizing over fifty scientific research and capacity building projects funded by the APN that had a climate-related element – whether natural climate variability and/or climate change. The contributing authors of the present synthesis report are leaders in their field and many of them are authors for the next Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCCAR5). The present report will be a useful tool not only for the IPCC, but also for scientists, decision-makers and educators as it identifies both research gaps and future research activities for the Asia-Pacific region in the context of natural climate variability and climate change. **Copies will be available**



**at the research dialogue on 19<sup>th</sup> May 2012 and can be downloaded from the APN website at:**

<http://www.apn-gcr.org/uploads/reports/2011/Climate%20in%20Asia%20and%20the%20Pacific.pdf>

#### 2.1.2 Book: To be published by Springer in its Advances in Global Change Research Series.

Following a workshop from 17-20 October 2011, in Kobe Japan, the book authors are now in the process of preparing Final Order Drafts for the Chapters outlined below. An outline of the book, which is scheduled for publication in Autumn 2012, looks at the current/emerging issues in the Asia-Pacific region, is as follows:

**TITLE: Climate in Asia & the Pacific: Security, Society and Sustainability**

**i. Foreword**

- Helen Clark of UNDP (to be confirmed)
- WCRP Executive Director (to be confirmed)

**ii. Message from the Steering Committee Chair of APN**

**iii. List of Contributors**

**Chapter I: Introduction (Coordinating Lead Author: Michael Manton)**

- Include purpose of the book, tools/methodologies used and opportunities for climate impact, adaptation and vulnerability assessments. There is a need to recognise the importance of Asian societies that extend from remote communities to mega-cities.

**Chapter II: Climate Variability and Change (Coordinating Lead Authors: Jim Salinger & Madan Shrestha)**

Section 1: Observed Climate, Variability and Trends

- o Highlight characters and drivers of climate, variability and trends across the Asia-Pacific, including extremes, glacial mass balance changes and large scales temperature , e.g. circulation and monsoon
- o Include pre-historical perspectives and variability across time-scales

Section 2: Modelling Projections and Regional Downscaling

- o Highlight regional climate modelling and downscaling for Asia-Pacific, including projections on future climate and potential applications of models outputs in projects initiated by WCRP [e.g. Coordinated Regional Climate Downscaling Experiment (CORDEX)], IITM, APCC, BoM, GCISC, IRI, etc.

**Chapter III: Climate and Urbanisation (Coordinating Lead Author: Peter Marcotullio)**

Section 1: Urbanisation as a driver of Climate Change

- o Highlight the needs of urban areas on food, water, and energy and hence recognise urban areas as source of greenhouse gases. Note the impact of urban design on water and energy efficiency.

Section 2: Mega-Cities (coastal and inland)

- o Highlight vulnerabilities of mega-cities to climate-related events such as sea-level rise and flooding. Note strategies for managing impacts, including urban planning.

**Chapter IV: Climate and Security (Coordinating Lead Authors: Lance Heath & Elena Nikitina)**

Section 1: Food Security: Agriculture and Fisheries

- Highlight vulnerabilities and opportunities of agriculture and fisheries to climate variability and change and note strategies for managing and planning those vulnerabilities and opportunities.

#### Section 2: Water Security

- Highlight vulnerabilities and opportunities of water security to climate variability and extreme events for Asia-Pacific including Himalayas, Tibetan Plateau and Pacific States. Note strategies to manage vulnerability including extreme events.
- Include conflict resolution

#### Section 3: Disaster Management

- Highlight strategies and opportunities for managing climate-related disasters

#### Section 4: Energy (distribution, efficiency, sources)

- Highlight vulnerabilities of energy supply to climate change and variability and extreme events. Note strategies to manage those vulnerabilities.

### **Chapter V: Climate and Society (Coordinating Lead Author: Kanayathu Koshy)**

#### Section 1: Governance

- Describe capabilities and potential strategies for societies to manage climate risks at various levels of governance.

#### Section 2: Remote Communities

- a. Mountain Communities
  - b. Small Islands
- Highlight vulnerabilities of remote communities to climate variability and change and discuss strategies to manage those vulnerabilities

#### Section 3: Human Health

- Highlight vulnerabilities of human health to climate variability and change including extremes and discuss potential strategies to manage those vulnerabilities

### **Chapter VI: Climate and Sustainability (Coordinating Lead Author: Rodel Lasco)**

#### Section 1: Integrated Assessment and Energy Options

- Highlight development of integrated assessment methodologies to determine sustainable energy options for Asia-Pacific region.

#### Section 2: Ecosystem Management

- Highlight importance of natural ecosystems in sustainable development and discuss their roles in climate change adaptation and mitigation.

### **Chapter VII: Future Directions for Climate Research in the Asia-Pacific Region (All CLAs)**

- Highlight overall conclusion and knowledge gaps across all chapters

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**2.2 Selected Ongoing Research Activities related to:**

**2.2.1 Coastal and Marine Ecosystems**

*[Technical and scientific aspects of sources, sinks and reservoirs of all greenhouse gases for coastal and marine ecosystems (mangroves, tidal salt marshes, wetlands and seagrass meadows), with a view to identifying and quantifying the impact of human activities]*

- **(Ongoing) Impact of Climate Change on Mangrove Ecosystems in South Asia (Salik).** A 3-year collaborative project in Pakistan, India, Sri Lanka and Bangladesh.

Mangrove forests are an important ecosystem for sustaining biodiversity and livelihoods of to its dependent communities. The total mangrove cover in South Asia is estimated to be about 10,000 km<sup>2</sup>. A number of commercial and non-commercial activities (like cattle grazing, firewood, timber, agriculture, small industries, etc) are carried out by local communities. Climate change drivers that threaten mangrove ecosystems include changes in sea level, hydrology (tidal and fresh water flows within mangroves), high water events, storms, precipitation, temperature, atmospheric CO<sub>2</sub> concentration, ocean circulation patterns, etc. Therefore, a balance is required between resources and its utilization under climate change scenarios for sustainable development of both mangrove

and their dependent communities.

There is a sizeable mangrove forest along South Asian coasts that is vulnerable to climate change. Little research has been performed in this region to provide a science-based of information to evaluate impacts and vulnerability of coastal regions to climate change. The extent and composition of regional mangroves are under major change. For example, few decades ago the Indus delta mangroves were regarded as the fifth largest mangrove forest of the world, with a cover of about 350,000 hectares, but now their cover has drastically reduced to about 78,000 hectares, a loss of approximately more than 75% of the origin extension. Similar trend are also found in other South Asian countries like India, Sri Lanka, Bangladesh. Alongi (2002) reported that in last 50 years, about one-third of the world's mangrove forests have been lost. Current projections on mangroves area loss suggest that mangroves in developing countries are likely to decline another 25% by 2025 (Ong and Khoon 2003). Research efforts are needed to understand the interaction of climate change and human impacts on the vulnerability of mangroves wetlands in South Asia.

The present project seeks to provide science-based information about the impact of climate change on mangrove ecosystem in South Asia. The impacts of sea level rise, decrease in fresh water flows in the region and other climatic parameters like temperature fluctuations, precipitation etc will be carried out for developing future scenarios of mangroves forests in South Asia. Moreover, the overall vulnerability of mangroves ecosystem will be evaluated by hydrological, climatic, institutional and socio-economic assessments using hydrodynamic modelling, regional climate models, GIS and RS techniques, landscape vegetation models and applying statistical methods respectively.

This project intends to raise awareness among local and national level policy and decision makers about the potential impacts of climate change on mangroves ecosystem. This information will help to devise policies and interventions for mangroves sustainability, development and conservation by selection of appropriate site in the region to develop a conceptual institutional framework describing drivers, pressures, responses, trends and impacts on mangroves ecosystem. This will be achieved by involving distinguished researchers from participating countries i.e. Pakistan, India, Bangladesh, USA and Sri Lanka conducting research on these issues.

Specific Objectives:

1. To examine different climatic and hydrological factors under climate change scenarios and assess their linkage and interactions on mangrove ecosystems
2. To carry out vulnerability assessment for socio-economic variable, indicators and

processes those are affecting mangroves ecosystem sustainability in South Asia.

3. To develop necessary framework of adaptation/recommendations with respect to for policy and institutional intervention for mangroves sustainability and development for decision-makers at local, national and regional level.

- **(Ongoing) Mangrove Ecosystems - Bioshields against Biodiversity Loss & Impacts of Local & Global Change along Indo-Pacific Coast (The Seagrass-Mangrove Bioshield Project, SMBP)** A 3-year collaborative project India, Indonesia and Philippines

In the Indo-Pacific, coastal management vis-à-vis environmental change mitigation and adaptation overly focuses on control of Malthusian over-fishing in coral reefs. It is well documented that among the coastal tropical ecosystems, coral reefs are the most popular, mangroves the most disturbed, and seagrass meadows, the least studied. Seven respected scientists and a number of collaborators from 6 countries (Australia, Japan, India, Indonesia, Philippines, Sri Lanka) are implementing the SMBP. Six sites from the four latter countries have been selected to demonstrate that a seagrass bed and mangrove forest – singly interlinked systems, serve as natural 'bioshield', sustaining system goods and services against local and global human and natural stressors. Adopting the Integrative Science for Society and the Environment (ISSE) framework, SMBP is phased in a way to first establish the scientific base (Phase 1: Science Establishment, 2years) and link this with academic programs and governance policies to ensure sustainability of the benefits gained (Phase 2: Capacity Building, 1 year).

Hence, we argue in favour of a growing consensus, which places seagrass-mangrove system conservation as priority, developing models of the ecosystems' functions and health, which are the natural biological protector ('bioshield') in mitigating local and global changes along the region's coasts. To be tested and promoted, these models will support decision-making and will be used to build capacity of stakeholder communities and governments so that they could utilize more efficiently ecosystem goods and services while adapting to environmental changes.

***SMBP will be implemented in 4 countries: India, Indonesia, Sri Lanka, and Philippines. In the last 3countries, seagrass is virtually unknown and in all 4, the rate of its disappearance and degradation (together with mangroves), is one of the highest in the world, and so peoples' dependence upon them for survival.***

In India, measurement of CH<sub>4</sub> and CO<sub>2</sub> nutrient fluxes and ecosystem goods and services in seagrass will be done in the Gulf of Mannar and in mangroves, in Pichavaram, both in Tamil Nadu. The area is impacted by discharges and disturbances from 47 villages. Fisheries have increasingly declined. In Indonesia, measurement of *Enhalus* seedling



growth and survival, seagrass biomass and production, litter fall and ecosystem goods and services will be undertaken in Jakarta Bay, the specific area with a group of coral atoll islands, with a total area of about 12 km<sup>2</sup>, two large lagoons and surrounded by well-developed fringing reefs with seagrass and mangroves. The inland area is considered as the primary source of waste and pollutants; In the Philippines, dugong feeding behaviour will be observed and population dynamics done in Davao Gulf (south), which has a continuum of corals, seagrass, and mangroves, relatively most pristine, with dugongs and turtles. The human threats are the fishing pressure for day-to-day survival of communities. Water quality, benthic biodiversity, photosynthetic efficiency and seagrass-mangrove ecosystem goods and services will be measured in Bolinao, northern Philippines and Davao Gulf. Bolinao has a small mangrove patch, continuous with a large area of seagrass, disturbed by sedimentation and nutrient pollution from nearby fish cages and fishpens. In Sri Lanka, nutrient cycling, salinity and mangrove plant biodiversity and density will be investigated in Puttalam Lagoon, a large 327 km<sup>2</sup> lagoon, which is fed by two rivers, discharging at 2.2-8.1 m<sup>3</sup>/s. The land is used for prawn fishing, salt production, and rice cultivation.

- **(Ongoing) Tracing Nitrogen and Carbon Biogeochemical Processes in the Inter-Tidal Mangrove Ecosystem (Sundarban) of India and Bangladesh: Implications of Global Environmental Change (Mathukumalli).** A 3-year collaborative project in India and Bangladesh

Approximately 50% of the world's human population currently lives within 100 km of a coastline. As population density and economic activity in the coastal zone are projected to increase, there is increasing interest in forecasting impacts of anthropogenic activities, land-use changes and climate on nutrient cycles and budgets. Human interventions in land use in coastal areas have increased nutrient and sediment loads, resulting in eutrophication and degradation of water quality. Owing to their high productivity and energetic exchange with terrestrial and marine ecosystems, mangroves play a crucial role in the biogeochemical cycling of carbon, nitrogen, and other nutrients. Exporting substantial amounts of terrestrial organic matter to the coastal oceans, mangroves play a key role in the regional carbon cycle. Furthermore, increasing land use change and aquaculture practices have increased nutrient discharges; have increased rates of eutrophication, changes in nutrient stoichiometry, and depletion of oxygen that has significant negative effects on the coastal biodiversity. Sundarban is the largest single block mangrove ecosystem (3861 miles<sup>2</sup>) in the World and 60% is distributed in Bangladesh and the rest 40% in India. Constantly Sundarban mangrove is degraded by rapid changes in land-use pattern/management, discharges of agriculture and aquaculture effluents and reduction in freshwater from the upstream due to the

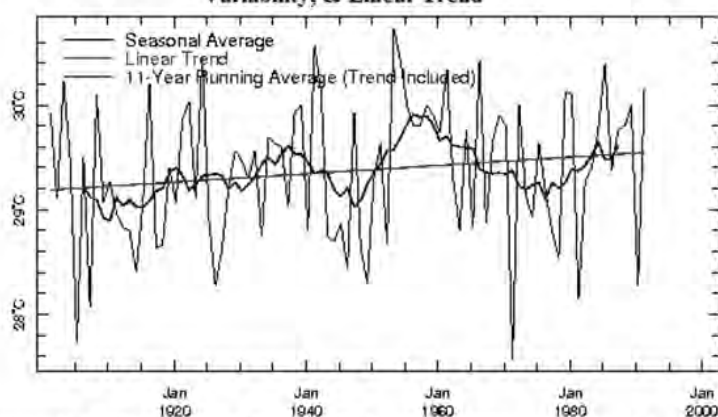
construction of dams have seriously affected the biodiversity and biogeochemical processes. Therefore, an integrated assessment is planned to evaluate the ecological and biogeochemical characteristics of mangrove to describe the biogeochemical processes in Sundarban in response to changing climate and land-use.

Specific Objectives:

1. To elucidate the biogeochemical behaviour and cycling of various ecologically important nutrients (C, N, P, and S) and pollutants.
2. To track sources and impacts of environmental pollution, and 3) exploring historical changes and perturbations in the mangrove.

Climate and hydrology in the Sundarban area were collected from various sources to understand the response of ecosystem to changes in climate. It is very clear that the air temperatures were increased at the rate of  $0.4\text{ }^{\circ}\text{C}/\text{century}$  (Fig. 1a). Similarly, climate change induced sea-level rise caused increase in salinity along the coastal Bangladesh (Fig. 1b), that indeed impede the groundwater quality and also affects the nutrient biogeochemical processes in the Sundarban mangroves.

**(a) Mar-May Seasonal Average Station Temperature Values, Decadal Variability, & Linear Trend**



Station at (88.33E, 22.53N) CALCUTTA/ALIP; Trend: 0.3982586 degree\_Celsius per century

**(b) Sea level rise in the Bangladesh Sunbarban**



Publications to date:

Prasad, M.B.K., 2012. Nutrient stoichiometry and eutrophication in Indian mangroves. Environmental Earth Sciences, DOI: 10.1007/s12665-011-1508-8 (in press).

- **(Ongoing) Impacts of Global Warming on Coastal and Marine Ecosystems in Northwest Pacific (Jung). A 2-year collaborative activity in Russia, Republic of Korea, China and Japan**

The western North Pacific is highly productive, supporting the largest fisheries yields in

the world and high consumption of fish products by residents of its bordering countries. Recently, however, the western North Pacific has experienced dramatic changes in coastal water quality, oceanographic conditions, and ecosystem structure, driven by global climatic changes and anthropogenic interventions, such as rapidly increasing human populations and industrial activity. Understanding climatic influences on marine ecosystems and fisheries in this region has been the focus of international and multidisciplinary studies since the North Pacific Marine Science Organization (PICES) was established in 1992. Increasing scientific evidence indicates that the responses of marine ecosystems to climatic change are not simple, but vary among regions and according to the scales of the processes. However, implications of these regional differences to vulnerability and possible policies for adapting fisheries industries to climate change have not yet been explicitly studied. Here we are conducting comparative studies across NOWPAP countries (China, Japan, Korea and Russia) to evaluate regional differences in the responses of marine ecosystems to the changes in the NOWPAP sea area (33-52°N; 121-143°E; Fig. 1) and their implications in developing adaptation policies for climate change by establishing a working group composed of natural and socioeconomic scientists.

Specific Objectives:

1. Develop preliminary IBMs that combine a 3-d ocean circulation model and a simple biological model for predicting transport and recruitment of early-life stage fishes.
2. Develop fisheries economic models that can evaluate and risks and vulnerabilities of fisheries sectors to the projected changes in marine ecosystems and fisheries resources in the NOWPAP area.
3. Contrast the different vulnerabilities of the NOWPAP regions to explore the implications in developing management plans for adapting fisheries sectors to climate change projected by IPCC AR4 (low, moderate, and high future emissions of greenhouse gases) or preferably AR5 models.
4. Investigate changes in production of fisheries due to climate changes and evaluate costing of policy changes

Publications

Kang, Y.S., Jung, S., Zuenko, Y., Choi, I., Dolgaova, N., In press. Regional differences in response of mesozooplankton to long-term oceanographic changes (regime shifts) in the northeastern Asian marginal seas. *Progress in Oceanography*.

<http://dx.doi.org/10.1016/j.pocean.2011.11.012>

### 2.2.2 Land use and Land Cover Change

*[Technical and scientific aspects related to land-use and land-cover changes and other ecosystems with high-carbon reservoirs, in particular terrestrial ecosystems (e.g. tundra, peatlands and steppe), including in the context of consideration of practical mitigation options for achieving the 2°C temperature goal]*

- **(Ongoing) Rapidly Changing Greenhouse Gas Budgets of South and Southeast Asia: A 3-year collaborative research activity.**

Rapid economic growth in many Asian countries has resulted in increased energy demand, which in turn is leading to increasing the global share of greenhouse gas emissions by the region. An understanding of the natural carbon exchange over the land and oceans due to tropical climate variability is also required for calculating interannual to interdecadal variations in atmospheric CO<sub>2</sub>. The main aim of this 1<sup>st</sup> APN workshop was to assess resources available currently among the international research community working on various aspects of earth system sciences with a focus on South and Southeast Asia. The key issue discussed was the availability of data and models to work towards the establishment of the GHG budget for these two regions based on synthesis and reconciliation of top-down (atmospheric observations and inverse models) and bottom up estimates (ground based flux observations and terrestrial models). These included atmospheric measurements of GHGs, classifications of land cover and soil properties, coastal ocean biogeochemistry, forest and agriculture inventories, and remote sensing based estimates. The target GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxides (N<sub>2</sub>O).

Principal Investigators: Josep Canadell and Prabir K. Patra

#### Introduction

Within the United Nations Framework Convention on Climate Change, countries are continuing to negotiate emission reduction targets and exploring mitigation strategies best suited to their biophysical characteristics. One of the largest impediments to advance in this front is the lack of high quality estimates of GHG fluxes in and out of natural and managed ecosystems. In this project, we have undertaken one of the most ambitious synthesis efforts to date using global and regional datasets and model outputs to constrain the regional GHG budgets of South and Southeast Asia, where the source/sink balance of GHGs has large uncertainty. For reduction of these uncertainties, analyses of land-use and land-use change, riverine carbon export, soil carbon distributions and other bottom-up estimations are being conducted. For top-down estimations (source/sink inversion from atmospheric data and models), efforts are being made to use the existing atmospheric data from various sources, as well as expansion of the present surface-monitoring network in the South Asia region.

Objectives

- (a) Reconciliation of top-down estimates using atmospheric GHG inversion models and bottom-up estimates using terrestrial biogeochemical models, remote sensing data, and flux and inventory datasets.
- (b) Observational data and numerical model results of various GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O etc.) will be analyzed and archived in a central data repository.
- (c) Access and analyze the results for the regions from 11 atmospheric CO<sub>2</sub> inversions, 6 global terrestrial biogeochemical model outputs, and one fire emissions product.
- (d) Discuss among the participating scientists during the proposed workshops, and share with all parties interested through peer-reviewed publications and the data repository.

Results to Date

Rapid economic growth in many Asian countries has resulted in increased energy demand, which in turn is leading to increasing the global share of greenhouse gas emissions by the region (Raupach et al., PNAS, 2007; Le Quere et al., NatGeosci, 2009). An understanding of the natural carbon exchange over the land and oceans due to tropical climate variability is also required for calculating interannual to interdecadal variations in atmospheric CO<sub>2</sub> (Patra et al., Tellus, 2005).

An international workshop was organized through financial supports from (1) the Asia Pacific Network (APN) funded project (ARCP2011-11NMY-Patra/Canadell), the Indian Space Research Organisation (ISRO) Geosphere-Biosphere Project (GBP) (ATCTM) at the Physical Research Laboratory (PRL), Ahmedabad. The main aim of this 1st APN workshop was to assess resources available currently among the international research community working on various aspects of earth system sciences with a focus on South and Southeast Asia. The key issue discussed was the availability of data and models to work towards the establishment of the GHG budget for these two regions based on synthesis and reconciliation of top-down (atmospheric observations and inverse models) and bottom up estimates (ground based flux observations and terrestrial models). These included atmospheric measurements of GHGs, classifications of land cover and soil properties, coastal ocean biogeochemistry, forest and agriculture inventories, and remote sensing based estimates. The target GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxides (N<sub>2</sub>O).

The Project Co-Leader, Dr. Pep Canadell (GCP/CSIRO, Australia), highlighted the rapid emissions growth rates of countries in the region in 2010 superseding previous expectations and showing little effect of the Global Financial Crisis (e.g., China 9.9%, India 9.0%, South Korea 8.8%, Indonesia 7.6%). The growing global share of emissions from Asian countries is increasing the uncertainty of the global carbon budget, and more so for

the targeted regional budgets; uncertainty reduction is one of the main goals of the APN effort.

Top-down observations and modeling: Michel Ramonet (IPSL/LSCE) highlighted the needs for high quality measurements, which are set at accuracy of 0.1 ppm, 2 ppb and 0.1 ppb for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O, respectively for the upcoming Integrated Carbon Observation System (ICOS) project. Prabir Patra (RIGC/JAMSTEC) set a target for CO<sub>2</sub> flux estimation uncertainty for the South and Southeast Asia regions at 0.2 PgC/yr within the time span of the APN project of 3 years, by utilizing in situ and remote sensing observations in atmospheric-CO<sub>2</sub> inverse modeling.

The observations of most important anthropogenic GHGs are being conducted at ground based sites through national and international collaborations and onboard of commercial/research aircrafts. Initial datasets have been analysed for understanding how regional sources and sinks (fluxes) interact with the atmospheric transport and chemistry using numerical models for simulating concentrations. One of the recent finding, based on atmospheric inverse modeling, is that the South Asia region has apparently acted as the net sink of CO<sub>2</sub> at a rate of  $0.3 \pm 0.3$  PgC/year during 2007-2008 (P. K. Patra), but most parts of the Asian region behave as a significant source of CH<sub>4</sub> and N<sub>2</sub>O (K. Ishijima; RIGC/JAMSTEC). These results, however, show high uncertainty and lack of confidence at the sub-regional level so falling short from showing the role of the various GHG species on the Earth's climate system and any possible implications for climate policy development. The workshop identified the need for molecular and isotopic data of GHGs as a key development (N. K. Indira, CCMACS; M. Naja, AIRES).

The workshop also highlighted the importance of regional applications of atmospheric inversion modeling using unique regional observations not yet part of the global datasets and measurements from commercial airliners in and out of the region (eg. CONTRAIL program from NIES/MRI/JAL by Y. Niwa, MRI; C.-H. Cho, NIMR; R. Lokupitiya, USJ; P. S. Swathi, CMMACS). The use of air pollutant species, such as carbon monoxide (CO), ozone (O<sub>3</sub>), are shown to be effective for separating biomass burning and fossil fuel emissions, both dominant fluxes in the region (L. K. Sahu, PRL), and also useful for analyzing the detrimental effects of oxidants on crop yields (S. Lal, PRL). Ozone concentration over India increased at a linear rate of ~1.4% per year in the periods of 1950s and 1990s.

Bottom-up observations and modeling: A growing role of eddy-covariance flux towers is expected in the near future given the current deployment of a network in India under the ISRO-GBP and the institutions of the Ministry of Earth Sciences, Government of India. The well-established terrestrial ecosystem models, developed primarily for the temperate

region, are tuned for light use-efficiency and soil moisture stress in order to adapt them for the regional conditions. Efforts are also underway for validating the modelled gross primary productivity and heterotrophic respiration under the National Carbon Project (NCP) (R. Nayak, NRSC). N. R. Patel (IIRS) suggested that agricultural net primary productivity (NPP) has increased in the past 50 years due both due to increased yield per hectare and overall extent of agricultural land. Explicit representation of crops in terrestrial modeling has been mostly ignored so far and will require the next generation of modeling development given the predominant role of agriculture in the region (E. Lokupitiya). Site level measurements of emission footprints are constructed for CH<sub>4</sub> and N<sub>2</sub>O emissions from the rice and wheat cropping fields (D. Pandey, BHU) and also discussed their emission reduction potentials (I. Rusmana, IPB). Emerging new accounting techniques based on field observations, modeling and remote sensing are providing new estimates of CH<sub>4</sub> emissions from Indian rice paddy fields (3.4 Tg/yr) and livestock (11.7 Tg/yr) (K. R. Manjunath, SAC). Emissions from wetlands are still highly unconstrained, particularly for Southeast Asia where extensive tropical peatlands exist. The satellite products of normalized difference vegetation index (NDVI), land cover change and land cover change, soil properties and soil carbon mapping, and agricultural practices are all identified as critical inputs for identifying the processes involved in the exchange of carbon and nitrogen in terrestrial ecosystems (T. Bhattacharya, ICAR).

The transport of terrestrial carbon to the estuaries (33 TgC/yr) and emissions from coastal oceans (6.4 TgC/yr) of India illustrates the importance of lateral transport and the coastal zones (V. V. S. S. Sarma, NIO) and the need for an Asia-wide effort (N. H. Oh, SNU; A. Koripitan, IPB). The concept of ocean acidification was also discussed in the context of rapidly changing scenario of CO<sub>2</sub>, and oxidized sulfur (SO<sub>x</sub>) and nitrogen (NO<sub>x</sub>) species (M.M. Sarin, PRL).

***The meeting cemented a set of initial steps towards a regional collaboration among the scientists with interdisciplinary research background who are interested in working on the budget and attribution of GHG budget to the major regions in Asia. The collaboration aims to facilitate the sharing of existing and new observations and numerical model simulations, and to contribute to the long term implementation of the goals of the Regional Carbon Cycle Assessment and Processes (RECCAP) of the Global Carbon Project.***

An improved scientific knowledge is indispensable for developing informed national policy on GHGs emission mitigation strategies and their implementation, based on the sound understanding of the behaviour of natural ecosystems and intensity of the anthropogenic activity.

A concise version of this meeting report is submitted for publication in EOS

(peer-reviewed):

Patra, P. K., J. G. Canadell, & S. Lal, The rapidly changing greenhouse gases (GHG) budget of Asia, EOS, Transactions, American Geophysical Union, DoI: 2011ES003689, Vol. 93, 2012.

## 2.3 New Opportunities for Developing Countries

### 2.3.1 *New Opportunities Climate Change Adaptation for Developing Countries in the Asia-Pacific Region*

Parties adopted the Cancun Adaptation Framework (CAF) as part of the Cancun Agreements at the 2010 COP 16/CMP 6 conferences in Cancun Mexico. In the Agreements, parties affirmed to enhance action on adaptation with the same level of priority as mitigation. At the 2011 COP17/CMP7 Conferences in Durban, South Africa, parties reaffirmed the above decision and decided on the modalities and procedures for the Adaptation Committee that supports enhanced action including engagement with, and draw on expertise of, relevant networks and centres. The objective of CAF (paras. 11-35 of UNFCCC Cancun report) is to enhance action on adaptation, including through international cooperation and coherent consideration of matters relating to adaptation under the Convention. Enhanced action on adaptation covers a wide range of fields such as:

- (i) Planning and implementing action identified in national and sub-national adaptation plans and strategies,
- (ii) Impact and vulnerability assessments,
- (iii) Strengthening institutional capacity,
- (iv) Enhancing climate related risk reduction strategies,
- (v) Research, development and diffusion of technologies, practices and processes,
- (vi) strengthening data, information, knowledge systems, education and public awareness; and
- (vii) Improving research and systematic observation.

It is particularly important to assist least developed countries to formulate and implement national adaptation plans including the above action points.

#### **New activities**

Based on the above decisions, the APN is expected to play a more important role in supporting action on adaptation in the Asia-Pacific region, particularly through regional cooperation in global change research, scientific and technical capacity building and interaction between scientists and policy-makers. More importantly, it is essential to enhance the support for member countries to achieve Goal 2 of APN, i.e., strengthening interactions among scientists and policy-makers. In this context of the CAF, it is critically important to strengthen the capacity of scientists and practitioners



in our member developing countries so that they can be more effectively involved in decision-making processes on national adaptation planning, which requires regional and sub-regional cooperation. Therefore, we propose the following process to establish a new adaptation programme under the APN.

**(1) Hyogo-Funded Activity: Scoping workshop to enhance the action of APN developing country members on adaptation in the Asia-Pacific region**

APN, Hyogo Prefecture and the Institute of Global Change Adaptation Science (ICAS) of Ibaraki University will co-organize a scoping workshop to be held in Kobe, Japan. The workshop will be conducted as a new HYOGO Activity and sponsored by Hyogo Prefecture. ICAS is renowned for research activities on climate change impact assessments and adaptation in the Asia-pacific region.

The 3-day workshop will be held between August and September, 2012. The objective of the workshop will be to:

- (i) Compare recent experiences in the region to identify needs, gaps and lessons on planning and implementation of adaptation,
- (ii) Identify prioritized activities on adaptation under the CAF which should be supported by APN in regional or sub-regional scale, and
- (iii) Identify effective programmes and/or tools to support developing member countries in the region in the context of linking science and policy.
- (iv) Bring scientists, policy-makers and practitioners associated with adaptation together in one venue – both within and outside the APN member countries.

**(2) Joint activity with UN-CECAR: Training course on adaptation planning and implementation in Asian-Pacific region**

APN and University Network for Climate and Ecosystem Change Adaptation Research (UN-CECAR) will co-organize a training course on adaptation planning and implementation in developing countries in Asia-Pacific region. UN-CECAR is a joint initiative of more than 20 leading universities across Asia. It is committed to developing postgraduate educational and research programmes on climate and ecosystems change, adaptation and sustainability science. It has been actively conducting a series of training courses on adaptation for postgraduate students in Asian countries.

The joint training course will be held for three days back-to-back with a UN-CECAR training course in FY 2012, utilizing the above existing capacity development mechanism (venue will be decided later). It aims at raising capacity of scientist as well as practitioners that should be involved in policy making process on adaptation in respective countries.

The results of the joint activity will be reflected in the draft multi-year programme on adaptation that is described in (4) below, and that will be reported to the 18<sup>th</sup> IGM.

### **(3) Proposal Development Training Workshop**

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, Kobe, Manila, Pune, China, VietNam, and Bhutan back to back with other important meetings.

Held back to back with (2) above, we are proposing that Asian adaptation students be engaged in a proposal development training workshop so that they might be able to actively engage in potential future calls for funding related to adaptation and (4) below.

### **(4) Formulation of draft multi-year programme on adaptation**

Based on the results of the scoping workshop and the joint training course, we expect to draft a three to five year programme to support action on adaptation in member countries. This programme will be presented to the 18<sup>th</sup> IGM/SPG meeting in 2013 for approval. The draft programme will include research and capacity development activities on prioritized themes, as well as science-policy dialogues related to adaptation. If, once the draft programme is approved, it is expected that the programme will be reported and reviewed by the IGM/SPG meetings that will be held in subsequent years. We will introduce the above activities at events organized by UNFCCC and other relevant international fora.

#### **2.3.2 New Opportunities: Low Carbon Initiatives for Developing Countries in the Asia-Pacific Region**

Parties to the UNFCCC adopted the Cancun Agreements at the 2010 COP16/CMP conferences in Cancun Mexico. They agreed to work towards identifying a global goal for substantially reducing global emissions by 2050 (para. 5 of UNFCCC Cancun report). In order to achieve the global goal, both developed and developing countries agreed to enhance mitigation actions. In the case of developing country parties, parties agreed to take nationally mitigation actions in the context of sustainable development, supported and enabled by technology, financing and capacity-building (para. 48), and encouraged developing countries to develop low-carbon development strategies or plans in the context of sustainable development (para.65). At 2011 COP17/CMP7 conferences in Durban South, Africa, and parties recalled the above Cancun agreements and decided further on parties' mitigation actions.

APN has supported more than sixty research projects related to climate change and variability; a

major theme in the APN's science agenda. APN has also supported workshops and training on GHG inventory compilation, sustainable technology transfer and measuring emissions from landscapes. The 15<sup>th</sup> IGM/SPG meeting, Busan, Republic of Korea (2010) held the Low Carbon Green Growth and Development Session, which made participants share the concept on low carbon and green growth development.

Based on the results of UNFCCC conferences, it is critically important to strengthen the capacity of scientists and practitioners in developing countries so that they can be involved in decision-making processes on national strategies for low carbon and green growth. It is expected that the APN will play a significant role in enhancing scientific capacity of experts, strengthening science-policy linkages and strengthening synergies with other relevant organizations and networks that will ultimately assist in promoting low carbon technologies in developing countries in the region.

In this regard, the APN has recently established a new set of focused activities on **Low Carbon Initiatives (LCI)**. The LCI programme will be a three-year programme from April 2012 to March 2015, mainly comprised of: (i) regional-based research (ii) capacity development; and (iii) communication activities. It is estimated that proportion of fund for (i) regional research activities among the entire LCI programme will be approximately 60%. Category (iii) will include activities for communicating and collaborating with other low carbon networks in the Asia-Pacific region. For (i) an (ii), an independent call for proposals will be launched over a 6 month-period from June to December 2012, with new research and capacity development activities expected to start in January 2013.



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## Subsidiary Body for Scientific and Technological Advice

Thirty-seventh session

Doha, 26 November to 1 December 2012

Agenda item 7

**Research and systematic observation**

### Research and systematic observation

#### Draft conclusions proposed by the Chair

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) noted with appreciation the statements delivered at its thirty-sixth session by representatives of the World Meteorological Organization (WMO), the Global Climate Observing System (GCOS) and the Intergovernmental Panel on Climate Change (IPCC), and at its thirty-seventh session by representatives of WMO and the Committee on Earth Observation Satellites (CEOS).
2. The SBSTA welcomed the plan of the GCOS Steering Committee and secretariat to prepare, in broad consultation with relevant partners, by early 2015, a third report on the adequacy of the global observing systems for climate<sup>1</sup> and, by 2016, a new implementation plan for the global observing system for climate, which would, inter alia, support the Convention.<sup>2</sup> The SBSTA invited the GCOS secretariat to provide the third adequacy report to the SBSTA in 2015 by its forty-third session, and the final implementation plan to the SBSTA in 2016 by its forty-fifth session. The SBSTA encouraged the GCOS secretariat to provide a draft of the new implementation plan to the SBSTA by its forty-third session in 2015.
3. The SBSTA noted that the GCOS secretariat would consider, inter alia, the findings of the Fifth Assessment Report of the IPCC, in the development of the third adequacy report.
4. The SBSTA noted the importance of systematic observation for vulnerability assessments and adaptation, with a specific emphasis on developing countries. It encouraged Parties to contribute to the identification of emerging needs for systematic

<sup>1</sup> A report on the adequacy of the global climate observing systems was prepared in 1998, followed by a second such report in 2003; they are available at <http://www.wmo.int/pages/prog/gcos/Publications/gcos-48.pdf> and [http://www.wmo.int/pages/prog/gcos/Publications/gcos-82\\_2AR.pdf](http://www.wmo.int/pages/prog/gcos/Publications/gcos-82_2AR.pdf).

<sup>2</sup> For the summary of the GCOS *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC*, prepared in 2004, see document FCCC/SBSTA/2004/MISC.16. For the summary of the 2010 update of the plan, see document FCCC/SBSTA/2010/MISC.9.

observation in the context of the Convention, in support of the activities mentioned in paragraph 2 above.

5. The SBSTA welcomed the activities undertaken by the GCOS secretariat to support efforts to address the needs for climate observations, including the preparation of an update of the Satellite Supplement<sup>3</sup> to the 2010 updated GCOS implementation plan.

6. The SBSTA expressed its appreciation to CEOS for its update on progress made by space agencies providing global observations in their coordinated response to relevant needs of the Convention.<sup>4</sup> It noted the importance of continuing and sustaining satellite observations on a long-term basis, and the role of CEOS in promoting full and open data sharing, in order to support the work under the Convention. It invited CEOS to provide, by SBSTA 41, an updated report on progress made by space agencies providing global observations in their coordinated response to relevant needs of the Convention.

7. The SBSTA welcomed the regional initiatives of the GCOS secretariat<sup>5</sup> in supporting the development of and improvements to climate observation capacities. It invited the GCOS secretariat to further expand such initiatives<sup>6</sup> and encouraged Parties in a position to do so to support these efforts.

8. The SBSTA took note of the report on progress in the development of methodologies, standards and protocols for climate-related terrestrial observations and related matters, which was provided by the GCOS secretariat on behalf of the Global Terrestrial Observing System.<sup>7</sup> The SBSTA highlighted the importance of such reports for its work.

9. The SBSTA expressed its appreciation to the GCOS sponsors<sup>8</sup> for the support provided by them to the GCOS programme for the past 20 years, and encouraged them to continue to provide such support. It welcomed the initiative of the GCOS sponsors to undertake a review of GCOS, and invited the sponsors, through WMO, to inform the SBSTA on the outcome of that review.

10. The SBSTA noted with appreciation the information from WMO<sup>9</sup> on the outcome of the Extraordinary Session of the World Meteorological Congress, held in Geneva, Switzerland, from 29 to 31 October 2012, with respect to the implementation of the Global Framework for Climate Services.<sup>10</sup> It invited WMO to provide, at SBSTA 39, information on the outcome of the first session of the Intergovernmental Board on Climate Services, to be held in July 2013. The SBSTA recommended draft conclusions on this matter for adoption by the Conference of the Parties at its eighteenth session (for the text of the conclusions, see FCCC/SBSTA/2012/L.25/Add.1).

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<sup>3</sup> Full title of the Satellite Supplement: *Systematic Observation Requirements for Satellite-based Data Products for Climate*. This report provides supplemental details to the satellite-based component of the 2010 update of the GCOS implementation plan. The full report is available at <<http://www.wmo.int/pages/prog/gcos/Publications/gcos-154.pdf>>.

<sup>4</sup> FCCC/SBSTA/2012/MISC.14.

<sup>5</sup> Recent regional initiatives of the GCOS secretariat have focused on Africa and South America, as indicated by the GCOS secretariat in its submission to the SBSTA (FCCC/SBSTA/2012/MISC.4).

<sup>6</sup> For example, to the Asia-Pacific region and the Caribbean.

<sup>7</sup> FCCC/SBSTA/2012/MISC.15.

<sup>8</sup> The sponsors of GCOS are the following: WMO, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the United Nations Environment Programme and the International Council for Science.

<sup>9</sup> FCCC/SBSTA/2012/MISC.21.

<sup>10</sup> See <[http://www.wmo.int/pages/gfcs/index\\_en.php](http://www.wmo.int/pages/gfcs/index_en.php)>.

11. The SBSTA recalled the conclusions of the Subsidiary Body for Implementation at its twenty-fourth session<sup>11</sup> and concluded that it would continue to focus its consideration on research during the first sessional period of a year and on systematic observation during the second sessional period of a year.

12. The SBSTA welcomed the continuation of the research dialogue during SBSTA 36. It expressed its appreciation to the representatives of regional and international research programmes and organizations active in climate change research, and to the IPCC, for their contributions to the dialogue.<sup>12</sup> It also expressed its appreciation to Parties for sharing their views on their research needs and priorities in the context of the dialogue.<sup>13</sup>

13. The SBSTA invited Parties to submit to the secretariat, by 25 March 2013, their views on possible items for consideration as part of the research dialogue during SBSTA 38 and requested the secretariat to compile these submissions into a miscellaneous document.

14. The SBSTA noted the views submitted by Parties contained in document FCCC/SBSTA/2012/MISC.2 and Add.1 and 2.

15. The SBSTA requested the secretariat to organize a workshop, subject to the availability of financial resources, to be held by SBSTA 39, to consider information on the technical and scientific aspects of ecosystems with high-carbon reservoirs not covered by other agenda items under the Convention, such as coastal marine ecosystems, in the context of wider mitigation and adaptation efforts.

16. The SBSTA invited Parties to submit to the secretariat, by 25 March 2013, their views on the content of that workshop and requested the secretariat to compile these submissions into a miscellaneous document.

17. The SBSTA invited Parties and regional and international research programmes and organizations active in climate change research to provide information on the technical and scientific aspects of emissions by sources, removals by sinks, and reservoirs of all greenhouse gases, including emissions and removals from terrestrial ecosystems such as steppe, savannah, tundra and peatlands, with a view to identifying and quantifying the impact of human activities. This information would be considered as a theme for the next research dialogue, also taking into account the submissions received in accordance with paragraph 13 above.

18. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat pursuant to the provisions contained in paragraph 15 above.

19. The SBSTA requested that the actions of the secretariat called for in paragraph 15 above be undertaken subject to the availability of financial resources.

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<sup>11</sup> FCCC/SBI/2006/11, paragraph 109(a).

<sup>12</sup> This information was provided in the submissions contained in document FCCC/SBSTA/2012/MISC.3 and in the presentations given during the research dialogue. For information on research programmes and organizations that contributed to the research dialogue, see <<http://unfccc.int/6896.php>>.

<sup>13</sup> This information was provided in the submissions contained in document FCCC/SBSTA/2012/MISC.2 and Add.1 and 2 and in the presentations given during the research dialogue, see <<http://unfccc.int/6896.php>>.

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## Item 05-04: New Hyogo Activities

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### 1. Results of Hyogo Activities in FY2012/2013

Hyogo Prefectural government hosts APN Secretariat and strongly supports APN activities since 1999 in Kobe Japan. Specific activities that are beneficial for APN member countries funded by Hyogo Prefecture are called Hyogo Activities. In FY2012/2013, the APN organizes the following Hyogo activities.

- (1) Scoping workshop to enhance the action of APN developing country members on adaptation in the Asia-Pacific region
- (1) A series of workshops on New Commons: “Building Resilience with Common Capital”
- (2) APN-IGES-Hyogo Symposium on Low Carbon in Asia

(1) Scoping workshop to enhance the action of APN developing country members on adaptation in the Asia-Pacific region

The Scoping workshop was held on 20-22 August, 2012 in Kobe Japan. The objective of the workshop was to develop a strategy that can be incorporated into the APN Strategic Plan for enhancing climate adaptation in the Asia-Pacific region from the viewpoint of mainstreaming scientific knowledge into the formulation and implementation of climate adaptation plans. As a result of the workshop, the APN Adaptation Framework was formulated. (See IGM-SPG/18/05-05 in detail)

(2) A series of workshops on New Commons

Satoyama landscapes have been rapidly declining due to various factors including increased rural–urban migration, the rapidly aging population, depopulation, land-use conversion and the abandonment of traditional agricultural cultivation. The loss of collective management of Satoyama and Satoumi landscape may be termed a loss of the “commons.” Critical to the success of a more integrated and holistic approach to ecosystem management is the creation of a new “commons,” understood both as a system of co-management of ecosystem services and biodiversity within private, communal, and public land, and as a single system to produce a bundle of ecosystem services which exhibit both public and private properties and for direct and indirect use by society within a long-term perspective. The new “commons” could provide the basis for sustainable development in both developing and developed countries.

**APN, DIVERSITAS, Hyogo, IHDP and UNU-ISP implemented two-year project, “Building Resilience with Common Capital” from FY2011/2012 to FY2012/2013, including a series of workshops** to explore ways and means of enhancing resilience of communities to climate and ecosystems change by identify new governance systems overseeing the management of the New Commons, supply of ecosystem services and enhancement of socioecological resilience against climate and ecosystem changes in an efficient and equitable manner across a range of stakeholders.

Three workshops were organized in two fiscal years. A group of experts were invited for the three workshops to ensure continuity of the process and the development of the New Commons framework and case studies in Japan and other countries in the Asia Pacific region that have Satoyama-type landscapes. For each workshop around 15 core participants were invited. The first workshop was held in Tokyo, Japan 23–25 January 2012, and the second workshop was in Colombo, Sri Lanka 28–29 May 2012, and the final workshop was in Kobe, Japan 3–5 December 2012. For the second and third workshops participants visited Satoyama districts respectively. As for the third workshop, they visited Kurokawa area in Kawanishi city, Hyogo Prefecture. They learned satoyama landscape and ecosystem have been conserved in Kurokawa through sustainable use of natural resources such as production of kiku-zumi charcoal.

As a result of the workshops, a policy paper which provides guidance for enhancing community resilience through the establishment and/or “New Commons” landscapes will be drafted.

(3) APN-IGES-Hyogo Symposium on Low Carbon Society in Asia through Dissemination of Renewable Energy Technology

All countries should work together towards low carbon development and green growth by enhancing mitigation actions both in developed and developing countries.

Hyogo prefectural government of Japan, which hosts APN Secretariat and a major financial contributor to the APN, is keen on implementing mitigation measures in local scale, including CO<sub>2</sub> emission reduction in public and commercial sectors by way of regulatory, economic and informational measures to encourage energy-saving.

Institute for Global Environmental Strategies, Kansai Research Centre (IGES/KRC) is the Hyogo-based research institution, which conducts research activities on “Business and Environment” including experimental study on low carbon technology transfer in Asia.

The APN, IGES/KRC, and the Hyogo prefecture can benefit from a communication event on low carbon development, which facilitates mutual understanding on the latest technology, knowhow, legal framework and life style with regard to low carbon development. It is also important to hold the event from the view point of redistribution of APN’s outcomes to Hyogo prefecture which supports APN for more than 12 years.

Renewable energy technologies are innovative and promising technologies to achieve low carbon development both in developed and developing countries in Asia. Various types of renewables such as solar, wind power and biomass energy are being and will be disseminated in Asian countries through policy arrangement such as regulatory schemes, target setting and economic incentives including Feed-in-Tariff.

In this regard, APN, IGES/KRC and Hyogo Prefecture organized the “**Symposium on Low Carbon Society in Asia thorough Dissemination of Renewable Energy Technology**” on 18 February 2013 in Kobe Japan aiming to provide the latest information on renewable energy technologies that are introduced in Japan and Asian developing countries to the public, and to exchange views among participants on gaps, lessons and solutions to achieve low carbon society both in Asian countries. Agenda of the Symposium was as follows;

**13:30 Opening Remarks**

Toshizo Ido, Governor of Hyogo Prefecture

**13:40 Keynote Speech**

*-Practical use of renewable energy, and a fix-price acquisition system-*

Dr. Kazuhiro Ueta, Professor, Graduate School of Global Environmental Studies & Graduate School of Economics, Kyoto University

**14:10 Guest Speech 1**

Dr. Bundit Fungtammasan, Vice President for Research, King Mongkut’s University of Technology Thonburi, Thailand

**14:30 Guest Speech 2**

Dr. Hamdani Saidi, Professor, Director of UTM International Campus, Universiti Teknologi Malaysia

**15:00 Good Practices Presentation 1**

*-Practical use of the renewable energy by a storage battery system-*

Mr. Kaihei Kuwata, Group Manager, Panasonic Energy Company

**15:20 Good practices Presentation 2**

*-Introductory promotion of the photovoltaics of Hyogo Prefecture-*

Mr. Eiji Endo, Director, Global Warming Solutions Division, Hyogo Prefectural Government



**15:40 Good practices Presentation 3**

*-The woody biomass power generation system by forest unused material-*

Mr. Makoto Takizawa, Director, Green Thermal Co. Ltd.

**16:00 Panel Discussion**

Coordinator: Professor Yutaka Suzuki, Director-General, IGES Kansai Research Center

Panelist: Professor Ueta, Dr. Fungtammasan, Dr. Saidi, Mr. Kuwata, Mr. Endo, Mr. Takizawa, Akio Takemoto (APN Secretariat Director)

**17:30 Closing Remarks**

Professor Yutaka Suzuki, Director-General, IGES Kansai Research Center

The Symposium was very successful. Participants could share the latest information on policy framework, technology and system on renewable energy and barriers and solutions for dissemination of renewable energy through key note speeches, good practices and panel discussions.

## 2. Proposed new activities in FY2013/2014

As Hyogo Activities in FY2013/2014, we propose the following new activities.

(1) *EMECS10-MEDCOAST2013 Joint Conference*

In many parts of the world there are bodies of sea water that are almost entirely enclosed by land. These bodies of water are called enclosed coastal seas. Since ancient times, enclosed coastal seas have been known for their great scenic beauty. In 1990, the world's first International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS '90) was held in the city of Kobe, Japan. Due to the success of the initial conference and subsequent activities, the word "EMECS" in the conference title is now recognized internationally, and activities in which scholars, government officials, industry representatives and private organizations work together to solve problems in enclosed coastal seas are now referred to as EMECS activities. Another key concept for EMECS activities in both international and academic circles is "governance," meaning comprehensive and joint management of enclosed coastal sea environments.

The International EMECS Centre, which is hosted by Hyogo Prefecture in Kobe Japan, is an organization to support EMECS activities in the world. Historically, APN has partnership with EMECS Centre by participating in bi-annual international EMECS Conferences from EMECS5 (2001) to EMECS9 (2011). The APN organized sessions and showcased its activities at booth exhibitions.

In 2013, EMECS and MEDCOAST (Mediterranean Coastal Foundation) will co-organize the EMECS10-MEDCOAST2013 Joint Conference on 30 October to 3 November in Marmaris in Turkey. The tentative Agenda and other information on the Conferences can be accessed from the following Website.

[http://www.emecs.or.jp/englishver2/cnference/kaigi\\_er\\_emecs10.html](http://www.emecs.or.jp/englishver2/cnference/kaigi_er_emecs10.html)

The purpose of the EMECS10 Conference is to share past efforts and experiences on integrated coastal management (IGM) that could lead to developing solutions for sustainable use of marine environment in coastal areas.

In order to develop scientific activities on marine environment in the Asia Pacific region, and to further develop partnership with EMECS, we will propose to contribute to the Conference by showcasing at booth exhibition of the conference, and by supporting participants from developing countries in Asia-Pacific region for their travel cost.

(2) Symposium on Low Carbon Development in Asia-Pacific

Followed by the previous symposium in February in 2013, we propose to co-organize the “Symposium on Low Carbon Development in Asia-Pacific” in Kobe Japan, with IGES/KRC and Hyogo Prefecture in the latter half of FY2013/2014. Both in developed and developing countries, energy and environmental policies as well as low carbon technologies are developed dynamically, and it is essential for APN to continue to disseminate the latest relevant information and to showcase APN activities on low carbon development in the region to the Hyogo public.

The objective of the symposium is

- (i) Deepening mutual understanding on the latest technology, knowhow, legal framework and life style in Japan and other Asian countries as well as needs, gaps and lessons on implementation of mitigation actions
- (ii) Enhancing communication between experts of APN and IGES/KRC and the Hyogo public on the issue of low carbon development

Experts in APN member countries including researchers, industries and local governments are invited to the symposium.

**3. Budget Requested:**

(1) EMECS10-MEDCOAST2013 Joint Conference:	US\$30,000
(2) Symposium on Low Carbon Development in Asia-Pacific:	US\$30,000
<b>Total:</b>	<b>US\$60,000</b>

- All funds above will be earmarked by Hyogo Prefecture.

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## Item 05-05: Climate Adaptation Framework, Disaster Reduction, Loss and Damage

(budget approval to be sought under the next item on  
“Programme of Work and Budget Plan 2013/14”)

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### 1. Background and Outcome of IGM17

The adverse effects of climate change and natural variability pose a significant threat to humanity and ecosystems in the Asia-Pacific region. Under the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), climate change adaptation is attracting more and more attention among Parties, particularly developing countries.

At the 2010 COP16 Conference in Cancun Mexico, Parties adopted the Cancun Adaptation Framework (CAF) as part of the Cancun Agreements. In these Agreements, parties affirmed to enhance action on adaptation with the same level of priority as mitigation.

At the 2011 COP17 Conference in Durban, South Africa, parties re-affirmed the above decision and decided on modalities and procedures for the Adaptation Committee that will provide support to enhance action in this area including engagement with, and drawing on the expertise of, relevant networks and centres.

Based on the recognition, the APN launched the following climate adaptation activities in April 2012 as a result of endorsement by the 17<sup>th</sup> IGM Meeting in March 2012.

- (1) **Hyogo-Funded Activity: Scoping workshop to enhance the action of APN developing country members on adaptation in the Asia-Pacific region**
- (2) **Joint activity with UN-CECAR: Training course on adaptation planning and implementation in Asian-Pacific region**
- (3) **Proposal Development Training Workshop with focus on climate adaptation**

### 2. Activities under APN Adaptation Framework

#### (1) Scoping Workshop to enhance the Climate Adaptation Actions of APN Developing Countries

The Scoping workshop was held on 20-22 August, 2012 in Kobe Japan. The objective of the workshop was to develop a strategy that can be incorporated into the APN Strategic Plan for enhancing climate adaptation in the Asia-Pacific region from the viewpoint of mainstreaming scientific knowledge into the formulation and implementation of climate adaptation plans. As a result of the workshop, the **APN Adaptation Framework was formulated as follows;**

#### (a) Structure

As a result of the workshop, it was suggested that the APN Climate Adaptation Programme would aim to enhance science-based adaptation activities of developing member countries and comprises the following components:

- (i) regional research programme that has a capacity building element
- (ii) capacity building programme (including projects at national and sub-national scales)
- (iii) activities jointly conducted with other organizations and networks

#### (b) Activities of high priority

Based on needs, gaps and lessons for climate adaptation in the Asia-Pacific region (as described in the Appendix of the

APN Adaptation Framework), it was suggested that regional research and capacity building projects should contribute to improving applicability by users, focusing on the following themes:

- (i) Development of high-resolution observational, model and downscaled datasets that can contribute to filling data gaps
- (ii) Sharing of needs-oriented data
- (iii) Calibration and validation of regional climate models; and analysis of projections and assessment of uncertainties
- (iv) Development and utilization of impact, vulnerability, risk and economic assessments
- (v) Improvement of communication skills of scientists and practitioners with stakeholders including local government, community, private sector and civil society, for encouraging policy-makers to formulate and implement adaptation plans based on the latest scientific knowledge
- (vi) Utilization of available information including climate data in applications for adaptation

(c) Partnership development

It was recommended that the APN enhance its partnerships with local, national, regional and international organizations and networks under the new program, which include (but are not limited to) the following (The institutions and organizations listed expressed interest in partnering with the APN and attended the scoping workshop.)

- (i) ADB
  - a. Collaboration on a regional climate scenarios consortium and library in the areas of coordination of data collection, rescue, mining and calibration
  - b. Collaboration on needs assessment of users at national and local levels
- (ii) APAN
  - a. Multi-year collaboration on capacity development for scientists and practitioners on climate adaptation including themes on adaptation plans and “train the trainers” activities
  - b. Organization of a follow-up meeting for recommendations to strengthen partnerships at the 2013 Adaptation Forum
- (iii) ICAS
  - a. Involvement of Japanese scientists for adaptation activities implemented by APN and its partners
  - b. Organization of follow-up events with APN
- (iv) Ministry of Interior, Thailand
  - a. Cooperation with the APN national Focal Point for Thailand on the development of community-based adaptation activities that involves local governments and communities in Thailand
- (v) UNU (UN-CECAR)
  - a. Training activities for scientists and practitioners on climate adaptation including modeling, downscaling, resilience, etc.
- (vi) WCRP
  - a. Collaboration with CORDEX-Asia on capacity development in climate downscaling

*(The institutions and organizations listed above expressed interest in partnering with the APN and attended the scoping workshop.)*

It was recommended that APN further develops its climate adaptation framework and expand its partnerships with organizations and networks through relevant platforms. This should be considered in accordance with the APN work programme and budget, and the APN Strategic Plan and Framework Document.

(d) Partnership development after Scoping Workshop

Following the Scoping Workshop, some other institutions showed interest in partnering with the APN for promoting

climate adaptation activities in Asia-Pacific region.

(i) International Center for Climate Change and Development (ICCCAD):

The ICCCAD is an international Center that implements capacity building activities on climate change and development based in Dhaka Bangladesh. It has been conducting regular short training courses focusing on community-based adaptation and disaster risk reduction. At the UNFCCC expert meeting on loss and damage held on 27-29 August 2012 in Bangkok Thailand, the ICCCAD showed interest in partnering with APN on loss and damage activities, which was incorporated in the submission by ICCCAD on loss and damage activities to the UNFCCC Secretariat.

(ii) Asia-Pacific Center for Security Studies (APCSS)

The APCSS is a US-based institution to study science and security policy in the Asia-Pacific region. The APCSS is interested in security issues that are caused by impacts of climate change.

(iii) Climate Change Institute of Australia National University (CCI-ANU)

Headed by Will Steffen (now retired; acting Director is Howard Bamsey), and coordinated and managed by Lance Heath (SPG invited expert) who was also involved in the APN Climate Synthesis and upcoming Springer book. Potential activities to be discussed.

(2) APN-UNCECAR Training Course on Climate Change Downscaling Approaches and Applications, 9-20 November 2012, Bangkok, Thailand

Based on the partnership with University Network for Climate and Ecosystems Change Adaptation Research (UN-CECAR), APN and UN-CECAR co-organized the Training Course on Climate Change Downscaling Approaches and Applications (CCDAA) from 9 to 20 November, 2012 at Asian Institute of Technology (AIT) in Bangkok, Thailand, with the support of Asian Development Bank (ADB) and Chulalongkorn University. From APN, Dr. Jariya BOONJAWAT, SPG member of Thailand and Dr. Akio Takemoto, Secretariat Director participate in a part of the course as trainers.

The training course was held under the Training Programme on CCDAA, which was developed under the framework of the UN-CECAR with the support of Ministry of Environment of Japan and the Institute for Global Environmental Strategies (IGES). The UN-CECAR is a collaborative initiative of more than 20 leading universities across Asia. It is committed to developing postgraduate educational and research programmes on climate and ecosystems change, adaptation and sustainability science. The UNU-ISP acts as the Secretariat for UN-CECAR.

More than 50 scientists and practitioners participated in the training course. Most participants came from APN member countries. Practitioners attended the training course belong to ministries and agencies responsible for environment, natural resources, meteorology, agriculture and forestry, land development and public work.

The training course was comprised of two parts: Course 1 - Training for downscaling methods (9-14 November); and Course 2 - Parallel Sessions on impacts on floods and impacts on rice production (16-20 November). Participants received practical training in the use of Geographic Information Systems (GIS) in adaptation planning and modeling extreme climatic events. APN co-organized Course 2 from the view point of capacity development on communication skills between scientists and practitioners.

In the final day of the training course (20<sup>th</sup> November), the session for communication of climate information was held lead by Dr. Sarah Optiz-Stapleton, Institute for Social and Environmental Transition (ISET), USA. The session was followed by panel discussion on the theme of communication between scientists and policy makers, with participation by trainers and resource persons including Dr. Jariya BOONJAWAT, APN Scientific Planning Group for Thailand and Dr. Akio Takemoto, APN Secretariat.

In the end, participants who successfully complete the training course received a certificate of completion. The training course was very successful as a practically-oriented and highly qualified capacity building event and it was beneficial for both scientists and practitioners who participated in the course.

(3) APN-APAN Joint activities with PDTW

Based on the partnership agreed upon at the Kobe Scoping Workshop, Asia-Pacific Adaptation Network will partner with APN in collaborating capacity building for scientists and practitioners on climate adaptation including themes on adaptation plans and “train the trainers’ activities.”

One possible idea is that APN will organize the Proposal Development Training Workshop (PDTW) with focus on climate adaptation back to back with an event organised by APAN (Budget of USD20,000 was approved by the 17IGM.)

(4) South Asia Sub-Regional Meeting

The 4<sup>th</sup> South Asia SRC has submitted a concept paper to the APN on disaster risk reduction and management under climate change as the importance of this area was stressed by the sub-region and they believe that common focus and activities could be undertaken under the APN umbrella. This will be developed further at their parallel session at the 18<sup>th</sup> IGM and it is clear that the present request for undertaking activities on Loss and Damage would provide South Asia, and other sub-regions as well, to consider and submit for review regional-based joint activities related to Loss and Damage.

**3. Loss and Damage –New agenda since UNFCCC/COP18**

(1) Decision in Doha on Loss and Damage

At the COP18 Conference Doha, Qatar, parties recalled decisions at COP16 and 17 to address loss and damage associated with climate change impacts, and acknowledged the further work to address the loss and damage including the following (FCCC/CP/2012/8/Add.1, see Appendix 1):

- (a) Enhancing the understanding of
  - (i) The risk of slow onset events, and approaches to address them;
  - (ii) Non-economic losses and damages;
  - (iii) Impacts on most vulnerable and the approaches to address loss and damage
  - (iv) Identify and develop appropriate approaches to address slow onset events and extreme weather events, including through risk reduction, risk sharing and risk transfer tools;
  - (v) Approaches to address impacts to be integrated into climate-resilient development processes;
  - (vi) How impacts of climate change are affecting patterns of mitigation, displacement and human mobility;
- (b) Strengthening and supporting the collection and management of relevant data, including gender-disaggregated data, for assessing the risk of loss and damage associated with the adverse effects of climate change;
- (c) Enhancing coordination, synergies and linkages among various organizations, institutions and frameworks, to enable the development and support of approaches to address loss and damage, including slow onset events and comprehensive climate risk management strategies, including risk transfer tools;
- (d) Strengthening and promoting regional collaboration, centres and networks on strategies and approaches, including to address loss and damage associated with the adverse effects of climate change, including slow onset events, including through risk reduction, risk sharing and risk transfer initiatives;
- (e) Enhanced capacity-building at the national and regional levels to address loss and damage associated with the adverse effects of climate change;
- (f) Strengthening institutional arrangements at the national, regional and international levels to address loss and damage associated with the adverse effects of climate change;

(2) 3<sup>rd</sup> Asia Pacific Climate Change Adaptation Forum

The third 18-20 March, 2013, Asia Pacific Climate Change Adaptation Forum was held on 18-20 March 2013 in Incheon Republic of Korea. The Forum was hosted by the Korea Environment Institute (KEI) in association with the Korea Adaptation Center for Climate Change (KACCC). The co-organizers are the United Nations Environment Programme (UNEP), the Institute for Global Environment Strategies (IGES), the Regional Resource Centre for Asia and the Pacific

(RRC.AP), and the Stockholm Environment Institute (SEI).

The main theme of the forum is “Mainstreaming Adaptation into Development” with a focus on key selected topics. A number of APN members such as those from Republic of Korea, Japan, Bhutan, Mongolia participated in the Forum. From APN Secretariat, Dr. Akio Takemoto Secretariat Director and Ms. Ratisya Radzi attended the Forum to participate in Panels and booth exhibition at the marketplace.

Dr. Takemoto spoke at two panels of the Forum; Panel 2.4, “Strengthening capacities to access and manage adaptation knowledge” and Panel 6.1, “Organizing and sharing relevant and credible information: progress and problems”. He overviewed framework of APN and introduced good practices of regional research and capacity building activities of APN related to climate adaptation. Then he pointed out needs, gaps and solutions for better capacity building, data collection and mining and others on adaptation in order for lively discussion among participants.

In the final plenary session, Dr. Saleemul Huq, Director of the ICCCAD announced the launch of Asia Pacific Forum on Loss and Damage (L&D Forum) (*See Appendix 2*).

The objectives of the L&D Forum are:

- (i) To share information on loss and damage within the Asia Pacific region;
- (ii) To support and facilitate further research on different aspects of loss and damage and provide recommendations to relevant institutions;
- (iii) To support and facilitate convening of meetings, workshops, conferences and training courses on loss and damage.

Proposed activities over the next 12 months are:

- (i) Set up a website for sharing information, documents and reports on loss and damage;
- (ii) Convene/support a regional conference on loss and damage;
- (iii) Facilitate research community in conducting regional research and capacity building activities on loss and damage;

The L&D Forum is open to individuals or organisations who are interested in sharing knowledge on loss and damage.

#### 4. Proposed new activities

##### *(1) Focused activities on adaptation, disaster risk reduction, loss and damage*

Based on the increase of the needs for enhancing activities on climate adaptation described above, and an earmarked financial contribution by Ministry of the Environment, Japan in the 2013/2014, we propose to establish **a set of focused activities on adaptation, disaster risk reduction, loss and damage associated with climate change impacts in Asia Pacific region (CAF-DRR-L&D)**.

The activities on CAF-DRR-L&D will be a two year activity from April 2013 to March 2015 under the APN Climate Adaptation Framework, which are expected to contribute to UNFCCC/COP19. They are mainly comprised of:

- (i) Regional research;
- (ii) Capacity development; and
- (iii) Communication activities.

We will launch call for proposals for the (i) regional research and (ii) capacity development activities on the same schedule as ARCP and CAPaBLE for 2013/2014. Thematic criteria for these calls will be made based on the the “Activities of high priority” under the APN Adaptation framework listed in **2.(1)(b)** and “further work to address the loss and damage” listed in **3.(1) (a)-(f)**.

With regard to (iii) communication activities, we will propose to organize two workshops on disaster risk reduction, loss and damage associated with climate change impacts in Asia and the Pacific. Experts on CAF-DRR-L&D including practitioners of government, researchers, international organizations (i.e, UNEP and UNISDR, etc.) and global change research community will be expected in the meetings. The expected outcome of the workshops will be to develop partnerships between APN and relevant organizations, to share needs, gaps and lessons on CAF-DRR-L&D to find a better strategic way for CAF-DRR-L&D in Asia and the Pacific. The first workshop will be held in the latter half of FY2013/2014 in Kobe Japan and the second one will be held in the next fiscal year.

(2) Partnership development under Adaptation Framework

We will enhance partnership with relevant organizations on climate adaptation including listed in the APN Adaptation Framework.

With regard to partnership with International Centre for Climate Change and Development (ICCCAD), the APN will participate in the L&D Forum that was led by ICCCAD (See 3.(2)). The APN is expected to contribute to the objectives of the L&D Forum, in particular, information sharing and support and facilitation in research activities on loss and damage in the future.

In order for better communication with ICCCAD, and effective contribution to the L& D Forum, Dr. Akio Takemoto, Director of the APN Secretariat will participate in the Steering Committee of the L&D Forum based on the request by the ICCCAD. The Steering Committee on L&D Forum will be organized mainly on E-mail basis.

(3) Revision of the APN Adaptation Framework

The APN Adaptation Framework will be revised in line with new activities on climate adaptation since the Scoping Workshop in August 2012 (See Appendix 3).

**Budget Requested**

The Ministry of the Environment, Japan has earmarked US\$780,000 for CAF-DRR-L&D activities for financial contribution 2013/2014, out of which US\$ 680,000 will be earmarked for fulfilling the (i) regional research and (ii) capacity development activities on CAF-DRR-L&D and US\$100,000 for organizing s series of workshops on CAF-DRR-L&D described in 4. (1) above.





United Nations

FCCC/CP/2012/8/Add.1

Framework Convention on  
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**Conference of the Parties****Report of the Conference of the Parties on its eighteenth session, held in Doha from 26 November to 8 December 2012****Addendum****Part Two: Action taken by the Conference of the Parties at its eighteenth session****Contents****Decisions adopted by the Conference of the Parties**

<i>Decision</i>	<i>Page</i>
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2/CP.18 Advancing the Durban Platform .....	19
3/CP.18 Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity .....	21
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## Decision 3/CP.18

### **Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity**

*The Conference of the Parties,*

*Recalling* the relevant provisions of the Convention,

*Also recalling* decisions 1/CP.16 and 7/CP.17 and the relevant conclusions of the Subsidiary Body for Implementation at its thirty-fourth and thirty-sixth sessions,

*Recognizing* the need to strengthen international cooperation and expertise in order to understand and reduce loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events,<sup>1</sup>

*Highlighting* the important and fundamental role of the Convention in addressing loss and damage associated with climate change impacts, especially in developing countries that are particularly vulnerable to the adverse effects of climate change, including by promoting leadership, collaboration and cooperation, at the national, regional and international levels and for a broad range of sectors and ecosystems, in order to enable coherent and synergistic approaches to address such loss and damage,

*Noting* the relevant work undertaken by other bodies, work programmes and workplans, and processes under the Convention,

*Taking note* of the relevant knowledge and ongoing work outside of the Convention, including the Special Report of the Intergovernmental Panel on Climate Change, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*,<sup>2</sup> the *Global Assessment Report on Disaster Risk Reduction*,<sup>3</sup> the Hyogo Framework for Action<sup>4</sup> and the Global Framework for Climate Services of the World Meteorological Organization,

*Reaffirming* the need for Parties to take precautionary measures, in accordance with the principles and provisions of the Convention, to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects, and underlining that the lack of full scientific certainty should not be used as reason for postponing action,

*Appreciating* the progress made in the implementation, and the importance of the continuation, of the work programme to address the loss and damage associated with the adverse effects of climate change,

*Acknowledging* ongoing initiatives relevant to loss and damage associated with the adverse effects of climate change at the national, international and regional levels and that there is a need to scale up these efforts, including by enhancing support and coordination in the broader context of climate-resilient sustainable development,

1. *Acknowledges* the need to enhance support, including finance, technology and capacity-building, for relevant actions;

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<sup>1</sup> Decision 1/CP.16, paragraph 25.

<sup>2</sup> <<http://ipcc-wg2.gov/SREX/>>.

<sup>3</sup> <<http://www.preventionweb.net/english/hyogo/gar/2011/en/home/index.html>>.

<sup>4</sup> <<http://www.unisdr.org/eng/hfa/hfa.htm>>.

2. *Notes* that a range of approaches, methods and tools is available to assess the risk of and to respond to loss and damage associated with the adverse effects of climate change, and that their selection depends upon regional, national and local capacity, context and circumstances, and involves the engagement of all relevant stakeholders;
3. *Also notes* that there are important linkages between extreme weather events and slow onset events, and the importance of building comprehensive climate risk management approaches;
4. *Agrees* that comprehensive, inclusive and strategic responses are needed to address loss and damage associated with the adverse effects of climate change;
5. *Also agrees* that the role of the Convention in promoting the implementation of approaches to address loss and damage associated with the adverse effects of climate change includes, inter alia, the following:
  - (a) Enhancing knowledge and understanding of comprehensive risk management approaches to address loss and damage associated with the adverse effects of climate change, including slow onset impacts;
  - (b) Strengthening dialogue, coordination, coherence and synergies among relevant stakeholders;
  - (c) Enhancing action and support, including finance, technology and capacity-building, to address loss and damage associated with the adverse effects of climate change;
6. *Invites* all Parties, taking into account common but differentiated responsibilities and respective capabilities and specific national and regional development priorities, objectives and circumstances, to enhance action on addressing loss and damage associated with the adverse effects of climate change, taking into account national development processes, by undertaking, inter alia, the following:
  - (a) Assessing the risk of loss and damage associated with the adverse effects of climate change, including slow onset impacts;
  - (b) Identifying options and designing and implementing country-driven risk management strategies and approaches, including risk reduction, and risk transfer and risk-sharing mechanisms;
  - (c) The systematic observation of, and data collection on, the impacts of climate change, in particular slow onset impacts, and accounting for losses, as appropriate;
  - (d) Implementing comprehensive climate risk management approaches, including scaling up and replicating good practices and pilot initiatives;
  - (e) Promoting an enabling environment that would encourage investment and the involvement of relevant stakeholders in climate risk management;
  - (f) Involving vulnerable communities and populations, and civil society, the private sector and other relevant stakeholders, in the assessment of and response to loss and damage;
  - (g) Enhancing access to, sharing and the use of data, at the regional, national and subnational levels, such as hydrometeorological data and metadata, on a voluntary basis, to facilitate the assessment and management of climate-related risk;
7. *Acknowledges* the further work to advance the understanding of and expertise on loss and damage, which includes, inter alia, the following:
  - (a) Enhancing the understanding of:
    - (i) The risk of slow onset events, and approaches to address them;

- (ii) Non-economic losses and damages;
  - (iii) How loss and damage associated with the adverse effects of climate change affects those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability, and how the implementation of approaches to address loss and damage can benefit those segments of the population;
  - (iv) How to identify and develop appropriate approaches to address loss and damage associated with the adverse effects of climate change, including to address slow onset events and extreme weather events, including through risk reduction, risk sharing and risk transfer tools, and approaches to rehabilitate from loss and damage associated with the adverse effects of climate change;
  - (v) How approaches to address loss and damage associated with the impacts of climate change may be integrated into climate-resilient development processes;
  - (vi) How impacts of climate change are affecting patterns of migration, displacement and human mobility;
- (b) Strengthening and supporting the collection and management of relevant data, including gender-disaggregated data, for assessing the risk of loss and damage associated with the adverse effects of climate change;
- (c) Enhancing coordination, synergies and linkages among various organizations, institutions and frameworks, to enable the development and support of approaches to address loss and damage, including slow onset events and comprehensive climate risk management strategies, including risk transfer tools;
- (d) Strengthening and promoting regional collaboration, centres and networks on strategies and approaches, including to address loss and damage associated with the adverse effects of climate change, including slow onset events, including through risk reduction, risk sharing and risk transfer initiatives;
- (e) Enhanced capacity-building at the national and regional levels to address loss and damage associated with the adverse effects of climate change;
- (f) Strengthening institutional arrangements at the national, regional and international levels to address loss and damage associated with the adverse effects of climate change;
8. *Requests* developed country Parties to provide developing country Parties with finance, technology and capacity-building, in accordance with decision 1/CP.16 and other relevant decisions of the Conference of the Parties;
9. *Decides* to establish, at its nineteenth session, institutional arrangements, such as an international mechanism, including functions and modalities, elaborated in accordance with the role of the Convention as defined in paragraph 5 above, to address loss and damage associated with the impacts of climate change in developing countries that are particularly vulnerable to the adverse effects of climate change;
10. *Requests* the secretariat to carry out the following interim activities under the work programme on loss and damage, prior to the thirty-ninth session of the Subsidiary Body for Implementation:
- (a) An expert meeting to consider future needs, including capacity needs associated with possible approaches to address slow onset events, and to prepare a report for consideration by the Subsidiary Body for Implementation at its thirty-ninth session;
  - (b) Preparation of a technical paper on non-economic losses;

(c) Preparation of a technical paper on gaps in existing institutional arrangements within and outside of the Convention to address loss and damage, including those related to slow onset events;

11. *Requests* the Subsidiary Body for Implementation to consider the technical paper referred to in paragraph 10(c) above in developing the arrangements referred to in paragraph 9 above;

12. *Also requests* the Subsidiary Body for Implementation to elaborate, at its thirty-eighth session, activities under the work programme on loss and damage, to further the understanding of and expertise on loss and damage associated with the adverse effects of climate change, taking into account the provisions contained in paragraph 7 above;

13. *Takes note* of the estimated budgetary implications of the activities to be undertaken by the secretariat pursuant to the provisions contained in this decision;

14. *Further requests* that the actions of the secretariat called for in this decision be undertaken subject to the availability of financial resources; in the absence of adequate additional funding, as indicated in the budgetary estimates referred to above, the secretariat may not be in a position to undertake the requested activities.

*9<sup>th</sup> plenary meeting  
8 December 2012*

**Formation of an Asia-Pacific Forum on Loss and Damage Announced  
in Incheon, Korea on 20th March 2013  
at the Conclusion of the Third Asia-Pacific Adaptation Forum**

**Background**

Loss and damage from climate change has emerged as a new area that looks at the limits to adaptation and explores the adverse impacts in the increasingly warming world. At the 18th Conference of Parties (COP18) in Doha, Qatar in December 2012 Parties decided to establish institutional arrangements to address loss and damage in developing countries. However, in order to benefit from institutional arrangements at the international level, institutions must be established at the local, national and regional levels as well as at the international level. Moreover, loss and damage is not an issue unique to developing countries and collaboration is required at all levels to address it.

The Asia-Pacific region is highly vulnerable region to a range of natural disasters and climate change impacts, from those emanating from extreme events to those resulting from slow onset processes. Asia has been referred to as a disaster hot spot for extreme events – with cyclones and other events now occurring with alarming regularity. The Pacific is also vulnerable to extreme events, but is poised to suffer most from slow onset processes like sea level rise, loss of biodiversity and ocean acidification.

**Announcement**

A number of organizations working on different aspects of loss and damage met together on the margins of the Third Asia-Pacific Adaptation Forum being held in Incheon, Korea from 18th to 20th March 2013, decided to form the Asia-Pacific Forum on Loss and Damage (APFLAD).

**Forum**

The objectives of the forum are:

1. To share information on loss and damage within the Asia-Pacific region.
2. To support and facilitate further research on different aspects of loss and damage and provide recommendations to relevant institutions.

3. To support and facilitate convening of meetings, workshops, conferences and training courses on loss and damage.

**Members of the forum:**

A number of organizations have already expressed willingness to be members or partners of the forum. These include: ActionAid, Climate Action Network South Asia (CANSAs), Asia-Pacific Network for Global Change Research (APN) and Asia-Pacific Adaptation Network (APAN).

**Proposed activities over the next 12 months:**

1. Set up a website for sharing information, documents and reports on loss and damage
2. Convene/support a regional conference on loss and damage
3. Facilitate research community in conducting regional research and capacity building activities on loss and damage

**Joining the forum:**

The forum is open to individuals or organizations interested in sharing knowledge on loss and damage. A number of organizations have already expressed interest in being involved in the forum including Action Aid, Climate Action Network South Asia (CANSAs), Asia-Pacific Network for Global Change Research (APN) and Asia-Pacific Adaptation Network (APAN).

**Secretariat:**

International Centre for Climate Change and Development (ICCCAD)  
Independent University, Bangladesh  
Bashundhara, Dhaka  
Bangladesh

**Contact person:**

Erin Roberts  
roberts.erin@gmail.com

### APN Framework on Climate Change Adaptation

1. As a result of the discussions at the *APN-ICAS Scoping Workshop to Enhance the Climate Adaptation Actions of APN Developing Countries*, it is suggested that the APN establishes a multi-year strategic framework programme focusing on climate adaptation from FY2013 (April 2013), pending resource availability.
2. The framework new programme aims to enhance science-based adaptation activities of APN developing countries and comprises the following components:
  - i. regional research programme that has a capacity building element
  - ii. capacity building programme (including projects at national and sub-national scales)
  - iii. activities jointly conducted with other organizations and networks
3. Themes of activities under the framework include a range of climate adaptation areas prioritized in the decisions at Conference of the Parties of United Nations Framework Convention on Climate Change including COP16 related to “Enhanced action on adaptation” (1/CP.16, para.14.(a)-(i), FCCC/CP/2010/Add.1) and COP18 related to “Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity” (3/CP.18, para.7(a)-(f), FCCC/CP/2012/Add.1).
4. Based on needs, gaps and lessons for climate adaptation in the Asia-Pacific region (as described in the Appendix), regional research and capacity building projects should contribute to improving applicability by users, focusing on the following themes:
  - i. Development of high-resolution observational, model and downscaled datasets that can contribute to filling data gaps
  - ii. Sharing of needs-oriented data
  - iii. Calibration and validation of regional climate models; and analysis of projections and assessment of uncertainties
  - iv. Development and utilization of impact, vulnerability, risk and economic assessments
  - v. Improvement of communication skills of scientists and practitioners with stakeholders including local government, community, private sector and civil society, for encouraging policy-makers to formulate and implement adaptation plans based on the latest scientific knowledge
  - vi. Utilization of available information including climate data in applications for adaptation
5. It is recommended that the APN enhance its partnerships with local, national, regional and international organizations and networks under the new program, which include (but are not limited to) the following<sup>1</sup>:
  - i. ADB**
    - a. Collaboration on a regional climate scenarios consortium and library in the areas of coordination of data collection, rescue, mining and calibration
    - b. Collaboration on needs assessment of users at national and local levels
  - ii. APAN**
    - a. Multi-year collaboration on capacity development for scientists and practitioners on climate adaptation including themes on adaptation plans and “train the trainers” activities
    - b. Organization of a follow-up meeting for recommendations to strengthen partnerships at the 2013 Adaptation Forum

<sup>1</sup>The institutions and organizations listed expressed interest in partnering with the APN and attended the scoping workshop.

- iii. **ICAS**
    - a. Involvement of Japanese scientists for adaptation activities implemented by APN and its partners
    - b. Organization of follow-up events with APN
  - iv. **Ministry of Interior, Thailand**
    - a. Cooperation with the APN national Focal Point for Thailand on the development of community-based adaptation activities that involves local governments and communities in Thailand
  - v. **UNU (UN-CECAR)**
    - a. Training activities for scientists and practitioners on climate adaptation including modeling, downscaling, resilience, etc
  - vi. **WCRP**
    - a. Collaboration with CORDEX-Asia on capacity development in climate downscaling
  - vii. **International Center for Climate Change and Development ICCCAD:**
    - a. Collaboration on activities on loss and damage associate with climate change impacts including Asia Pacific Forum on Loss and Damage
  - viii. **Asia-Pacific Center for Security Studies (APCSS)**
    - a. Collaboration on activities related to science and security associated with climate change impacts
  - ix. **Climate Change Institute of Australia National University (CCI-ANU)**
    - a. Collaboration on scientific activities on climate adaptation
6. It is recommended that APN further develops its climate adaptation programme and expand its partnerships with organizations and networks through relevant platforms. This should be considered in accordance with the APN work programme and budget, and the APN Strategic Plan and Framework Document.



**Needs, gaps and lessons for climate adaptation in the Asia-Pacific region****■ Data, Modeling, Downscaling**

- Objective of downscaling
  - ✧ Huge spectrum, variety of purposes
  - ✧ Dynamic or statistically downscaling can be selected depending on the purposes
- Data observation, collection and mining
  - ✧ In particular, the lack of capacity to collect and mine data
  - ✧ Development of common data formats
- Calibration of RCMs
  - ✧ How to combine downscaled data with local data
- Development of high resolution downscaling that is suitable to users' needs (sector-specific)
- Time scale
  - ✧ Ranging from seasonal to decadal predictions, medium term (about 5 years) to long-term predictions; and long-term climate projections
- Data distribution/interface with users
  - ✧ Capacity development to be a good user (individual and institution)

**■ Impact and vulnerability assessment**

- Development of assessment models
  - ✧ Different types of assessment models (impact assessment, risk assessment, and vulnerability assessment)
  - ✧ Cost analysis
  - ✧ Current/ future impacts
- Compound impacts (integrated assessment of climate and non-climate impacts)
- Capacity building for both modelers and users

**■ Adaptation planning and implementation**

- Scientific capacity of practitioners/decision-makers to formulate national adaptation plans
- Development of a screening tool on climate risk assessment for infrastructure
- Development of approach to encourage policy makers to adopt scientific knowledge
  - ✧ Present response which is favored by practitioners
  - ✧ Consideration of policy priorities other than climate policies such as development policy
  - ✧ Consideration of economic aspects
- Role of public and private sector
- Range of capacity building
  - ✧ Individual, institution, governance
- Consideration of uncertainty
- Consideration of politics, governance, and culture
- Enhancement of communication skills for both scientists and policy makers
  - ✧ Scientists' capacity to communicate with society (i.e., mass-media)
  - ✧ Risk perception
  - ✧ People's acceptance

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**Item 05-06: Proposed New & Continuing Activities:**

**Focused Publications**

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**Background**

As outlined in the APN Communications Strategy endorsed at the 14th IGM/SPG Meeting, the Secretariat should pursue to facilitate activities with regard to:

- Demonstrating APN's 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 community, including scientists, decision makers and the public, through various platforms

With the development of three activities of **Low Carbon Initiatives (LCI)**, **Climate Adaptation Framework** and the **Biodiversity and Ecosystems Services Framework** under the APN, and at the juncture of the **10th anniversary of the CAPaBLE programme**, the Secretariat requests a small budget allocation, over and above the amount allocated under the core budget, for focused publications to showcase the activities and outcomes of these activities.

**1. Low Carbon Initiatives Framework**

Seven projects (2 capacity building-based and 5 regional research-based) are approved for funding under the Low Carbon Initiatives (LCI) framework out of the budget for FY2012/13 and the announcement was made in 17 Feb 2013. A synthesis of these activities is proposed to be published in time for the Second LoCARNet Annual Meeting in July 2013. Policy briefs of individual projects can be published as the projects progress.

Proposed structure:

- 1) Background of the LCI framework
- 2) Regional research-based projects
  - a. Summary and highlights of each project
  - b. Activities in progress/planned
  - c. Expected outcomes
  - d. Key messages for policy makers
- 3) Capacity building-based projects
  - a. Summary and highlights of each project
  - b. Activities in progress/planned
  - c. Expected outcomes
- 4) Collaboration with LoCARNet
- 5) General information of the APN, including donors etc.

Number of pages: 20-24

Number of copies (initial): 500

## 2. APN CAPaBLE Programme — A Decade of Scientific Capacity Development for Asia and the Pacific

The year 2013 marks the 10th anniversary of the launch of the CAPaBLE programme, and becomes opportune for the APN to take a look back at its achievements under this programme over the past ten years. This publication will be showcased in various events APN is represented and sent APN members and partner GC organizations for dissemination.

### Proposed structure:

- 1) Background and status of the CAPaBLE programme
  - a. WSSD and CAPaBLE
  - b. Statistics
    - i. Number of projects, total amount of funding (by category, by country)
    - ii. Number of mentors involved, and number of young and early-career scientists benefited
    - iii. Thematic and geographical distribution of young scientists
- 2) Summary of selected outstanding projects. Selected outstanding projects will be categorized by thematic area; and two to three projects will be highlighted under each category.
- 3) Messages from Young scientists: How the CAPaBLE activities shaped my career path. This section will include stories from early trainees of the APN CAPaBLE project, inviting them to share their thoughts on the importance of capacity building activities for their professional career development.
- 4) General information about the APN and the CAPaBLE programme, including information on the call for proposals.

Number of pages: 20-24

Number of copies (initial): 600-800

## 3. Climate Adaptation Framework and Biodiversity & Ecosystem Services Framework

A policy brief will be produced for each of these activities to showcase the ongoing and planned activities, depending on their progress and development. The content will be based on the framework/concept note developed in 2012, with input from project leaders, partners.

Number of pages: 12-16

Number of copies (initial): 300 each

For the B&ES, a brochure will also be completed as part of the Framework's "Opportunity Paper" that may help to attract international stakeholders (donors, partner organisations, etc).

Number of pages: 2 (double-sided)

Number of copies (initial): 300 each

## 4. Funding requested: US\$40,000 (this includes the above and regular publications)

Exchange Rates in FY2013:<sup>2)</sup>  
 US\$1 = JPYen100 (FY2012: US\$1 = JPYen80)  
 US\$1 = NZ\$1.20

**Resources Available:**

Operational Uncommitted Cash Balance from FY 2012	
Unspent Funds of Projects from FY 2011 and earlier, finalised in FY 2012 (committed for ARCP and CAPaBLE)	
Committed Resources from FY 2012	
Japan	MOEJ Yen 243,243,000 /100
	Hyogo Yen 23,558,000 /100
U.S.A.	NSF/USGCRP
ROK	Ministry of Environment
New Zealand	Ministry for the Environment NZ \$ 30,000 /1.20
<b>Total</b>	

Column 2	Column 3	Column 4
Core Budget <sup>2)</sup>	Committed Resources from FY 2012 Core Budget <sup>3)</sup>	AOF <sup>4)</sup>
54,000	1,203,500	1,289,000
83,000		
2,430,000		
236,000		
486,000		
50,000		
25,000		
<b>3,364,000</b>	<b>1,203,500</b>	<b>1,289,000</b>

Column 1	Column 2	Column 3	Column 4	Column 5
<b>Total Allocated</b>	<b>Core Budget</b>	<b>Committed Resources from FY 2012 Core Budget</b>	<b>New Proposed Activities under AOF in FY 2013</b>	<b>Tentatively Committed AOF</b>
ARCP <sup>5)</sup>	1,000,000	579,500		
CAPaBLE CBA <sup>6)</sup>	567,000	305,500		
Climate Adaptation Framework (incl. Disaster Risk Reduction - Loss & Damage) <sup>7)</sup>	780,000			
Low Carbon Initiative Framework (LCI CMYs + LoCARNet Networking) <sup>8)</sup>	460,000	260,000		
Biodiversity and Ecosystem Services Framework <sup>9)</sup>	100,000		100,000	
Climate Synthesis <sup>10)</sup>	24,000	5,000		19,000
Sub-Regional Cooperation: 3 Sub-Region x 20,000 <sup>11)</sup>	60,000		60,000	
Proposal Devlpt. Training WS: 3 Sub-Region x 20,000 <sup>12)</sup>	60,000		60,000	
Sub Regional Science-Policy Dialogue and Synthesis <sup>13)</sup>	100,000		100,000	
SBSTA38 + UNFCCC19/SBSTA39 <sup>14)</sup>	20,000	10,000		
Hyogo/APN/IGES-KRC Int'l Symposium EMECS 10	30,000	5,000		
3SP Evaluation Report & 4th Strategic Plan <sup>16)</sup>	15,000		15,000	
Scientific Activities under the Opportunity Funds <sup>17)</sup>	356,000			356,000
IGM/SPG, incl. SC <sup>18)</sup>	120,000	33,000		
Posts SC, Inst. <sup>19)</sup>	335,000			
Coordinator <sup>20)</sup>	41,000		15,000	26,000
Programme Fellow <sup>21)</sup>	31,000			
Travel <sup>22)</sup>	65,000			
Publications <sup>23)</sup>	40,000			
Posts Adm. <sup>24)</sup>	81,000			
Office Supplies <sup>25)</sup>	45,000			
IGES Adm Overhead <sup>26)</sup>	73,000			
<b>Total Allocation from Core Budget<sup>27)</sup></b>	<b>3,364,000</b>			
<b>Reserve from Core Budget</b>	<b>0</b>			

<b>Total Allocation from Core Budget<sup>27)</sup></b>	<b>3,364,000</b>
<b>Reserve from Core Budget</b>	<b>0</b>
<b>Total Committed from AOF<sup>28)</sup></b>	<b>751,000</b>
<b>Remaining AOF<sup>29)</sup></b>	<b>538,000</b>

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## Sub-Regional Cooperation (SRC)

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*The aim of this paper is to provide a brief background of Sub-Regional Cooperation (SRC), a summary of the activities conducted to date. Activities are presented in reverse chronological order with the most recent activity indicated first.*

### **Background**

Institutional sub-regional cooperation was initiated in the second phase of APN with the establishment, at the time of writing the present paper, of the Southeast and South Asia, Sub-Regional Committees. Also at the time of writing the present paper, Temperate East Asia has held a scoping meeting and expects to formally establish a sub-regional committee during the 18<sup>th</sup> IGM-SPG Meetings.

The conduct of sub-regional cooperation 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.

### **Major Activities on SRC to date (from the most recent meetings to the first in 2006)**

#### **February 2013. 1<sup>st</sup> TEA-SRC Meeting, Vladivostok, Russia**

TEA country representative shared information about their respective countries work on global change issues and they identified common issues to TEA countries, which can be addressed in future meetings. Especially, they identified air pollution and marine protected areas as of common interest to TEA member countries. As result of the this meeting, the AOF activity being led by Japan and ROK on Ecosystem Services & Biodiversity for IPBES will involve TEA members.

#### **January 2013. 4<sup>th</sup> SA-SRC Meeting, Kathmandu, Nepal**

SA member countries agreed to provide information on common issues in the area of biodiversity and ecosystems services in South Asia in conjunction with the APN Biodiversity and Ecosystem Services Framework (to be recommended for approval at the 18<sup>th</sup> IGM). A proposal on climate change adaptation and its links with agriculture in South Asia is expected to be developed by SA members and submitted under the ARCP programme in 2013. Members expressed their interest in holding science-policy dialogues for South Asian members and they will prepare concept paper to submit 18<sup>th</sup> IGM. In addition, South Asia has formulate a general idea on disaster risk reduction aimed for the APN Opportunity Fund (AOF).

#### **October 2012. 5<sup>th</sup> SEA-SRC Meeting, Siem Reap City, Cambodia**

SEA members discussed the seed grant CAPaBLE activity for their summer school proposal and have agreed to select experts for the workshop based on the nomination from countries. The workshop is expected to take place before August 2013. Outcomes of the Southeast Asia Science policy dialogue was reported by the Thailand SPG member and the other members suggested some modification that should be made in the final report of the SP-Dialogue. SEA members discussed engaging Myanmar in APN activities with the prospect of becoming a member in the future.

**MARCH 2012. 17<sup>TH</sup> IGM/SPG, Jakarta, Indonesia**

Temperate East Asia countries members stressed the need to undertake a scoping workshop in Temperate East Asia (TEA) to discuss whether there is a need to form a committee as well as discuss common activities and expand the involvement of scientists from the sub-region in APN activities.

**JANUARY 2012. 3<sup>rd</sup> SA-SRC Meeting, Paro, Bhutan**

The 3<sup>rd</sup> SA-SRC Meeting was hosted by Bhutan, the newest member of the APN. Representatives shared their respective countries' scientific trends on Rio+20 and sustainable development, and collectively identified a list of prioritized research and capacity development topics that are relevant for multilateral collaboration.

**OCTOBER 2011. 19<sup>th</sup> SC Meeting, Phnom Penh, Cambodia**

The SC recommended that the Terms of Reference for the planned SP Dialogue(s) be developed further in consultation with APN SEA-SRC and the START International Secretariat. This was carried out and the SP is to be held 18-21 July 2012.

**JULY 2011. 4<sup>th</sup> SEA-SRC Meeting, Hanoi, Viet Nam**

The Secretariat will prepare a revised Terms of Reference on an SP Dialogue(s) planned to be held before the 17<sup>th</sup> IGM/SPG Meeting. A summary proposal that complies with APN format guidelines will be drafted by the SPG Member for Indonesia for final refinement and submission to the APN Secretariat.

**April 2011. 16<sup>th</sup> IGM/SPG Meeting, Colombo, Sri Lanka**

Members suggested that there is a need to have clear direction in proposing and conducting sub-regional activities as well as the need to discuss directions in conducting real regional activities that are relevant to the region and not only focus on the current mechanism that the APN has for sub-regional activities. It was agreed that these issues will be discussed in the next SC Meeting.

**November 2010. 3<sup>rd</sup> SEA-SRC Meeting, Manila, Philippines**

All members recognised that more attention should be put on the result of SWOT (strengths, weaknesses, opportunities, threats) analysis that was conducted at the second meeting. SEA-SRCom should look into how the strengths can be further enhanced and how the weaknesses could be addressed, both at the country and sub-regional level. Coordination among the SEA-SRCom can be strengthened through the exchange of information/updates on a structured format. The need to strengthen collaboration at all levels: national, sub-regional, regional, global was emphasised.

**November 2010. 2<sup>nd</sup> SA-SRC Meeting, Pune, India**

It was re-emphasised that the formation of a SA-SRCom is a very important approach to focus on issues of global change research on topics, which are receiving great international attention. It was suggested that APN needs to look at the scope of development, influence and relevance of policy and the context of the project activities.

**AUGUST 2010. 16<sup>th</sup> SC Meeting, Kobe Japan**

The SC emphasised the need to encourage sub-regional groups to become more actively engaged in APN activities both under the Science and Institutional Agendas

**MARCH 2010. 15<sup>th</sup> IGM/SPG Meeting, Busan, Republic of Korea.**

All members acknowledged that there is still a great need to raise awareness among policy-makers on various global

change issues. It was suggested to explore all mechanism in place and platforms for APN to effectively convey its messages to policy-makers through appropriate platforms and communication tools.

**AUGUST 2009. 2<sup>nd</sup> SEA-SRC Meeting. Bangkok, Thailand.**

- Discussed and reviewed existing APN mechanisms in terms of strengths, weaknesses, opportunities, and threats in order to strengthen appropriate interactions within the sub-region and among APN nFPs, SPG Members and Project Leaders/Collaborators
- Outcomes of selected APN-funded projects and global/climate change situation in the region were reported
- Tackled members' involvement in monitoring and coordination of APN-funded projects in their respective countries and how coordination at the sub-regional level can be strengthened
- Identified possible ways forward in enhancing the flow of information and identifying mechanism or communication channels that would lead to improved relations among the nFPs, SPG Members, project leaders/collaborators, global change partners in Southeast Asia

**JULY 2009. 1<sup>st</sup> SA-SRC Meeting, Colombo, Sri Lanka. Country Experience.**

- All members shared their thoughts and provided comments and suggestions as additional input in the evaluation of APN's second strategic phase and formulation of the third strategic plan.
- They discussed the APN's progress in achieving its goals and implementing the second strategic plan; areas that need more efforts (e.g. project management/ implementation, funding, institutional arrangements, etc.); and, APN's direction in the next 5-10 years.
- An open discussion among the participants ensued and the following were tackled: new thematic areas; needs, priorities and gaps in the region; how to address these gaps; and ways of integrating actions/responses into a regional effort.

**MARCH 2009. 14<sup>th</sup> IGM/SPG Meeting, Kuala Lumpur, Malaysia.**

- All APN Members stressed the importance of sub-regional cooperation not only among the nFPs and SPG Members but with other research and decision-making communities. Particularly stressed was the importance of information exchange among the countries to facilitate relevant scientific research at the sub-level.

**FEBRUARY 2009. APN Secretariat Brief Informal Meeting with the host of the next SEA-SRCom Meeting. Bangkok, Thailand.**

Two main issues that were discussed was the chairperson of the SEA-SRC and agenda items for the SEA group at the SC parallel sessions. The summary of this Meeting is appended to this paper for information and to seek further suggestions on the way forward.

**OCTOBER 2008. 10<sup>th</sup> SC Meeting. Manila, Philippines**

The SC stressed that the sub-regional committees are to focus on strengthening the role of nFPs and their relation to the science community (the role intended for the sub-regional committees as opposed to writing proposals for submission to the APN).

**MARCH 2008. 13<sup>th</sup> IGM/SPG Meeting. Kobe, Japan**

Many issues were raised, particularly on proposal submission, and the IGM agreed that before any decision could be reached on functionality within the APN, the discussion was to be pursued further in a careful, thorough and thoughtful manner. The SC was asked to consider the issues in the inter-sessional period for further consideration. The Secretariat

## **IGM-SPG/18/07: Sub-Regional Cooperation**

is to explore institutional and financial implications on how to tackle the issue under the supervision of the SC and in coordination with the SEA-SRCom.

### **MARCH 2008. SEA-SRC Ad Hoc Meeting. Kobe, Japan**

SEA-SRCom expressed interest in developing a research proposal for the APN's next Call. It was raised that in order to enhance the ability of each member country to develop a strong regional proposal to the APN, communication among the scientists in SEA sub-region should be enhanced first.

### **AUGUST 2007. 1<sup>st</sup> SEA-SRC Meeting. Jakarta, Indonesia**

The SEA-SRCom laid out its medium to long-term work plan and agreed on the organisational structure, membership, functions and modalities. Scientific priorities of the SEA-SRCom were identified and a mechanism for scientists and policy-makers dialogue was introduced. Thailand was asked to host the next SEA SRCom Meeting.

### **MARCH 2007. 12<sup>th</sup> IGM/SPG Meeting. Honolulu, USA**

An item paper outlining the membership, roles, organisation and arrangement of the SEA-SRCom was discussed and revised. Another paper providing some procedures that should be considered when drafting a Terms of Reference (TOR) for the SR Committees was presented and revised. The IGM allocated a budget for the trial model and Indonesia was requested to host the first SEA-SRCom Meeting.

### **AUGUST 2006. Sub-Regional Committee (SRCom) Meeting. Jakarta, Indonesia**

The Southeast Asia (SEA) SRCom was formed, initiated by the national Focal Point for Indonesia, Ms. Liana Bratasida.



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## Sub-Regional Cooperation (SRC)

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### Instructions for the parallel sessions

- ❖ In this parallel session **SA, SEA and TEA SRCom** members will group into their respective sub-regions to discuss SRC activities.
- ❖ The agenda of the parallel sessions is available under items 10, 11 and 12, respectively, in the IGM folders. *(please refer to the table below)*
- ❖ Each sub-regional group is asked to provide a summary of the discussion (**WORD FILE**) for submission to the APN Secretariat (they should also nominate their own rapporteur as the Secretariat is not available for note-taking).
- ❖ SRCom members are asked to **report to the IGM**, preferably via PPT PRESENTATION on Friday 12, April 2013 at the IGM based on discussion at this parallel session.
  - 9:00 to 9:20 Report from South Asia *(Item 10)*
  - 9:20 to 9:40 Report from Southeast Asia *(Item 11)*
  - 9:40 to 10:00 Report from Temperate East Asia *(Item 12)*
- ❖ Following the SRCom presentations, 20 minutes general discussion will be held from 10:00 to 10:20 to discuss the sub regional activities.
- ❖ The sub-regional committee representatives should hand their presentation and report to Secretariat members
- ❖ Please proceed to your respective sub-groups according to following table.

Sub-regional Groups	Member Countries	Reference Item	Room Assignment
South Asia	<ul style="list-style-type: none"> <li>• Bangladesh</li> <li>• Bhutan</li> <li>• India</li> <li>• Nepal</li> <li>• Pakistan</li> <li>• Sri Lanka</li> </ul>	Item 10	9F, Ivy Room
South East Asia	<ul style="list-style-type: none"> <li>• Cambodia</li> <li>• Indonesia</li> <li>• Lao PDR</li> <li>• Malaysia</li> <li>• Philippines</li> <li>• Thailand</li> <li>• Viet Nam</li> </ul>	Item 11	9F, Lilac Room
Temperate East Asia	<ul style="list-style-type: none"> <li>• China</li> <li>• Japan</li> <li>• Mongolia</li> <li>• Republic of Korea</li> <li>• Russian Federation</li> </ul>	Item 12	9F, Daisy Room

## Item 8: APN Opportunity Fund (AOF)

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*This paper aims to provide information on the Special Steering Committee held in July 2012, and progress/action towards augmentation of the available funds.*

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### Background

Recalling Actions from the 17<sup>th</sup> IGM and a launch for suggestions for using the available **US\$1.289M** among the APN members and GC community, the Special Steering Committee was organised to discuss the following issues:

- Immediately following the IGM, an announcement was made seeking general suggestions on activities as well as procedures for allocating the funds.
  - Thirty four suggestions were submitted from Members and the Global Community (these were reviewed at the Special Steering Committee in July 2013). See [IGM-SPG/18/08-Appdx1](#).
  - Nine were received on procedures for allocation of the funds. See [IGM-SPG/18/08-Appdx2](#).
- The Special Steering Committee was held in July 2012 in Bangkok, Thailand who reviewed the suggestions submitted to the APN, as well as discussed the general implementation of the AOF.
- Of the 34 suggestions:
  - Eight (8) suggestions were considered by the SSC and twenty-six (26) suggestions were recommended to be submitted under pre-existing programmes ([Appendix SC/23/04-Appdx1](#)). **The results were sent to members in November, 2012.**
  - Of those 8 considered, four (4) were considered suitable for funding from the AOF, two (2) could fit into the pre-existing processes and the remaining two (2) required further development.
  - With two being combined, five were considered in depth by the Special Steering Committee as outlined below and it was agreed that it was important to advance those that were selected at the SSC (outlined below).
    1. *Engaging with Future Earth to develop and showcase research framework in the Asia-Pacific region (2 suggestions combined into 1; tasked to ICSU-ROAP)*
    2. *Scoping workshop on Science-policy interactions for Biodiversity & Ecosystem Services in Temperate East Asia (tasked to Japan)*
    3. *Developing Training Packages for Climate-related impacts on B&ES (tasked to Srikantha Herath, CDC)*
    4. *Scoping an APN Fellowship programme on Global Environmental Change (tasked to USA)*
    5. *Strategic Planning for APN in GEC (tasked to SPG member for Japan; would now like to consider with the APN Strategic Planning process for the 4<sup>th</sup> Strategic phase)*

### Action Plan:

- Important to stress activities that can help APN grow strategically. Future submissions could be a short, one-page document encapsulating ideas.

- Following a detailed discussion on the process for funding allocation, the Steering Committee agreed to embark on a **plan that commits to a future investment of the AOF in a strategic way over a three-year period.**

The plan encompasses a number of important points, which are outlined below:

Establishment of *seven criteria* (six at the SSC meeting and one at the 222<sup>nd</sup> Steering Committee meeting – see box below) and using the APN Strategic Plan as a filter mechanism for the suggestions submitted to the APN, it was agreed that those suggestions that could fit under a pre-existing programme need not be considered further at the Special SC Meeting.

**In completing the form, please ensure that you clearly address the following criteria:**

1. Can the suggestion be covered under a pre-existing programme (such as ARCP or CAPaBLE)?
2. Does the suggestion fit the APN strategic plan?
3. Is the suggestion strategic and forward looking – is it a new idea?
4. Is the suggestion regional in approach (is it mutually beneficial for the majority of members) and/or transferable?
5. Is the suggestion believable/realistic with appropriate funding level ?
6. Does the suggestion offer the potential for generating additional or new financial resources?
7. Can the suggestion be self-sustained? (Added at the 22<sup>nd</sup> SC meeting).

- Consider projects and programmes that exist at the country level that have a regional relevance.
- Develop partnerships with other international organizations to benefit APN members.
- Undertake syntheses on APN activities and review what has not yet been covered in the Science Agenda.
- Collaborate with existing centres and networks in the region for long-term, robust collaboration.

**Budgetary considerations to date:**

- There is a need to ensure a balance for strategic investment while also considering the APN financial position.
- IGM is asked to consider and discuss contingency fund in the whole budget system, including the APN Core Budget. Allocations to date (tentative) are available in the table below:

<b>APN OPPORTUNITY FUND (AOF)</b>			<b>Total (US\$):</b>	<b>1,289,000</b>
<b>Activities</b>	<b>2012 Approved Activities</b>	<b>New Proposed Activities</b>		
Biodiversity and Ecosystem Services Framework	0	100,000		
Climate Book: Climate in Asia and the Pacific Security Society and Sustainability	19,000	0		
Sub Regional Science-Policy Dialogue and Synthesis	0	100,000		
3SP Evaluation Report & 4th Strategic Plan:	0	15,000		
Scientific Activities under the Opportunity Funds**	<b>356,000</b>	0		
Sub-Regional Cooperation Meetings & Proposal Development Training Workshops	0	120,000		
Secretariat Staff (Coordinator)	26,000	15,000		
<b>Committed (US\$)</b>	<b>401,000</b>	<b>350,000</b>	<b>751,000</b>	
			<b>Remaining (US\$):</b>	<b>538,000</b>

**\*\* Allocations (US\$)**

1. Fellowship Scoping Programme (nFP, USA)	100,000
2. GEC Strategic Planning for APN (SPG, Japan)	30,000
3. Science-Policy Planning for B&ES (nFPs, Japan/ROK; TEA members)	70,000
4. Climate Impacts on B&ES (SC Member)	100,000
5. Future Earth activities in AP – 2 merged suggestions	56,000
(US\$24,000 already contracted in 2012; ICSU-ROAP & SC Member)	<b>Total: 356,000</b>

The results of the Process undertaken since the 17<sup>th</sup> IGM and the results to date on the suggestions received were informed to members on 30<sup>th</sup> November. This was following the results of discussions not only at the Special Steering Committee Meeting but also at the 22<sup>nd</sup> Steering Committee Meeting. The feedback is provided below:

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Thank you for your interest in the APN and its Opportunity Fund and for your patience during the process of calling for and reviewing suggestions under the AOF. This email is to inform you of the procedures undertaken by the APN's Steering Committee to discuss and review the suggestions submitted to the APN and some of the results to date. Please note that this first email is a general email to all proponents who submitted suggestions. More specific emails will be sent to you in the ensuing days.

### **PROCESS**

Following a detailed discussion on the process for funding allocation, the Steering Committee agreed to embark on a **plan that commits to a future investment of the AOF in a strategic way over a three-year period.**

This plan encompasses a number of important points, which are outlined below:

1. Establish specific criteria for evaluation of suggestions submitted in response to the announcement made post 17<sup>th</sup> IGM
2. Consider projects and programmes that exist at the country level that have a regional relevance.
3. Develop partnerships with other international organizations to benefit APN members.
4. Undertake syntheses on APN activities and review what has not yet been covered in the Science Agenda.
5. Collaborate with existing centres and networks in the region for long-term, robust collaboration.

Following the establishment of the criteria below and using the APN Strategic Plan as a filter mechanism for the suggestions submitted to the APN, it was agreed that all suggestions that could fit under a pre-existing programme need not be considered further at the Special SC Meeting.

- a) Does the suggestion fit the APN strategic plan?
- b) Can the suggestion be covered under a pre-existing programme (such as ARCP or CAPaBLE)?
- c) Is the suggestion strategic and forward looking – a new idea?
- d) Is the suggestion regional in approach (is it mutually beneficial for the majority of members) and/or transferable?
- e) Is the suggestion believable/realistic/funding levels appropriate?
- f) Is the suggestion time sensitive?
- g) Does the suggestion offer the potential for generating additional or new financial resources?

### **RESULTS**

Of the thirty-four (34) suggestions received by the Secretariat (titles of which are in the attached PDF):

Four (4) suggestions are suitable for funding from the AOF - **highlighted in blue** (note that, as 2 of the suggestions were combined, a total of **THREE** activities are presently suitable for funding under the AOF)

**TWO** (2) suggestions require further development for consideration under the AOF (**highlighted in green**)

Twenty-six (26) suggestions are suitable for consideration under pre-existing programmes, i.e. the CAPaBLE and ARCP programmes

- A number of suggestions could potentially be developed into a broader and more general strategic idea that might be suitable for the APN. The Secretariat will communicate with proponents directly in terms of reformulating their suggestions (in a more general strategic context for the future direction of the APN) for consideration under the AOF.

<p style="text-align: center;"><b>Suggestions submitted to the APN for consideration under the APN Opportunity Fund (AOF)</b></p> <p style="text-align: center;"><b>**Indicates a Revised Title</b></p> <p style="text-align: center;"><b>^^ Indicates Combined</b></p>	
1	<p><b>Develop research framework for assessment of the impacts of climate change on biodiversity** (Japan, ROK and TEA)</b></p>
2^^	<p><b>Planning and Development of Regional Science Themes for Incorporation in “Future Earth”<sup>1</sup> (ICSU-ROAP/SC Member)</b></p> <p><b>Future Earth Research Scoping Workshop and Road-Shows for Asia – Pacific Region (ICSU-ROAP/SC Member)</b></p>
3	<p><b>Develop professional training packages on climate and ecosystems change, adaptation and sustainability science (SC Member)</b></p>
4	<p><b>Workshop on agenda-setting in global change research** (SPG, Japan)</b></p>
5	<p><b>Asia-Pacific Fellowship Programme** (nFP, USA)</b></p>
6	<p>Enhancing Current Knowledge and Skill of the Academician, Researchers, Extension Workers and Policymakers of the South Asia on Climate Change, Vulnerability, Impacts, Preparedness and Future Strategies</p>
7	<p>Research on the impacts of climate change on biodiversity and its adaptation strategies in Southeast Asia</p>
8	<p>Capacity building on impacts of glacier melting on socio-economic development and adaptation strategy in Asia-Pacific regions</p>
9	<p>Capacity building on impacts of sea level rising on socio-economic development and adaptation strategy in Asia-Pacific regions</p>
10	<p>Capacity building on policy tools choice for addressing climate change</p>
11	<p>Training workshop for researchers on down-scaling of climate models</p>
12	<p>Advancing Disaster Prevention through Climate Change Adaptation</p>
13	<p>Minimization of climate change impacts on food security</p>
14	<p>Implementation of the National Green Reporting System of Sri Lanka</p>
15	<p>Sri Lanka Green Procurement Guideline</p>

16	Estimation of Methane Production from Ruminant Feeds of Sri Lanka and Planning of Mitigation Strategies
17	Developing location-specific climate based cropping calendars
18	Evaluation of coconut-based cropping systems for changing microclimatic conditions and reducing vulnerability of coconut plantations to projected climate change
19	Impact of Global warming on coastal and marine ecosystem and coastal socio economic activities associated coastal ecosystems in the South Asian countries
20	School-Based agriculture education development in Ampara District of Eastern Sri Lanka
21	Science and Policy study on biomass conversion to energy for Low Carbon and Climate Resilient development between South East Asia and Vietnam
22	Asia – Pacific Symposium on scientific based waste and landfill waste management toward Low carbon society and climate resilient (APLAS – Hanoi – 2014)
23	Development of a climate change adaptation toolkit (proof of concept) to guide livelihood improvement in the Asia-Pacific region
24	Urban Climate Change Research Network (UCCRN) Asia Regional Research Center
25	Coastal hazards in the Tropical South East Asia–Pacific (TSEAP) Region
26	Research on IRDR themes (in collaboration with the Advanced Institutes being conducted by START)
27	Coordinated Regional Climate Downscaling Experiment in East-Asia, South-Asia and South-East Asia (CORDEX EASASEA)
28	Strengthening Climate Change Adaptation (CCA) in South Asia
29	Diagnosis and Strengthening of Food, Health and Water sectors in Asia
30	Brokering among Climate Change Research Networks: Building a Community of Networks
31	Overcoming the Research to Policy Divide
32	Reduced Emissions from Deforestation and Forest Degradation in Nam Yom Watershed at Lampang Province of Thailand: A Community Forestry Initiative for REDD+ Concept based on Climate Change Adaptation and Sustainable Forest Management
33	The Environmental Risk Reduction in the Context of Water Security through Integrated River Basin Management

### General Suggestions on Funds Allocation

#### Short Term

1. The short-term grant must aim for what would be clear set of products in next say, five years.
2. No more than \$500,000 of the AOF be allocated for specific activities in FY2012 and FY2013.
3. Minimization of climate change impacts on agriculture
4. Research on changing climatic conditions and reducing vulnerability
5. Agriculture education and capacity building for adaptation to the climate change
6. Promoting ecosystems and biodiversity conservation
7. Sub-regional committees especially South Asia and Southeast Asia would like targeted focussed activities in their respective regions. As such, member country of each sub-region may submit one or two proposals on the priority themes of the region. The proposals will be evaluated by the SPG members (outside that region) and external experts.

#### Short and Long Term

1. Support qualified proposal submission from developing countries through proposal development training workshops. For example, countries with few ARCP and CaPABLE supported projects will be targeted. This is expected to contribute not only to capacity building of researchers in those countries but also to enhance the APN as a network.
2. Support focused ARCP and/or CaPABLE activities that aim to develop Regional Common Goods. For example, joint research enables sharing of regional common goods, such as methodological development (e.g. modelling) of regional climate impact assessment (e.g. urban area, water resources, terrestrial and marine biodiversity). It will be followed by sub-regional meetings, if appropriate, where targeted areas will be identified.
3. Provide special opportunity for young researchers to be funded under ARCP and CaPABLE as it can be difficult for young researchers to compete with experienced researchers in the APN proposals process. This concept will enhance young researchers' participation in APN programs and and bring new ideas to conventional research communities.
4. Part should be reserved as a contingency funds



**Long Term**

1. Number of annual projects (both ARCP and CAPaBLE) of APN may be increased.
2. Additional fund may be allocated to extraordinarily good projects.
3. Each sub-region may organize one or two science-policy dialogue workshops on emerging issues arising from global change.
4. APN may offers fellowship for Ph.D program on the priority areas of APN. One student/researcher from each country may be selected on competitive basis but preferably the selected student/researcher will work/study in the Universities of his/her own country.
5. Sustainable forest management and capacity building for Biodiversity conservation and maintenance of ecosystem services
6. Rehabilitation of degraded agricultural lands to ensure food security
7. Promote investments in renewable energy technologies
8. Minimization of climate change impacts on natural resources
9. Promote sustainable development through natural resource management
10. Adaptation to climate change and disaster risk reduction
11. No more than \$500,000 be allocated in FY2014. It is suggested that any funds remaining, together with any funds that might be added to the AOF
12. Longer term funding commitment and developing selected center-of-excellence on thematic topics is necessary in Asia without which the efforts of small scale dispersed individual grants are not very productive. Suggest that APN develops a selected Centre-of-Excellence which can accumulate knowledge and produce higher level products that are cross-disciplinary and integrated in nature.

## 1. Proposal for Scoping Workshop to Develop APN Fellowship Program

### Requested Funds approximately: 100K USD

1. Scoping workshop (2-3 days) – 30 K
2. Pilot of Fellows Program – 5 fellows @ 10K per year – 1<sup>st</sup> Year investment 50K

### Goal of Scoping Workshop: Design pilot phase of APN Fellows program

1. Set science focus of program
2. Develop networking strategy for Fellows
3. Identify potential regional partners/institutions for Fellows to work
4. Outline application procedure
5. Develop eligibility
6. Outline criteria for selection
7. Develop advertising strategy
8. Develop Fellows Executive committee

### Expected Scoping Workshop Outcomes

1. Call for applications -
2. Review Criteria
3. Review Process
4. List of potential reviewers

### Fellows Pilot Program – 1 Year: Fellows Executive Committee

1. Oversight and Management for 1 year – to be contracted or done by APN Secretariat
2. Review application and review criteria
3. Review application and review processes
4. Assess success of program
5. Recommendations for next steps to IGM

## 2. Initial Ideas on Development of APN Fellows Program

### Objective of Fellows Program

1. Advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and human well-being while creating the necessary workforce to address these challenges.
2. Provide early career scientists with the opportunity to develop partnerships that will advance and broaden the impact/scope of the proposed research.
3. Build capacity in the Asia Pacific region with researchers adept at interdisciplinary approaches to the challenges of sustainability and human-well being.
4. Create globally engaged researchers who can provide new insights and approaches to help facilitate the move towards global sustainability.

### Benefit to APN

1. Advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and human well-being while creating the necessary workforce to address these challenges.

2. Develop emerging leaders in the field of sustainability that can successfully move the APN objectives forward in the Asia Pacific region.
3. Make strategic investment from the APN OF and leverage collateral funding from other potential funding partners

Program Rationale/Need

A sustainable world is one in which human needs are met equitably without harm to the environment, and without sacrificing the ability of future generations to meet their needs. Meeting this formidable challenge requires a substantial increase in our understanding of the integrated system of society, the natural world, and the alterations humans bring to Earth. APN Fellows activities aim to address this need through support for interdisciplinary research and education.

Fundamental to all sustainability research is the simultaneous consideration of social, economic, and environmental systems and the long-term viability of those systems. Concepts that underlie the science of sustainability include complex adaptive systems theory, emergent behavior, multi-scale processes, as well as the vulnerability, adaptive capacity, and resilience of coupled human- environment systems. An important research goal is to understand how patterns and processes at the local and regional scales are shaped by and feed into processes and patterns that manifest at the global scale over the long term. These topics guide research to explore alternate ways of managing the environment, migrating from finite resources to renewable or inexhaustible resources, and applying technology to improve human well-being. Conceptual frameworks for sustainability, including general theories and models, are critically needed for such informed decision-making.

APN activities span the entire range of scientific domains and aim to: 1) support interdisciplinary research and education that can facilitate the move towards global sustainability; 2) build linkages among existing projects and partners and add new participants in the sustainability research enterprise; and 3) develop a workforce trained in the interdisciplinary scholarship needed to understand and address the complex issues of sustainability. The APN Fellows program addresses all three of these aims.

Long Term Program Design

Following a successful pilot program, the APN Fellows program would be at least – 5 years in duration, with possible extension to further 5 years.

Intent is to support– 20 Fellows per year, at an average cost of US \$10k/year (fellowship duration might vary from 4-8 months), for a base cost of the program at the level of US \$ 200K/year (excluding cost of management and oversight), and total cost for 5 years would be US \$ 1M.

Program would ideally need dedicated management and oversight. Any partner organization providing management would need a program staff dedicated to managing the day-to-day work. In addition, a Fellows Executive Committee will provide oversight (see below). Estimated cost for such management and oversight would be in the range of US \$5–75K per year.

An upfront management and evaluation (M&E) strategy for the Fellowship Program is a pre-requisite. Such M&E Strategy should set forth specific measures for desired outputs and outcomes. This M&E strategy should define the specifics of the program structure.

Fellowships should be targeted to certain specific research/science-policy area or theme based on APN's strategic needs that can be leveraged through partnering with other institutions outside of APN. Fellowships could include activities focused on science-policy (measures of science to informed action) and science-teaching/curriculum development & implementation (measures of capacity building).

Outcomes should include: Overall capacity built (human resource and institutional and in terms of APN Strategic Goals; inputs to policy actions at various scales in region and sub-regions; effective participation in and contributions to APN Strategic mission & Goals.

Program Description

There is a critical need to develop the workforce in the area of sustainability science and engineering. Through APN Fellows, APN seeks to advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and sustainable human well-being while creating the necessary workforce to address these challenges. The Program's emphasis is to facilitate investigations that cross traditional disciplinary boundaries and address issues of sustainability through a systems approach, building bridges between academic inquiry, economic growth, and societal needs. The Fellow's proposed investigation must be interdisciplinary and allow him/her to obtain research experiences beyond his/her current core disciplinary expertise.

Fellows are required to develop a research partnership(s) that will advance and broaden the impact/scope of the proposed research, and present a plan for their own professional development in the area of sustainability science and engineering. Partners may include, but are not limited to existing centers or facilities; industry; national laboratories in any APN member country; any APN member state, regional, or local resource management agencies; Non-Government Organizations (NGOs); or international organizations. Fellows are required to have two mentors, one for the proposed research at the host institution (the institution that will administer the award) and the other for the partnership. The host mentor and partner mentor must be from different institutions, and must provide different disciplinary expertise.

Fellows must also present a plan for their own professional development in the area of sustainability science and engineering. Activities may include, but are not limited to, obtaining training in a new discipline, gaining expertise on new methods/tools, serving in a leadership role in a professional society or industry group, mentoring students, undertaking efforts to broaden participation of under-represented groups in sustainability science, developing an education activity, developing a professional network or working on a project that focuses on public engagement.

Fellows must propose a well-integrated, synergistic research plan with their chosen host institution, an effective research partnership(s), and a meaningful professional-development plan. Overall, the proposal should reflect the Fellow's own research interests and professional goals presented in relationship to overall impact on science, engineering and education for sustainability. Because there may be different expectations within different disciplinary fields and/or different partnering organizations, a wide range of research and professional activities may be appropriate for the APN Fellows program.

Education Component

Fellows may include a plan for leading and teaching a course at the undergraduate or graduate level that ideally relates directly to their proposed sustainability science or engineering research, partnerships, or professional development activities. If proposed, the institution where the teaching would take place must cover the Fellow's salary plus fringe benefit costs for time committed to the course. The teaching is limited to no more than one course per term, and no more than three courses throughout the period of the APN Fellows award. This restriction is meant to provide the Fellow adequate time to engage in research collaborations and other professional development, and the teaching experience would be in addition to other professional development activities described in the proposal.

Program Eligibility: Options

Proposals may also be submitted by individuals who are affiliated with:

1. Universities and Colleges - Universities and two- and four-year colleges (including community colleges) in any APN member country;
2. Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in any APN member country associated with educational or research activities.

The Principal Investigator (PI) on the APN Fellows proposal must be the prospective Fellow. No co-PIs are allowed.

To be eligible to submit a proposal to the APN Fellows program, an individual must, as of the proposal deadline date, meet all of the following criteria:

1. Be a citizen, national, or permanent resident of an APN member country;
2. Have earned the doctoral degree, or expect to have earned the doctoral degree, by the start date of the award;
3. Not have worked for more than 36 full-time equivalent months in one or more positions that require the doctoral degree. If more than 36 months have elapsed between conferral of the doctoral degree and the APN Fellows proposal deadline date, PIs must include specific language in their Biographical Sketch (discussed below) affirming that they meet this eligibility requirement.
9. Not be employed in a tenure-track (or tenure-track-equivalent) position at an academic institution or at a non-profit, non-degree-granting organization such as a museum, observatory, or research lab in any member APN country.

Program Oversight/Management: Options to be considered

**Program Oversight**

Executive Committee (EC) or board, comprising: (i) An APN representative (preferably from SPG) who co-chairs this committee; (ii) affiliate partners, such as IIASA, START, ... (one of them designated as co-chair; co-chair position could rotate); several, but no more than three nFPs, preferably one from each sub-region); and at least one major funding partner, such as US. The EC should meet annually to review progress and guide development, and report to APN IGM

**Program Management (day-to-day):**

This could either be done by APN Secretariat or by a partner organization. Management will **need a dedicated staff person**, to handle regular calls for fellowships, handle logistics of reviews and decisions leading to awards, and manages process for reporting to the Fellows Executive Committee

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## Updates on Activities involving the Scientific Planning Group (SPG) and Capacity Development Committee (CDC)

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The information contained in the present paper and appendices outline some of the main activities conducted over the past year through the annual calls for proposals for both CAPaBLE and the ARCP programmes. The present paper explains the process implemented by the Secretariat and the work conducted by the SPG and CDC, particularly during the review process.

*Additional information on other activities will be highlighted by members of the SPG and CDC during their report to the IGM.*

### 1. PROJECT MANAGEMENT

#### a. Projects from the Annual Calls for Proposals

The APN is currently supporting **41 new and continuing projects** of which 23 are under the Annual Regional Calls for Research Proposals (ARCP)(21 Research projects and 2 seed grant projects) and 18 are under the CAPaBLE Programme (16 capacity building projects, and 2 seed grants). Summaries of the projects under the ARCP and CAPaBLE programmes are attached as [IGM-SPG/18/09-App.1](#), [IGM-SPG/18/9-App.2](#), and highlights are available in the APN Science Bulletin, Issue 3, April 2013. The spreadsheets also indicate the amount of funding awarded to each project.

#### b. Projects from Focussed-Activity Calls for Proposals

Two (2) Focused Calls for Proposals were launched in 2010 on Ecosystems, Biodiversity, and Land Use (EBLU) and Resources Utilisation and Pathways to Sustainable Development (RUSD). These projects began in late-2010/early-2011 and all, bar one single-year project that was completed, are in their second year of funding. There are now 4 projects under EBLU (2 research projects and 2 capacity building projects); and 2 projects (1 research project and 1 capacity building project) under RUSD. Summaries of these projects are attached [IGM-SPG/18/09-App.3](#), and highlights will be available in the Supplement to the APN Science Bulletin, Issue 3, to be published summer 2013. The spreadsheets also indicate the amount of funding awarded to each project.

In 2012, APN launched a new Focused Call for Proposals under the Low Carbon Initiatives Framework. 5 Research-based projects and 2 capacity development projects were funded under this programme. Summaries of these project are attached [IGM-SPG/18/09-App.4](#) and projects highlights will be displayed during Interactive Session II-Network session by the respective project leaders.

#### c. Management

- Submission of reporting requirements are regularly followed-up and consistent. However, the APN Secretariat is struggling with some issues on financial reports particularly those projects that did not submit their report on time despite repeated reminders, did not provide necessary and correct evidence of expenditures, lacking evidence, etc. Financial reporting continues to be the main problem under the “reporting requirements” stipulated by the APN.
- Project leaders are constantly reminded to inform the Secretariat of any changes in their project activities particularly on events for announcement on the APN website and EML. They are also reminded to inform the Secretariat of any event in which any project outputs will be presented. This allows the APN to maintain an up-to-

date calendar of activities for the international community via the APN website google calendar, implemented last year.

- Project Leaders are continuously encouraged by the APN Secretariat to establish links from, and display the APN logo on, their institutions' websites and/or APN project websites to the APN website. This is work in progress and, as links are established, information is placed on the APN website: <http://www.apn-gcr.org/newAPN/links/supportedProjectSites.htm>
- The Secretariat has developed bulletins and press releases highlighting completed and continuing projects under ARCP and CAPaBLE Programmes and these are disseminated in various events and conferences. Please refer to [Item 2. Summary of 2012-13 Activities](#)
- This year the data management policy was included in the Contractual Documentation of all APN-funded activities from annual regional calls for proposals.

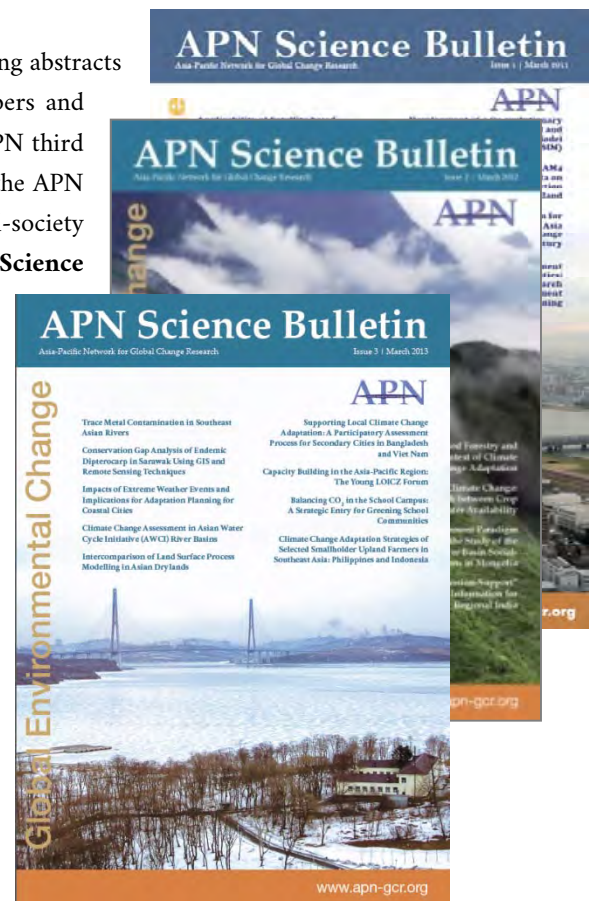
#### d. Science Bulletin

In the past decade, APN has published yearly project reports containing abstracts of APN-funded activities that have been useful for the APN members and other interested parties. However, with the implementation of the APN third strategic phase (2010-2015) and the need to ensure that the work of the APN reaches all stakeholders, including the science, policy and civil-society communities, the APN launched a new publication series: **APN Science Bulletin in 2011.**

The APN Science Bulletin publishes annually and highlights all of the projects funded and completed by the APN in the year of publication (the present year running from April 2011 – March 2012).

The Science Bulletin, this year, has three main sections:

- 1) Featured Articles;
- 2) Regional Research Projects funded under the Annual Regional Call for Proposals (ARCP) Programme; and
- 3) Scientific Capacity Development Projects funded under the CAPaBLE Programme; and

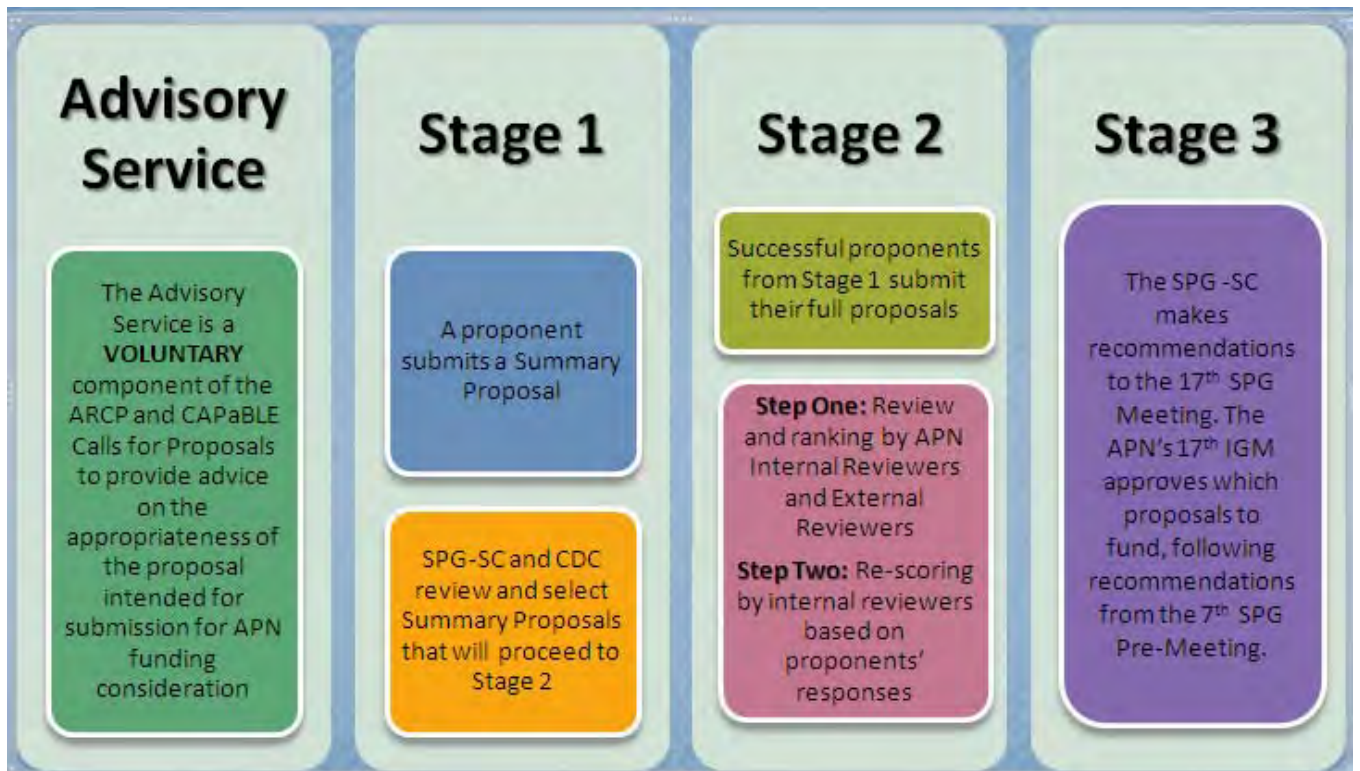


In this **third issue of the APN Science Bulletin, April 2013** (please refer to the hard copy provided in your folders); all activities that were funded and undertaken since April 2012 have been included. Under featured articles, full scientific research papers have been written and cover a number of major themes in the APN's science agenda. Sections 2 and 3 look at the work conducted under the APN's two core programmes, the ARCP and CAPaBLE programmes, respectively. A Supplement to this issue of the Science Bulletin will be published in the Summer of 2013 to highlight projects funded through a special focused activity on Ecosystems, Biodiversity and Land-Use (EBLU) focusing mainly on Forestry and

REDD+ issues; Resources Utilization and Pathways for Sustainable Development (RUSD), focusing mainly on Solid Material Flow and Recycling initiatives; and other APN-funded activities that do not fall under the 2 main Calls or Special Focused Calls.

## 2. ANNUAL CALLS FOR PROPOSALS PROCESS

- a. Following the 17<sup>th</sup> APN IGM/SPG Meeting in March 2012, the APN Secretariat implemented the 2012 Annual Calls for Proposals for ARCP and CAPaBLE Programmes. The Annual Calls for Proposals was officially launched on 7<sup>th</sup> June 2012. Please refer to Figure 1 for information, especially for new members of APN, on the general procedure and overall process of the Calls for Proposals.



**Figure 1.** Annual Calls for Proposals Submission and Review Stages



## General Information on Procedure for the Calls for Proposals Process

### ADVISORY SERVICE (Voluntary)

The Advisory Service is a **VOLUNTARY** component of the ARCP and CAPaBLE Calls for Proposals to provide advice on the appropriateness of the proposal intended for submission for APN funding consideration, as well as to provide assistance for emerging/young/early-career scientists seeking collaborators in the region. A potential proponent consults with the APN Secretariat with a carbon copy to the national Focal Point (nFP) and the Scientific Planning Group (SPG) Member from his/her country by sending a Letter of Intent (LOI).

### PROPOSALS SUBMISSION AND REVIEW PROCESS

The proposals submission and review process consists of 3 main stages:

- Stage 1 – Submission and review of Summary Proposal (compulsory)
- Stage 2 – Submission and 2-step review process of Full Proposal (by invitation)
- Stage 3 – Final Decision-Making

#### Stage 1: Submission and Review of Summary Proposal (Compulsory)

A proponent submits a summary proposal with carbon copy to the nFP and to the SPG member from his/her country (deadline was 12 August 2012). The summary proposals underwent a screening process performed by the SPG Sub-Committee (SPG-SC) and Capacity Development Committee (CDC), who select proposals that will proceed to Stage 2. All proponents were notified of the results of the Stage 1 review process on 14<sup>th</sup> October 2012, and only those proponents that passed Stage 1 were asked to submit a full proposal for further consideration.

#### Stage 2: Submission and Review of Full Proposal (compulsory and by invitation)

This stage is by **invitation only**. Successful proponents from Stage 1 are invited to submit their **Full Proposals** to the APN Secretariat by **mid-October 2011**.

#### Two-Step Review process

Review by APN internal reviewers (SPG members) and external reviewers. Proponents above the set cut-off line respond to the questions and comments of the APN internal reviewers, and unsuccessful proponents are informed of the results of the first review (**Step 1 Review: November 2012 – December 2012**). SPG members submit revised ratings based on responses of the proponents at Step 1 Review (**Step 2 Review: January 2013**).

#### Stage 3: Final Decision-Making

The APN's 18<sup>th</sup> IGM/SPG Meeting approves which proposals to fund, following recommendations from the SPG (**April 2013**). The Secretariat informs proponents of the final decision in April 2013.

**b. Report on the Implementation of the Calls for Proposals**

*Advisory Service (Voluntary)*

The APN Secretariat received 57 Letters of Intent on 1<sup>st</sup> July 2012. The Letters of Intent were sent to respective nFPs and SPG Members for their information and should they wish to provide feedback to the proponents. Their feedback was sent to the potential proponents together with the Secretariat's response on 26<sup>th</sup> July 2012, to give proponents who are advised to submit a Stage 1 Summary Proposal at least one full month to prepare it.

*Proposals Submission and Review Process (Compulsory)*

Under ARCP Programme, 55 summary proposals were received by the APN Secretariat, 53 of which were considered by the Secretariat to have met the basic eligibility criteria for submission. Following review by the SPG-SC, 30 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 14 of the 18<sup>th</sup> IGM/SPG Meeting agenda. Please also refer to [IGM-SPG/18/14-App.1](#) under Item 14 in your folders for a summary spreadsheet of the full proposals.

Furthermore, the APN Secretariat received 44 summary proposals under the CAPaBLE Programme, 43 of which have been considered by the Secretariat to have met the basic eligibility criteria for submission. Following review by the CDC, 18 proponents were requested to submit full proposals, which were reviewed by the SPG and CDC. SPG recommendations for funding will be discussed separately on Day 3 under Item 14 of the 18<sup>th</sup> IGM/SPG Meeting agenda. Please also refer to [IGM-SPG/18/14-App.2](#) under Item 14 in your folders for a summary spreadsheet of the full proposals.

This year, all full proposals were re-reviewed by reviewers, according to the agreement made by the SPG-SC and endorsed by the SPG in 2012 to re-instate the previous review process (only those in the "gray areas" were re-reviewed in 2011 and 2012)

All proposals which received an average of more than 7 also underwent reviews by external reviewers, although the scores of the external reviewers have not been integrated with the SPG scores. The aim of the external reviewer comments is to provide additional information on a proposal or proposals. **As of December 2012, the APN External Mail Review System has been updated to ensure we have an active pool of reviewers, as well as an up to date record of their areas of expertise. Currently, APN has 45 external reviewers in its External Mail Review System; 24 reviewers contributed to the 2012 APN Proposals Review Process.**

Please refer to appendix [IGM-SPG/18/09-App.5](#) for supplemental information related to 2012 Proposals and Projects.

**3. OTHER CURRENT AND FUTURE ACTIVITIES**

*Will be reported to the IGM following the SPG Pre-Meeting on 9<sup>th</sup> April 2013.*

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**APN South Asia Sub-Regional Committee Ad-Hoc Meeting**

**10 April 2013, Kobe, Japan**

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**Draft Agenda**

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- 15:10-15:15**  
(5 min)                      **Welcome Remarks and Brief Introduction**
- Prof. Giasuddin Miah, SPG Member for Bangladesh and Co-Chair of the South Asia Sub-Regional Committee (SA-SRCom) will provide remarks and give a short introduction to the meeting.
- A RAPPORTEUR AND A PRESENTER IS TO BE ASSIGNED FROM THE MEMBERS  
(Please note that the Secretariat is not available to take minutes or make the report for the meeting)
- 15:15-15:25**  
(10 min)                      **Chair of the SA-SRCom for 2013–2014**
- The Chair will facilitate election of a Chair of the SA-SRCom for 2013–2014. The elected Chair will preside over the Ad-Hoc Meeting.
- 15:25-15:35**  
(10 min)                      **Item 1. Adoption of the Draft Agenda**
- The elected Chair of the Meeting will seek adoption of the present draft agenda. Items of Any Other Business (AOB) may be raised.
- 15:35-15:55**  
(20 min)                      **Item 2. Review of the 4<sup>th</sup> SA-SRC Meeting  
and Action Point and discuss way forward**
- Refer to draft Chairperson’s summary contained in document [SA-ADHOC/18/10-App.1](#)
- Concept paper on Science policy dialogue in South Asia
  - Concept paper on disaster risk reduction (provided in electronic format)
- 15:55-16:15**  
(20 min)                      **Item 3. Review the concept paper on summary proposal**
- Prof. Giasuddin Miah, SPG Member for Bangladesh will provide the background information on the summary proposal.
- 16:15-16:30**  
(15 min)                      **Item 4. Future Plans/Activities**
- Tentative plans will be confirmed for future events. The discussion should be guided by the following:
- Next meeting (host, venue, date, chair, objective, events, expected outcomes)
- 16:30-16:35**  
(5 min)                      **Group Photograph**
- All participants will have a group photograph taken
- 16:35-16:40**  
(5 min)                      **Closing and Final Remarks**
- The Chair will deliver their concluding remarks.

-----END OF SA SRC Ad-Hoc Meeting-----

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APN South East Asia Sub-Regional Committee Ad-Hoc Meeting

10 April 2013, Kobe, Japan

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Draft Agenda

**15:10-15:15 Welcome Remarks and Brief Introduction**

(5 min) The APN national Focal Point (nFP) for Cambodia, Mr Sundara Sem, Chair of the Southeast Asia Meeting will provide remarks and give a short introduction to the meeting.

A RAPPORTEUR AND A PRESENTER IS TO BE ASSIGNED FROM THE MEMBERS (Please note that the Secretariat is not available to take minutes or make the report for the meeting)

**15:15-15:20 Self-Introduction and Election of Officers**

(5 min) The Chair will invite the members of the South East Asia Sub-Regional Committee (SEA-SRCom) for a brief self- introduction, and will facilitate members of the SEA-SRCom to elect a Chair and Vice-Chair for the Meeting.

**15:20-15:25 Item 1. Adoption of the Draft Agenda**

(5 min) The elected Chair of the Meeting will seek adoption of the agenda. Items of Any Other Business (AOB) may be raised.

**15:25-15:50 Item 2. Review of the 5<sup>th</sup> SEA-SRC Meeting**

(25 min) **Action Points (refer to appendix 1)**

**15:50-16:10 Item 3. Review of seed grant activity**

(20 min) Dr. Erna Sri Adiningsih, will provide an update on the scoping workshop

**16:10-16:20 Item 4. Concept paper on Asia Pacific Symposium on Waste and CC**

(10 min) Dr. Kim Chi NGO will discussed the draft concept paper on Asia Pacific Symposium on Waste and CC

**16:20-16:30 Item 5. Future Plans/Activities**

(10 min) Tentative plans will be made for future events. The discussion should be guided by the following:

- Maintaining contacts and strengthening the cooperation of SEA-SRCom Membership
- Myanmar engagement in 6<sup>th</sup> SEA-Meeting as observer.
- Next meeting (host, venue, date, chair, objective, expected outcomes) – Noting Lao's willing to host the 6<sup>th</sup> SEA-SRC Meeting in 2013

**16:30-16:35 Group Photograph**

(5 min) All participants will have a group photograph taken

**16:35-16:40 Closing and Final Remarks**

(5 min) The Chair will deliver their concluding remarks.

-----END OF SEA SRC Ad-Hoc Meeting-----

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**APN Temperate East Asia Sub-Regional Committee Ad-Hoc Meeting**

**10 April 2013, Kobe, Japan**

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**Draft Agenda**

- 15:10-15:20**  
(10min) **Welcome Remarks, Brief Introduction and Election of Chair**
- Dr. Andrey V. Adrianov nFP Member for Russia as recent host of the Scoping Workshop in Vladivostok, will provide remarks and give a short introduction to the meeting. The group will then elect a Chair for the meeting.
- A RAPPORTEUR AND A PRESENTER IS TO BE ASSIGNED FROM THE MEMBERS  
(Please note that the Secretariat is not available to take minutes or make the report for the meeting)
- 15:20-15:30**  
(10 min) **Item 1. Adoption of the Draft Agenda**
- The Chair for the Meeting will seek adoption of the present draft agenda. Items of Any Other Business (AOB) may be raised.
- 15:30-15:50**  
(20 min) **Item 2. Review of the 1<sup>st</sup> TEA-SRC Meeting and Action Points**
- Refer to draft Chairperson's summary contained in document [TEA-ADHOC/18/03-App.1](#)
- 15:50-16:10**  
(20 min) **Item 3. Formal establishment of TEA-SRCom and Chair of the TEA-SRCom for 2013–2014**
- Discussion on decision of the group to form a TEA-SRCom at the present meeting (as an action point from the recent steering committee meeting) and members will elect a Chair of the present meeting Ad-Hoc Meeting.
- 16:10-16:30**  
(20 min) **Item 4. Future Plans/Activities**
- Tentative plans will be made for future activities and events, including next meeting (host, venue, date, chair, objective, events, and expected outcomes)
- 16:30-16:35**  
(5 min) **Group Photograph**
- All participants will have a group photograph taken
- 16:35-16:40**  
(5 min) **Closing and Final Remarks**
- The Chair will deliver their concluding remarks.

-----END OF TEA SRC Ad-Hoc Meeting-----

## PROCEDURE FOR RECOMMENDING PROPOSALS FOR FUNDING

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### **Procedures for Recommending ARCP research proposals to the IGM for Funding:**

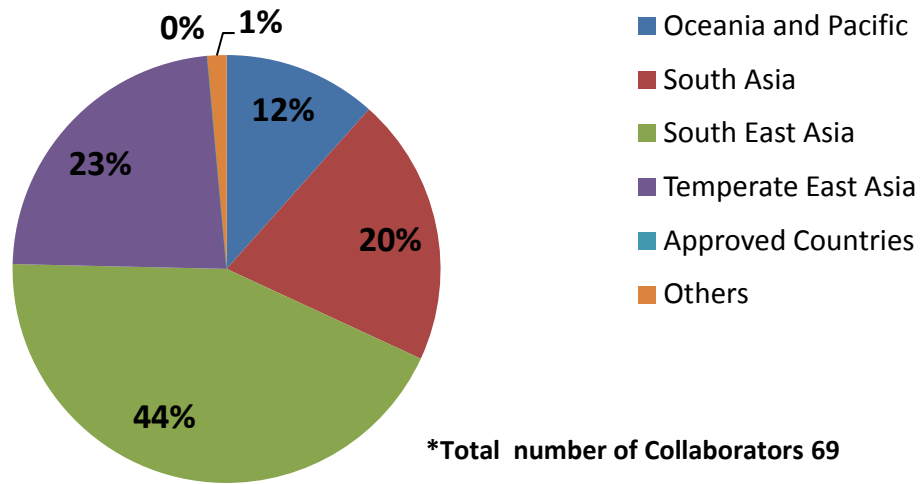
- The Scientific Planning Group Sub-Committee (SPG-SC) at its 8<sup>th</sup> SPG-SC Meeting to be held on Monday 8<sup>th</sup> April 2013 will review all full proposals in ranking order; the reviews they received from both the SPG and the APN's pool of external reviewers; as well as responses from proponents to reviewers' questions and comments. Following this rigorous process, the SPG-SC will compile a spreadsheet, in ranking order, that highlights those proposals that they recommend for funding.
- The recommendations from the SPG-SC are then taken to the SPG Pre-Meeting, held on Tuesday 9<sup>th</sup> April 2013 and a similar process to the above ensues, although much less rigorous at this point. Following a detailed discussion, the SPG will prepare a revised spreadsheet, in ranking order, for recommendation to the 18<sup>th</sup> IGM for funding.
- The recommendations will be made available on the morning of the 12<sup>th</sup> April, 2013 for IGM perusal, discussion and approval.

### **Procedures for Recommending CAPaBLE capacity building proposals to the IGM for Funding:**

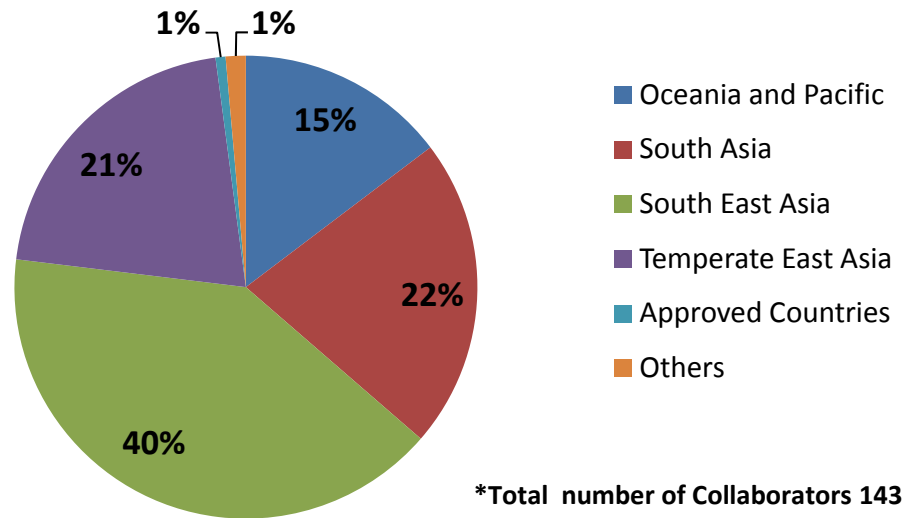
- The APN Capacity Development Committee (CDC) at its 12<sup>th</sup> CDC Meeting to be held on Monday 8<sup>th</sup> April 2013 will review all full proposals in ranking order; the reviews they received from the CDC, SPG and the APN's pool of external reviewers; as well as responses from proponents to reviewers' questions and comments. Following this rigorous process, the CDC will compile a spreadsheet, in ranking order, that highlights those proposals that they recommend for funding.
- The recommendations from the CDC are then taken to the SPG Pre-Meeting, held on Tuesday 9<sup>th</sup> April 2013, for their information and additional advice.
- The recommendations will be made available on the morning of the 12<sup>th</sup> April, 2013 for IGM perusal, discussion and approval.

Sub Regional Involvement of 2012 ARCP

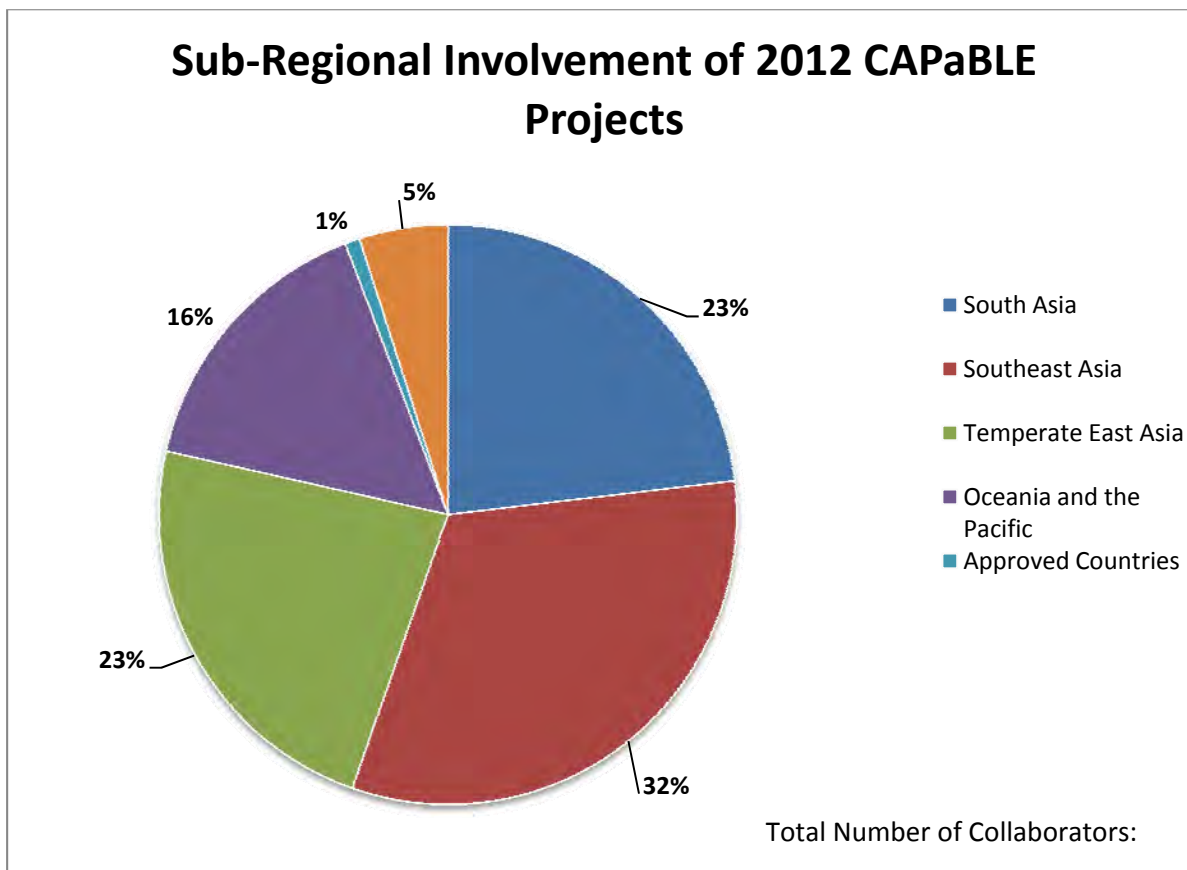
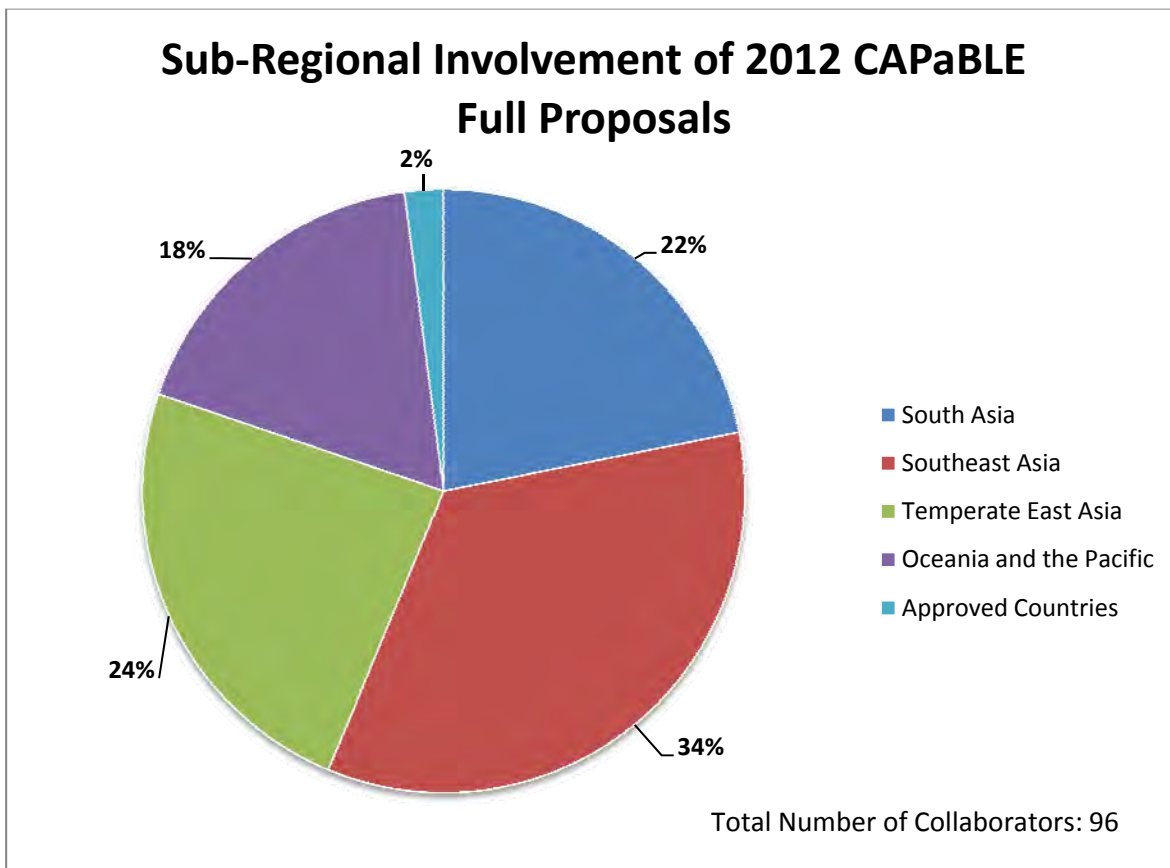
**Sub Regional Involvement of 2013 ARCP recommended proposals**



**Sub Regional Involvement of 2012 ARCP full proposal stage base on Collaborators**



Sub-Regional Involvement of 2012 CAPaBLE





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## Item 15: Steering Committee Elections

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The two-year term of elected members (nFPs) to the SC will come to an end at the 18th IGM/SPG Meeting, therefore an election will be held under **Item 15** of the IGM/SPG Meeting on the morning of Day 3, 12 April 2013, for three national Focal Points. To facilitate this process the Secretariat circulated an email on 13 March 2013 among the national Focal Points (carbon copied to the Steering Committee) requesting nominations of national Focal Point to the Steering Committee.

For the information of the SC, the following national Focal Points are nominated as of 1 April 2013 (these include self-nominated countries); and more nominations are expected:

<b>Country</b>	<b>Present nFP</b>
Bhutan	Mr. G. Karma CHHOPEL
China	Mr. Chengyong SUN
Indonesia	Ms. Hermien ROOSITA
Japan	Mr. Hiroshi TSUJIHARA
Nepal	Mr. Gokarna Mani DUWADEE
Philippines	Mr. Eriberto C. ARGETE
Republic of Korea	Mr. Kyeong Yun JEONG
Sri Lanka	Mr. B. M. U. D. BASNAYAKE
Viet Nam	Dr. Xuan Bao Tam NGUYEN

### Appendix:

#### Section 6.B (Steering Committee) of the current Framework Document

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### 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.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 selects from among its elected national Focal Points a Chair, a First Vice-Chair, and a Second Vice-Chair. Should the position of Chair become vacant, the First Vice-Chair shall become Interim Chair until the next IGM. This procedure shall be followed until the SC can hold a normal election for this post. Similarly, should the position of First Vice-Chair become vacant, the Second Vice-Chair shall become Interim First Vice-Chair. This procedure shall be followed until the SC can hold a normal election for this post.
- ii. The Chair is responsible, with the assistance of the Secretariat, for managing SC activities.

## Mitra Award Presentation

For Best Poster Presenter at Interactive Session II

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### Presentation by Winning Poster Presenter & Mitra Award Ceremony

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#### Background

During the 15<sup>th</sup> IGM in Busan, Republic of Korea, APN introduced “Networking & Young Scientists Poster Session”, which aims to provide an opportunity to young/early career scientists to showcase their research work to the APN and the global change scientific and policy communities. Each year, this session is open to young/early career scientists who are undertaking their research in an institutions based in the host country of the IGM.



**Dr. Ashesh Proshad Mitra (February 21, 1927 – September 3, 2007)**

In addition to providing the opportunity to showcase activities, the APN scientific community evaluates the posters presented and selects the best poster among the competitors. The best poster presentation is awarded the “Mitra Award for Scientific Excellence”.

The Mitra award was created to honour Prof Emeritus Dr. Ashesh Proshad MITRA, a prominent member of the APN and SPG member for India from 1996 to 2007, and who provided excellent scientific advice to the APN, particularly for its Science Agenda.

#### Poster Session

The winning poster will be announced by the Co-Chairs of Interactive session II (directly after Interactive Session III on day 2). The winning scientist will provide a 20-minute presentation based on the work in his/her poster under the present IGM item (Item 16), followed by presentation of the Mitra Award for scientific excellence.

#### 2012 Mitra Awardee (17<sup>th</sup> IGM/SPG Meeting)

Winning Scientist:	<b>Dr. Evi Gusmayanti</b> , Center for Wetlands People and Biodiversity, Universitas Tanjungpura, West Kalimantan Province, Indonesia
Presentation Title:	Natural Properties of Carbon Stock in Customary Peat Forest at Danau Sentarum National Park, West Kalimantan, Indonesia Plant Mediator to Tackle Climate Change

#### 2011 Mitra Awardee (16<sup>th</sup> IGM/SPG Meeting)

Winning Scientist:	<b>Dr. W.G.D. Lakmini</b> , Faculty of Agriculture, University of Ruhuna, Sri Lanka
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Presentation Title: Plant Mediator to Tackle Climate Change

2010 Mitra Awardee (15<sup>th</sup> IGM/SPG Meeting)

Winning Scientist: **Mr. Woo-Seop Lee**, from Kongju National University, Korea

Presentation Title: Relationship between absorbing aerosols and snow cover/snow water equivalent over the Himalayas and the western Tibetan Plateau during boreal spring”

## 2012 Mitra Award-Abstract

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### **Natural Properties of Carbon Stock in Customary Peat Forest at Danau Sentarum National Park, West Kalimantan, Indonesia**

Evi Gusmayanti<sup>1</sup>, Gusti Anshari<sup>1</sup>, and M. Afifudin<sup>2</sup>

<sup>1</sup>Center for Wetlands People and Biodiversity, Universitas Tanjungpura, West Kalimantan Province, Indonesia

<sup>2</sup>Provincial Forestry Office, Pontianak, West Kalimantan Province, Indonesia

Natural properties of Carbon stock in tropical region are barely investigated. We aim at analyzing natural properties of variables that affect Carbon stock in tropical peats. We conducted this research in the Customary Nung Forest at Danau Sentarum National Park, which is an important Ramsar site with seasonal flood plain lakes, unique peat domes, and high biodiversity. A total of 431 peat samples from four transects were collected and analyzed to measure Bulk Density (BD), Total Organic Carbon (TC), and Total Nitrogen (TN). We also calculated Total Carbon Density (TCD), Total Nitrogen Density (TND), and C:N ratio. We collected these samples with a Russian type peat auger. Means of these variables according to spatial and vertical distributions are compared by one way ANOVA. When significantly different, we use Games-Howell multiple comparison approach to determine the difference.

We found the average values of variables affecting peat carbon stock are 0.166 t m<sup>-3</sup>, 51.03%, 0.79%, 0.084 t m<sup>-3</sup>, 0.0013 t m<sup>-3</sup>, 71.06 for BD, TC, TN, TCD, TND, and C:N ratio respectively. Spatially, the mean values of all variables are significantly different among sample plots and transects as well. Vertically, the distribution of BD, TN, TCD, TND and C:N ratio indicate distinctive patterns. The patterns show significant high values in BD, TCD, TN and TND in top 100 cm depth, and significant low values in C:N ratio in top 100 cm depth. An assessment of peat carbon stock can be done by collecting 200 cm sample core, and analyzing 8 subsamples with 25 cm increment.

Keywords: Peat Carbon Stock, Natural Properties, Danau Sentarum National Park

## 2011 Mitra Award-Abstract

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**Plant mediator to tackle climate change**WGD Lakmini<sup>1</sup>, PH Knight<sup>2</sup> and MR Knight<sup>2</sup><sup>1</sup>Department of Crop science, Faculty of Agriculture, University of Ruhuna, Sri Lanka<sup>2</sup>School of Biological and Biomedical Sciences, Durham University, United Kingdom**Abstract**

The current rate of climate change predicts that plants will become subject to increasing extremes of environmental stress. Rapid population increases in developing countries also demand higher yield from crop production, often from sub-optimal agricultural areas. Genetic engineering can help meet these needs through the development of crops with greater stress tolerance. Mediator is transcriptional co-activators which convey DNA bound transcriptional regulators and enhancers to the general RNA polymerase II transcription machinery and mediator genes are recently identified in plants. So far it has showed their great involvement in regulation of plant stress tolerance by controlling transcription of stress genes. SFR6 (SENSITIVE TO FREEZING6) is one of plant mediator protein which has identified first with its involvement to tolerance against freezing in Arabidopsis. In this research we have identified SFR6 is not only essential for freezing tolerance but also for tolerance against UV and pathogen responses. Moreover, the homologue of this protein also found in many food crops such as rice, wheat etc. and orthology of rice SFR6 (OsSFR6) was demonstrated by complementation of *sfr6-1* mutant of Arabidopsis by OsSFR6. However, over expression of this gene cannot be used as a molecular tool to improve stress tolerance of plants. The links between mediator sub-units explain this finding that is because these links are essential to get maximum output of mediator function on regulation of transcription. However, protein sequences could be mutated to enhance the activity and thereby it might possible to use mediator subunits to improve plant tolerance to multiple stresses and ensure food security. Therefore, the future research on individual and of the whole complex of mediator will widen our knowledge of the transcriptional regulation of gene expression in plant and create new routes to improve crop tolerance to environmental stresses.

**Relationship between absorbing aerosols and snow cover/snow water equivalent over the Himalayas and the western Tibetan Plateau during boreal spring.**

Woo-Seop Lee<sup>1</sup>, Maeng-Ki Kim<sup>1</sup>, KM Lau<sup>2</sup>, Kyu-Myong Kim<sup>3</sup> and Sung Kim<sup>1</sup>

<sup>1</sup>Department of Atmospheric Sciences, Kongju National University, Gongju, 314-701, Korea

<sup>2</sup>Laboratory of Atmospheres, NASA Goddard Space Flight Center, Greenbelt, MD 20771, USA

<sup>3</sup>Goddard Earth Sciences and Technology Center, University of Maryland Baltimore County, Baltimore, MD 21228, USA

**Abstract**

This study investigates 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 NASA finite-volume general circulation model and observation data from space-borne sensors, namely MODIS and National Snow and Ice Data Center (NSDIC).

During the boreal spring, dust transported from adjacent deserts and black carbon from local emission accumulated over the Indo-Gangetic Plane against the foothills of the Himalaya and the western Tibetan Plateau. The aerosol layer which extends from surface to high elevation absorbs solar radiation and heats the mid-troposphere. Model results show that the heating produces an atmospheric dynamic feedback-the so-called elevated-heat-pump(EHP) effect, which increases moisture, cloudiness and deep convection over northern India, as well as enhances the rate of snowmelt in the Himalayas and the western TP. Effectively, the anomalous atmospheric heat energy induced by solar heating of aerosols is transferred from atmosphere to land to enhance the seasonal warming of the land surface and melting of snow in the region.

In this study, we also present preliminary observations of relationship between absorbing aerosols (dust and black carbon) and snow cover/snow water equivalent that seem to be consistent with the basic premise of the "EHP" hypothesis.

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## Item 17: Amendments to the Framework Document

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IGM approval of the proposed amendments to the Framework Document is sought under the present item.

Item paper references:

- *IGM-SPG/18/03-02: Proposed Amendments to the Framework Document*
- *IGM-SPG/18/03-02-App1 Suggested Amendments to the Framework Document*
- *IGM-SPG/18/03-02-App2 Current Framework Document*

## Item 18: Proposed Plan of Work for 3<sup>rd</sup> SP Evaluation (2010-2015) & 4<sup>th</sup> Strategic Plan (2015-2020)

Recalling that the Evaluation Report of the 2<sup>nd</sup> Strategic Phase and the 3<sup>rd</sup> Strategic Plan were created along a work programme over a period of 24 months it is time to kick off the work of drafting the Evaluation Report of the 3<sup>rd</sup> Phase and the 4<sup>th</sup> Strategic Plan<sup>1</sup>.

The 22<sup>nd</sup> SC Meeting (31 Oct-01 Nov 2012) discussed the matter and advised the APN Secretariat the following:

- *In the Evaluation Report, summarise APN's achievements of the 3<sup>rd</sup> Strategic phase with good examples in order to satisfy the needs of the donor community and other stakeholders*
- *For the formulation of the 4<sup>th</sup> Strategic Plan (2015-2020<sup>2</sup>) adopt important parts from the present 3<sup>rd</sup> Strategic Plan as many recommendations would still be relevant in the next phase. Try to avoid any duplication of efforts*
- *The work of drafting the Evaluation Report and the new Strategic Plan will be led by a small Committee, comprising some SC members and invited experts. The APN Secretariat will assist the work of the Committee.*

Taking into consideration the above advice a basic content has been drafted:

### Content of the Evaluation Report of the 3<sup>rd</sup> Strategic Phase

- Executive Summary
  - Message from Director and/or SC Chair
  - Preface
1. **Overview of the 3<sup>rd</sup> Strategic Phase**
    - Highlights of the 3<sup>rd</sup> Strategic Phase
    - APN Donors and Financial Status
  2. **Evaluation of Science and Policy Agenda**
    - Overview of APN funded projects in the 3<sup>rd</sup> Strategic Phase (eventually with presentations of outstanding projects?), key findings
    - APN's achievements against the Policy Agenda, by also emphasizing APN's new involvement in policy-relevant discussions
  3. **Evaluation of the Institutional Agenda**
    - Involvement of Member Countries
    - Financial Resources
    - Alignment with Programmes of the GC Community
    - Communications and Outreach
    - Institutional Arrangements
  4. **Conclusion**
    - A short summary of the Evaluation Report of the 3<sup>rd</sup> Strategic Phase and possible recommendations towards the 4<sup>th</sup> Strategic Plan

### Considerations:

<sup>1</sup> The Evaluation Report of the 3<sup>rd</sup> Phase and the 4<sup>th</sup> Strategic Plan will be presented for endorsement at the 20<sup>th</sup> IGM, which will be held around March/April 2015.

<sup>2</sup> The issue of a longer strategic phase has been touched upon previously (longer than 5 years).



- Budget: The initial work of the evaluation may require a budget of approximately US\$15,000, but this is not clear yet and will depend on discussions among the Task Committee members and whether they agree that a face to face scoping meeting is needed. It is expected that this budget could be reserved from the APN Opportunity Fund.
- Timeline: Refer to the timeline on page 3.

Timeline for 3 <sup>rd</sup> Phase Evaluation & 4 <sup>th</sup> Strategic Planning	2013/14												2014/15					2015/16				
	A	M	J	J	A	S	O	N	D	J	F	M	A	S	O	N	D	J	F	M	A	M
1. <b>Form Task Committee</b>																						
2. <b>Scoping Meeting</b> with Task Committee & Secretariat (teleconference or face to face) (identify lead, committee responsibilities, workplan, external experts, etc.)																						
3. Implement a <b>pre-evaluation stage</b> (preparatory stage)																						
4. <b>Project Evaluation</b> (projects identified during pre-evaluation stage). Self-evaluations expected from project leaders/collaborators.																						
5. <b>Institutional Evaluation</b> (main points identified during the pre-evaluation stage; topics addressed at sub-regional committee meetings, etc)																						
6. <b>Progress reports</b> at Intersessional Steering Committee & 19 <sup>th</sup> IGM																						
7. <b>Task Committee Writing Workshop</b> for evaluation report / draft strategic planning phase.																						
8. Finalise 3Phase Evaluation Report and complete First Draft of Strategic Plan																						
9. <b>Circulate 2 manuscripts</b> from 8 above for member/stakeholder review and feedback																						
10. <b>Incorporate member/stakeholder feedback</b> and finalise manuscripts																						
II. <b>Present</b> final 3Ph Evaluation Report & 4 <sup>th</sup> Strategic Plan to 20 <sup>th</sup> IGM for approval																						

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### Item 19: Hosting of the 19th IGM/SPG Meetings

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The process of seeking potential IGM hosts usually includes sending a letter from the APN Secretariat Director to member countries asking for their willingness to host.

At the 22nd Steering Committee Meeting held in Kobe, Japan in October 2012, Cambodia (through Mr. Sundara Sem, nFP for Cambodia and SC Chair) offered to host the 19th IGM/SPG Meetings Cambodia in 2014. The SC welcomed and appreciated the offer and requested the Secretariat to report to the 18th IGM.

During the regular process of seeking potential hosts (for the 19th and future IGM/SPG Meetings), two additional national Focal Points offered to host IGM meetings. Hence this year we have three offers from among the national Focal Points:

1. **Cambodia** (Mr. Sundara SEM, nFP for Cambodia)
2. **Nepal** (Mr. Gorkana Duwadee, nFP for Nepal)
3. **Sri Lanka** (Mr. B. M. U. D. Basnayake, nFP for Sri Lanka)

Discussions are expected to take place the present item, and announcements made.

#### Locations of IGM (and associated meetings)

Year	Location	Sub-Region	Meetings
2013	<i>Kobe, Japan</i>	<i>TEA</i>	<ul style="list-style-type: none"> <li>• 8<sup>th</sup> SPG-SC Meeting, 8 April</li> <li>• 12<sup>th</sup> CDC Meeting, 8 April</li> <li>• 8<sup>th</sup> SPG Pre-Meeting, 9 April</li> <li>• 23<sup>th</sup> SC Meeting, 9 April</li> <li>• 18<sup>th</sup> Joint IGM/SPG Meeting, 10-12 April</li> <li>• 24<sup>th</sup> SC Meeting, 12 April</li> </ul>
2012	<i>Jakarta, Indonesia</i>	<i>SEA</i>	<ul style="list-style-type: none"> <li>• 7<sup>th</sup> SPG-SC Meeting, 12 March</li> <li>• 11<sup>th</sup> CDC Meeting, 12 March</li> <li>• 7<sup>th</sup> SPG Pre-Meeting, 13 March</li> <li>• 20<sup>th</sup> SC Meeting, 13 March</li> <li>• 17<sup>th</sup> Joint IGM/SPG Meeting, 14-16 April</li> <li>• 21<sup>th</sup> SC Meeting, 16 April</li> </ul>
2011	<i>Colombo, Sri Lanka</i>	<i>SA</i>	<ul style="list-style-type: none"> <li>• 6<sup>th</sup> SPG-SC Meeting, 4 April</li> <li>• 10<sup>th</sup> CDC Meeting, 4 April</li> <li>• 6<sup>th</sup> SPG Pre-Meeting, 5 April</li> <li>• 17<sup>th</sup> SC Meeting, 5 April</li> <li>• 16<sup>th</sup> Joint IGM/SPG Meeting, 6-8 April</li> <li>• 18<sup>th</sup> SC Meeting, 8 April</li> </ul>
2010	<i>Busan, Republic of Korea</i>	<i>TEA</i>	<ul style="list-style-type: none"> <li>• 5<sup>th</sup> SPG-SC Meeting, 15 March</li> <li>• 9<sup>th</sup> CDC Meeting, 15 March</li> <li>• 5<sup>th</sup> SPG Pre-Meeting, 16 March</li> <li>• 14<sup>th</sup> SC Meeting, 16 March</li> </ul>

IGM-SPG/18/19: Hosting of the 19th IGM/SPG Meetings

			<ul style="list-style-type: none"> <li>• 15<sup>th</sup> Joint IGM/SPG Meeting, 17-19 March</li> <li>• 15<sup>th</sup> SC Meeting, 19 March</li> </ul>
2009	<b><i>Kuala Lumpur, Malaysia</i></b>	<b><i>SEA</i></b>	<ul style="list-style-type: none"> <li>• 4<sup>th</sup> SPG-SC Meeting, 16 March</li> <li>• 8<sup>th</sup> CDC Meeting, 16 March</li> <li>• 4<sup>th</sup> SPG Pre-Meeting, 17 March</li> <li>• 11<sup>th</sup> SC Meeting, 17 March</li> <li>• 14<sup>th</sup> Joint IGM/SPG Meeting, 18-20 March</li> <li>• 12<sup>th</sup> SC Meeting, 20 March</li> </ul>
2008	<b><i>Relocated from Sri Lanka to Kobe, Japan</i></b>	<b><i>TEA</i></b>	<ul style="list-style-type: none"> <li>• 3<sup>rd</sup> SPG-SC Meeting, 15 March</li> <li>• 7<sup>th</sup> CDC Meeting, 16 March</li> <li>• 3<sup>rd</sup> SPG Pre-Meeting, 17 March</li> <li>• 8<sup>th</sup> SC Meeting, 17 March</li> <li>• 13<sup>th</sup> Joint IGM/SPG Meeting, 18-20 March</li> <li>• 9<sup>th</sup> SC Meeting, 20 March</li> </ul>
2007	<b><i>Honolulu, USA</i></b>	<b><i>Pacific</i></b>	<ul style="list-style-type: none"> <li>• 5<sup>th</sup> SC Meeting, 17 March</li> <li>• 2<sup>nd</sup> SPG-SC Meeting, 18 March</li> <li>• 5<sup>th</sup> CDC Meeting, 19 March</li> <li>• 2<sup>nd</sup> SPG Pre-Meeting, 20 March</li> <li>• 12<sup>th</sup> Joint IGM/SPG Meeting, 21-23 March</li> <li>• 6<sup>th</sup> SC Meeting 23 March</li> </ul>
2006	<b><i>Bangkok, Thailand</i></b>	<b><i>SEA</i></b>	<ul style="list-style-type: none"> <li>• 1<sup>st</sup> SPG-SC Meeting, 20 March (in the second strategic phase)</li> <li>• 4<sup>th</sup> CDC Meeting, 21 March</li> <li>• 3<sup>rd</sup> SC Meeting, 21 March</li> <li>• 11<sup>th</sup> Joint IGM/SPG Meeting, 22-24 March</li> <li>• 1<sup>st</sup> SPG Meeting, 22 March (In the second strategic phase)</li> </ul>
2005	<b><i>Kobe, Japan</i></b>	<b><i>TEA</i></b>	<ul style="list-style-type: none"> <li>• 11<sup>th</sup> SC Meeting, 10 April</li> <li>• 2<sup>nd</sup> CSC Meeting, 11 April</li> <li>• 10<sup>th</sup> IGM/SPG Meeting, 12-14 April</li> <li>• 1<sup>st</sup> SC Meeting, 14<sup>th</sup> April (in the second strategic phase)</li> </ul>
2004	<b><i>Canberra, Australia</i></b>	<b><i>Oceania</i></b>	<ul style="list-style-type: none"> <li>• Small Group Meeting, 21 March</li> <li>• 9<sup>th</sup> SC Meeting, 25 March</li> <li>• 9<sup>th</sup> IGM/SPG Meeting, 22-24 March</li> </ul>
2003	<b><i>Hanoi, Viet Nam</i></b>	<b><i>SEA</i></b>	<ul style="list-style-type: none"> <li>• Small Group Meeting, 9 March</li> <li>• 8<sup>th</sup> IGM and SPG Meeting, 10-14 March</li> <li>• 1<sup>st</sup> Ad Hoc RDC Informal Meeting, 12 March</li> </ul>
2002	<b><i>Manila, Philippines</i></b>	<b><i>SEA</i></b>	<ul style="list-style-type: none"> <li>• Small Group Meeting, 17 March</li> <li>• 7<sup>th</sup> SPG Meeting, 10-11 March</li> <li>• 7<sup>th</sup> IGM, 13-14 March</li> <li>• SC Meeting, 15 March</li> </ul>
2001	<b><i>Jeju Island, Republic of Korea</i></b>	<b><i>TEA</i></b>	<ul style="list-style-type: none"> <li>• Small Group Meeting, 18 March</li> <li>• 6<sup>th</sup> SPG Meeting, 19-20 March</li> <li>• 6<sup>th</sup> IGM, 22-23 March</li> <li>• SC Meeting, 24 March</li> </ul>

2000	<i>Islamabad, Pakistan</i>	<i>SA</i>	<ul style="list-style-type: none"> <li>• 5<sup>th</sup> SPG Meeting, 26-27 March</li> <li>• 5<sup>th</sup> IGM, 29-30 March</li> </ul>
1999	<i>Kobe, Japan</i>	<i>TEA</i>	<ul style="list-style-type: none"> <li>• 4<sup>th</sup> IGM, 18-20 March</li> </ul>
1998	<i>Beijing, China</i>	<i>TEA</i>	<ul style="list-style-type: none"> <li>• 3<sup>rd</sup> IGM, 11-13 March</li> </ul>
1997	<i>Tokyo, Japan</i>	<i>TEA</i>	<ul style="list-style-type: none"> <li>• 2<sup>nd</sup> SPG Meeting, 24-26 March</li> <li>• 2<sup>nd</sup> IGM, 27-28 March</li> </ul>
1996	<i>Chiangmai, Thailand</i>	<i>SEA</i>	<ul style="list-style-type: none"> <li>• 1<sup>st</sup> IGM, 25-26 March</li> </ul>

### Locations of other APN Meetings

- 1<sup>st</sup> SPC Meeting – *Tokyo, Japan* (25-26 January 1996)
- 1<sup>st</sup> SPG Meeting – *Kuala Lumpur, Malaysia* (29-30 August 1996)
- 3<sup>rd</sup> SPG Meeting – *Canberra, Australia* (19-21 January 1998)
- 4<sup>th</sup> SPG Meeting – *Jakarta, Indonesia* (2-4 February 1999)
- 1<sup>st</sup> SC Meeting – *Honolulu, USA* (3-4 December 2000)
- 4<sup>th</sup> SC Meeting – *Manila, Philippines* (16-17 December 2001)
- 6<sup>th</sup> SC Meeting – *Kuala Lumpur, Malaysia* (9-10 December 2002)
- 8<sup>th</sup> SC Meeting – *Wellington, New Zealand* (11-12 December 2003)
- 2<sup>nd</sup> SC Meeting – *Tokyo, Japan* (19-20 November 2005)
- 3<sup>rd</sup> CSC Meeting – *Tokyo, Japan* (18-19 November 2005)
- 4<sup>th</sup> SC Meeting and Workshop on the New Liaison Model – *Jakarta, Indonesia* (24-26 August 2006)
- 1<sup>st</sup> SEA Sub-Regional Committee Meeting – *Jakarta, Indonesia* (20-21 August 2007)
- 7<sup>th</sup> SC and 6<sup>th</sup> CDC Meeting – *Kobe, Japan* (4-5 October 2007)
- 10<sup>th</sup> SC Meeting – *Manila, Philippines* (6-7 October 2008)
- 1<sup>st</sup> SA Sub-Regional Cooperation Meeting – *Colombo, Sri Lanka* (27-28 July 2009)
- 2<sup>nd</sup> SEA Sub-Regional Committee Meeting – *Bangkok, Thailand* (19-20 August 2009)
- 13<sup>th</sup> SC Meeting, Augmented SC Meeting (ASCM) and Writing Workshop – *Kobe, Japan* (24-27 August 2009)
- 16<sup>th</sup> SC Meeting – *Kobe, Japan* (30-31 August 2010)
- 2<sup>nd</sup> SA Sub-Regional Committee Meeting – *Pune, India* (2 November 2010)
- 3<sup>rd</sup> SEA Sub-Regional Committee Meeting – *Manila, Philippines* (9-10 November 2010)
- 4<sup>th</sup> SEA Sub-Regional Committee Meeting – *Hanoi, Viet Nam* (25-29 July 2011)
- 19<sup>th</sup> SC Meeting – *Phnom Penh, Cambodia* (6-7 October 2011)
- 3<sup>rd</sup> SA Sub-Regional Committee Meeting – *Paro, Bhutan* (16-19 January 2012)
- 5<sup>th</sup> SEA Sub-Regional Committee Meeting – *Siem Reap, Cambodia* (22-26 October 2012)
- 22<sup>nd</sup> SC Meeting – *Kobe, Japan* (31 October-1 November 2012)
- 4<sup>th</sup> SA Sub-Regional Committee Meeting – *Kathmandu, Nepal* (14-18 January 2013)

#### Sub-regions

*SA – South Asia*

*SEA – Southeast Asia*

*TEA – Temperate East Asia*

*Oceania*

#### 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 Selected Presentations





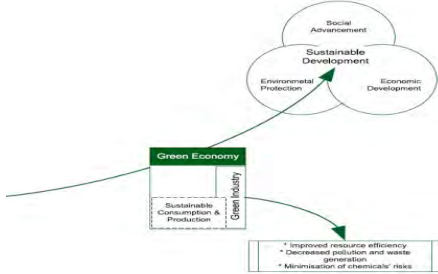
# Rio+20 Outcome to Implementation: Water-Energy-Food Security Nexus in Indonesian Palm Oil Industry



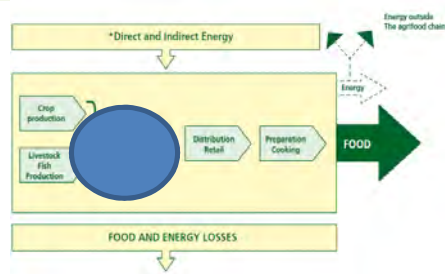
Joni Jupesta<sup>1,2</sup>

<sup>1</sup>United Nations University-Institute of Advanced Studies (UNU-IAS), 1-1-1 Minato Mirai, Yokohama, 220-8502, Japan  
<sup>2</sup>National Graduate Institute for Policy Studies (GRIPS), 7-22-1 Roppongi, Tokyo, 106-8677, Japan

## Introduction



**Rio+20 Outcome:** Green Economy and Sustainable Development (UNIDO)



**Problem 1:** Energy and Food in Agriculture chain (FAO)



**Problem 2:** Waste Water Effluent in Palm Oil Industry in Indonesia (photograph: Jupesta)

## Background

1. Science (basic research), Technology (applied R&D) and Innovation (STI) play important roles to address global challenges by providing innovative goods and services at low cost that aim to address global challenges that affect the poor.
2. Palm oil is the most important agricultural commodity in Indonesia, and plays a significant role in the country's development, representing a total export of 2.8% of the country's GDP and employs as many as 6 million people using a land area of 8.1 million ha in 2010. From 2005 to 2010, 26% of deforestation in Indonesia is attributed to the expansion of palm oil plantations, which associates palm oil production with biodiversity loss and climate change.
3. Based on the US Environment Protection Agency, that Greenhouse Gas (GHG) emission reduction of palm oil based biofuel is 17% with reference conventional diesel fossil fuel; below the threshold 20%. Implementing methane capture facilities could reduce the GHG emission respectively which leads to sustainability of the palm oil production in general.

## Objective

This research project aims to link Rio+20 outcome to implementation by developing an appropriate low carbon technology which also reduce water demand and provide clean energy access such as a methane capture facility at a palm oil industry in Indonesia.



**Rio+20 Implementation:**  
Water-Energy –Food Security Nexus.

## Literatures

1. FAO, (2011). Energy Smart Food for People and Climate
2. Jupesta (2012), Modeling Technological Change in the Biofuel Production System in Indonesia, Applied Energy.
3. Jupesta et al. (2012), Governing Sustainable Palm Oil in Indonesia, Triple Helix Conference, August 8<sup>th</sup> -10<sup>th</sup> 20, Bandung-Indonesia.
4. Nexus, (2012), Water-Energy-Food Security Resource Platform.
5. UN, (2012). The Future We Want.
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7. Young and Delmas (2009). Governance of the Environment, Cambridge University Press.

## Results

GHG Emissions (KgCO <sub>2</sub> /ton Crude Palm Oil (CPO))	with methane capture	without methane capture
<b>Plantation</b>	487.8	486.3
Fertilizer	239.7	239.7
Electricity	239.8	238.3
Transport	8.3	8.3
<b>Mill</b>	3,138.4	38.9
Methane	3,099.5	0.0
Diesel Fuel	36.1	36.1
Chemical	2.8	2.8
<b>Total</b>	<b>3,626.3</b>	<b>525.3</b>
<b>Water demand (m<sup>3</sup>/tonCPO)</b>		
Plantation	0.017	0.017
Mill	6.514	6.188

Fig. 6. The Life Cycle Assessment in a Palm Oil industry.

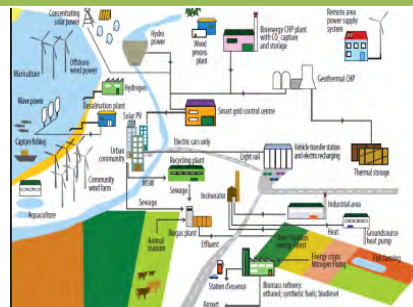


Fig. 7. The Integrated Water-Energy-Food Systems in Agriculture Farming (adopted from FAO).

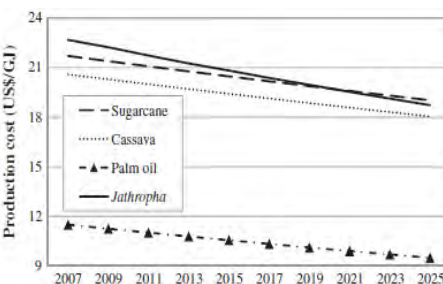


Fig. 8. The Production Cost of Palm Oil with other Biofuel crops. Source: Jupesta, Applied Energy (2012).

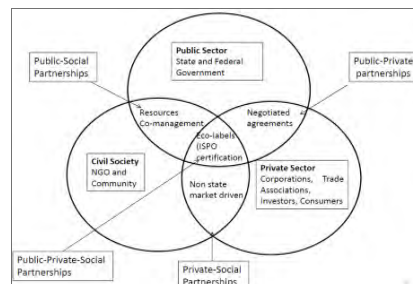


Fig. 9. The stakeholders mapping for certification of Sustainable Palm Oil. Source: Jupesta. Adopted from Young.

## Methodology

Stakeholder perspectives	Technology design	Technology development	Technology deployment	Technology diffusion
Scientist perspective (system analysis)	+++	+	+	+
Engineer perspective (system design)	+	+++	+	+
Consumer perspective (system modelling)	+	+	+++	+
Policy maker perspective (system governance)	+	+	+	+++

## Conclusions

1. From science perspective (i.e.: life cycle analysis): implementing methane capture could reduce up to 85% of total CO<sub>2</sub> emissions from plantation and mill processes and up to 5% due to less water demand for washing the effluent from the mill processes. The energy from methane could be used as biogas for cooking fuel and electricity.
2. From technology perspective: the sustainable production system requires integration of STI of methane capture facility development starting from integrated approach to ensure high efficiency and reliability of the systems.
3. From market perspective: the production cost may decrease due to economies of scale. The lowest production cost obtained for palm oil production, the decrease cost is 11.5 US\$/GJ in 2007 to 9.5 US\$/GJ in 2025. The production cost of *Jatropha curcas* which was higher than that of sugarcane in 2007, becomes lower in 2025 as the production costs for biodiesel drops faster than that for bioethanol.
4. From policy perspective: the inclusiveness of relevant stakeholders (public, private and civil society) could be achieved in the case of certification of Indonesia Sustainable Palm Oil (ISPO).

## Acknowledgment

JSPS-UNU Postdoctoral Fellowship from the Japan Society for the Promotion of Science (JSPS).






  
 18<sup>th</sup> Inter Governmental Meeting/Scientific Planning Group (IGM/SPG)  
 Asia Pacific Network for Global Change Research (APN-GCR)  
 Young Scientist Session: Mitra Award 2013  
 Kobe-Japan, 12<sup>th</sup> April 2013

## Rio+20 Outcome to Implementation: Water-Energy-Food Security Nexus in Indonesian Palm Oil

Joni Jupesta  
 JSPS-UNU Postdoctoral Fellow  
 United Nations University-Institute of Advanced Studies (UNU-IAS)  
 National Graduate Institute for Policy Studies (GRIPS)  
 Japan

### Agenda

- Global Challenges and Global Responses
- Palm Oil Development in Indonesia
- Low Carbon Technology as Solution: Methane Capture
- Rio+20 Implementation: Water-Energy-Food Security Nexus
- Method and Tools
- Result and Discussion
- Conclusions
- Way Forward

2

### Resume



### Global Challenges



4

### Global Responses

#### Global Responses

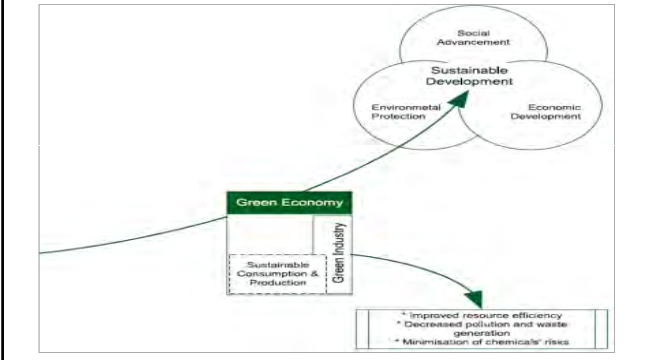
... Summits



ESG, 2013

5

### Rio+20 Outcome: Green Economy and Sustainable Development

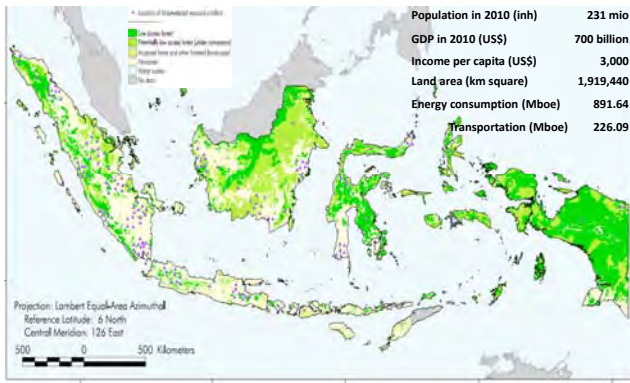


\* Improved resource efficiency  
 \* Decreased pollution and waste generation  
 \* Minimisation of chemicals' risks

UNIDO, 2011

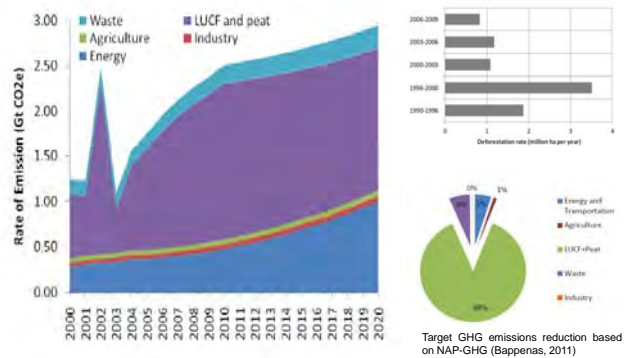
6

## Indonesia at the Glance



Source: Worldbank and Indonesia's Ministry of Energy and Mineral Resources, 2010

## Where are the GHG emissions come from?



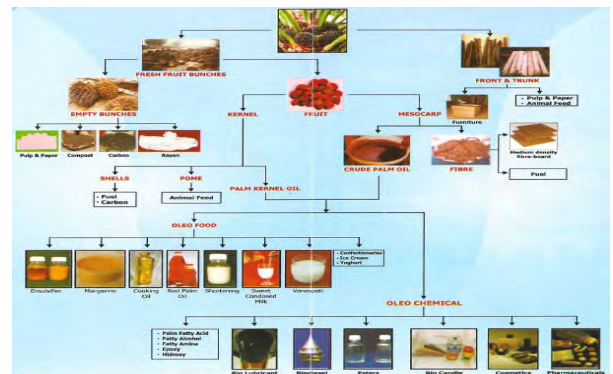
Source: State Ministry of Environment (Boer et al., 2010)

## Palm Oil in Indonesia



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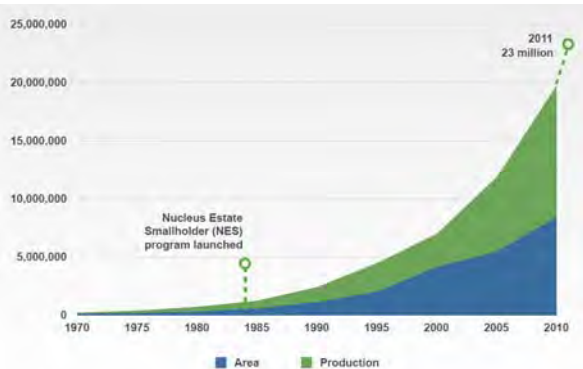
## Palm Oil Products



Source: IOPRI, Indonesia, 2012

10

## Palm Oil Development in Indonesia



Source: Ministry of Agriculture, 2012

11

## Social Impact

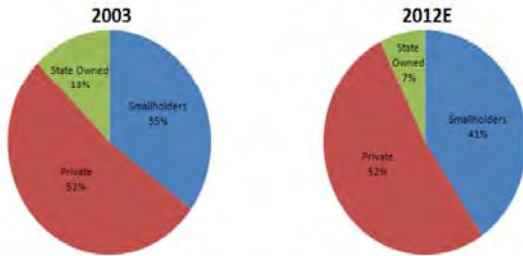


Source: WEF, 2012

12

## Sustainable Palm Oil Governance: Allocation and Access (Pro Poor)

### Indonesian Oil Palm Plantation by Ownership

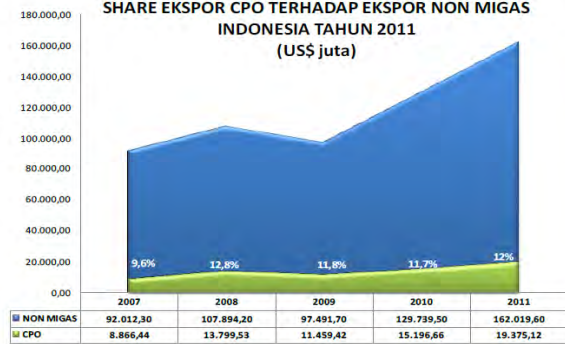


Source: Indonesia Palm Oil Commission and Post owned estimation

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## Economy Impact

### SHARE EKSPOR CPO TERHADAP EKSPOR NON MIGAS INDONESIA TAHUN 2011 (US\$ juta)



Source: Ministry of Trade, 2012

14

## Environment Impact

Table II-8. Lifecycle GHG Emissions for Palm Oil Biodiesel (kgCO<sub>2</sub>e / mmBtu)

Fuel Type	Palm Oil Biodiesel	2005 Diesel Baseline
Net Agriculture (w/o land use change)	5	
Land Use Change, Mean (Low/High)	46 (28/66)	
Fuel Production	25	18
Fuel and Feedstock Transport	4	*
Tailpipe Emissions	1	79
Total Emissions, Mean (Low/High)	80 (62/101)	97
Midpoint Lifecycle GHG Percent Reduction Compared to Petroleum Baseline	17%	

\*Emissions included in fuel production stage.

→ Including peat emission

→ Including CH<sub>4</sub> emission from POME

Source: US EPA, 2012

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## Problem and Challenges

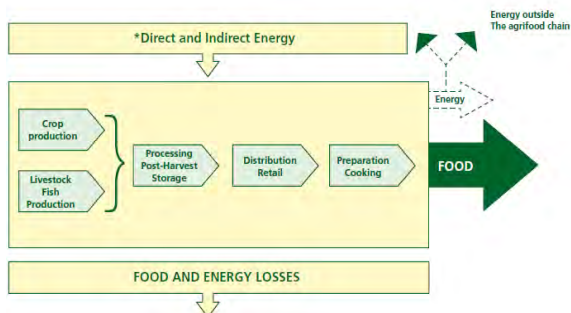


- Deforestation
- Energy vs Food
- Land Degradation
- Biodiversity Loss
- Ecosystem Changes
- Environment
- Society conflict

Source: Harvard Sustainability Science Program, 2011

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## Problem 1: Energy and Food in Agriculture chain



FAO, 2011

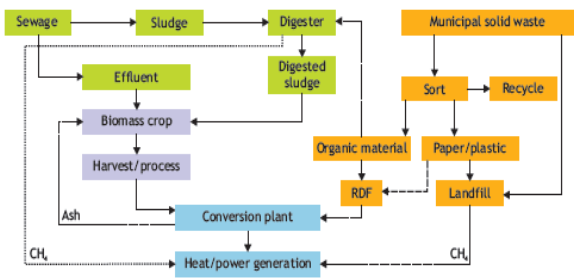
17

## Problem 2: Waste Water Effluent in Palm Oil Industry in Indonesia (photograph: Jupesta)



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## Low Carbon Technology i.e. Methane Capture as Solution!

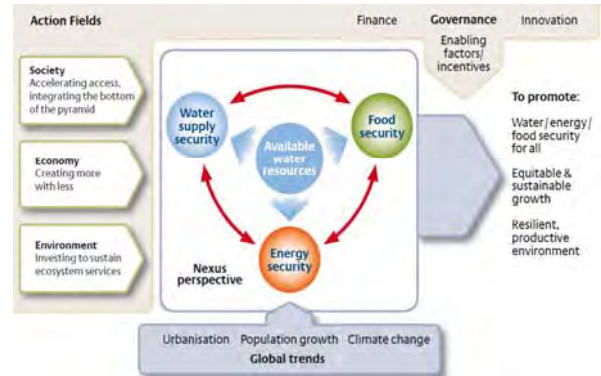


Source: Riddell-Black, 1996

IEA, 2009

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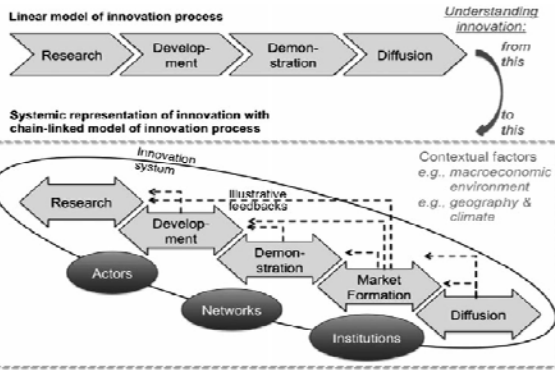
## Rio+20 Implementation: Water-Energy –Food Nexus



NEXUS, 2012

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## Science, Technology and Innovation



Source: Gallagher et al., 2012

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## Demand Based Innovation: Case of Solar Refrigeration in Maharashtra, India

- Solar-powered modular refrigeration in dairies
- Local experiment bringing together state-of-art technologies (solar collectors - Chinese; chillers - Japanese: controls - German)



Source: IHDP -UNU , 2010

## Method and Tools

Stakeholder perspectives	Technology design	Technology development	Technology deployment	Technology diffusion
Scientist perspective (system analysis)	+++	+	+	+
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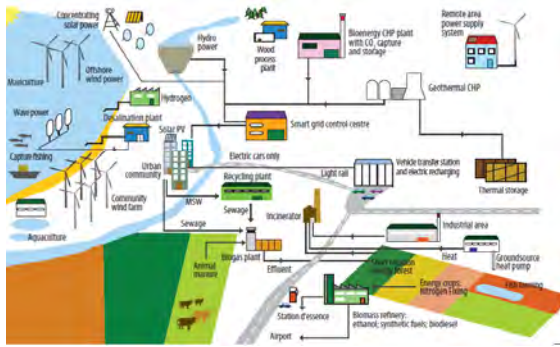
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## Life Cycle Assessment in a Palm Industry

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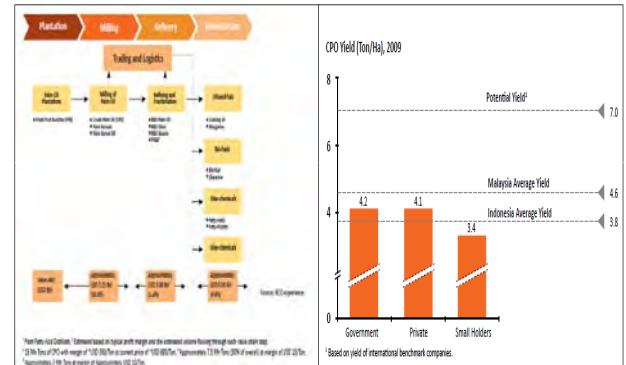
## The Integrated Water-Energy-Food Systems in Agriculture Farming (on going)



FAO, 2011

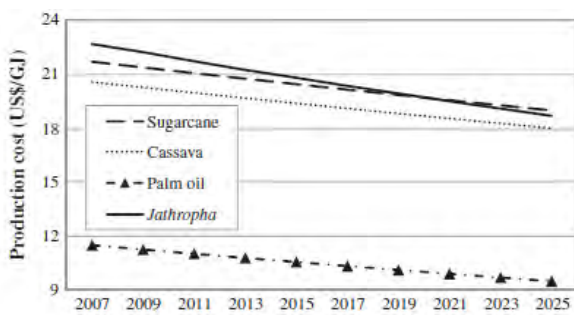
25

## How Innovation can help?



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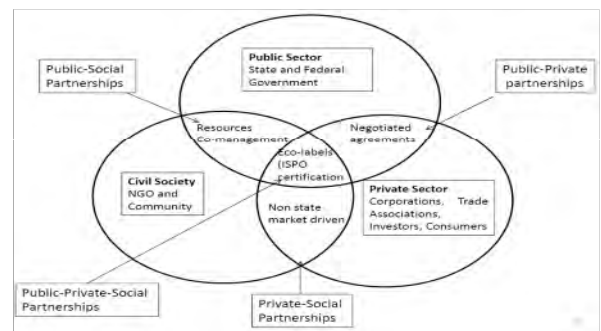
## The Production Cost of Palm Oil



Source: Jupesta, Applied Energy (2012).

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## Environmental Governance: Role of Certification



Source: Jupesta et al. Adopted from Young.

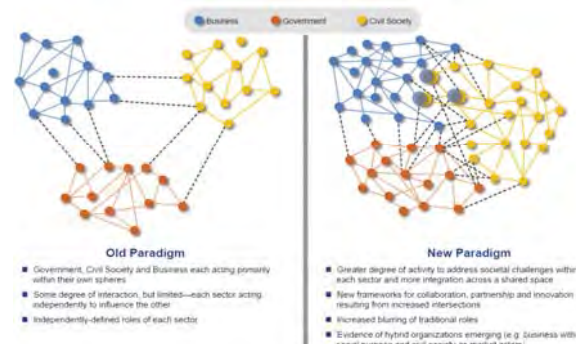
28

## Conclusions

1. From science perspective (i.e.: life cycle analysis): implementing methane capture could reduce up to 85% of total CO<sub>2</sub> emissions from plantation and mill processes and up to 5% due to less water demand for washing the effluent from the mill processes. The energy from methane could be used as biogas for cooking fuel and electricity.
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4. From policy perspective: the inclusiveness of relevant stakeholders (public, private and civil society) could be achieved in the case of certification of Indonesia Sustainable Palm oil (ISPO).

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## Way Forward: From Old Paradigm to New Paradigm



WEF, 2013

## Acknowledgment

- Liana Bratasida (APN National Focal Point for Indonesia 2007-2011, State Ministry of Environment Indonesia)
- Yuko Harayama (Council of Science and Technology Policy, Government of Japan)

### Japan

- Japan Society for Promotion of Sciences (JSPS)
  - Ministry of Environment (MOEJ)
    - IGES
    - NIES (S-6 Project)
    - Tohoku University

### Indonesia

- Ministry of Energy and Mineral Resources
  - State Ministry of Environment
- State Ministry of Research and Technology
  - Bogor Agriculture University
- Sinar Mas Agro Resources and Technology (SMART)

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## Thank you!

For further information please contact :

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## Loss and Damage in the Asia Pacific Region

*Keynote presentation, Interactive Session I*

*Erin Roberts, ICCCAD*

**APN** INTERACTIVE SESSION I  
*Climate Change-associated  
Disaster Risk, Loss & Damage*

**Loss and Damage in the Asia Pacific Region**



Erin Roberts  
International Centre for Climate  
Change and Development

*18th ICM/SPG Meeting of the APN, Kobe, Japan  
08th-12th April 2013*

INTERACTIVE SESSION I

**A working definition of loss and damage**

Damage can be seen as **negative impacts that can be repaired or restored** (such as windstorm damage to the roof of a building, or damage to a coastal mangrove forest from coastal surges which affect villages)

Loss can be characterized as **negative impacts that cannot be repaired or restored** (such as loss of geologic freshwater sources related to glacial melt or desertification, or loss of culture or heritage associated with potential population redistribution away from areas that become less habitable over time with climate change) (Kreft et al., 2012)

## Evolution of loss and damage in the UNFCCC process

**2010:** At COP 16, the **Cancun Adaptation Framework** established a work programme to "consider approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change" (UNFCCC, 2011a).

**2011:** At the 34<sup>th</sup> session of the Subsidiary Body for Implementation (SBI) Parties identified three thematic areas for the implementation of the work programme:

- I. **Assessing the risk of loss and damage** associated with the adverse impacts of climate change and current knowledge of the same
- II. A range of **approaches to addressing loss and damage** at associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels
- III. The **role of the Convention** in the implementation of approaches to address loss and damage associated with the adverse effects of climate change (UNFCCC, 2011b)

**2012:** A series of expert meetings on thematic area I and II helped enhance understanding of needs related to assessing and addressing loss and damage, especially in vulnerable countries.

## Evolution of loss and damage in the UNFCCC process cont'd

**2012:** At COP 18 Parties decided to continue working on loss and damage. The key paragraphs of Decision 3/CP.18 include:

**Paragraph 7:**

Acknowledges the need for further work related to:

Enhancing understanding of **slow onset events**, **non-economic losses**, **how vulnerable populations are affected by loss and damage**, **how to identify approaches** to address loss and damage and incorporate them into climate resilience development processes and **how climate change is affecting patterns of migration**

- **Strengthening support for collection and management of data**
- Enhancing coordination, synergies and linkages among various organizations, institutions and frameworks
- **Strengthening and promoting regional collaboration**
- **Enhanced capacity-building at the national and regional levels**
- **Strengthening institutional arrangements at the national, regional and international levels**

**Paragraph 9:**

Decided to "establish, at its nineteenth session, **institutional arrangements**, such as an international mechanism, including functions and modalities, elaborated in accordance with the role of the Convention as defined in paragraph 5 above, to address loss and damage associated with the impacts of climate change in developing countries that are particularly vulnerable to the adverse effects of climate change" (UNFCCC, 2013).

## How is loss and damage being experienced in the Asia Pacific?

### Salinization in Bangladesh

- Significant losses in rice production
- Health impacts including increased incidence of water born diseases, hypertension and miscarriages



### Changing monsoon patterns in Bhutan

- Lack of water severely impacting rice production



### Sea level rise and increasing storm surges in Micronesia

- Coastal erosion leading to loss of farmland and damaging infrastructure and other assets
- Loss of culture as stones from ancient structures being used to construct sea walls



Source: Warner et al. (2012). Evidence from the Frontlines of Climate Change Loss and Damage Communities Despite Coping and Adaptation [online]. Available at: <http://www.edu.earthlink.com/edu/uchf-geo/000/031/467/0811.pdf>

## Approaches to address loss and damage worldwide

### Risk reduction:

#### Emergency warning systems

- For drought: A climatic information project in **Mali** gathers, analyses and disseminates agro-meteorological information to farmers to help them make decisions that reduce risks (Helmuth et al., 2007).
- For floods: In **Mozambique** "low tech" early warning systems have been created and are disseminated with the help of local disaster management committees (Munich Re Foundation, 2007).

#### Indigenous knowledge

- Farmers in Peru are adapting to drought by planting their crops on raised beds which are watered with irrigation channels to prevent soil erosion (UNESCO, n.d).

#### Infrastructure:

- In Cambodia the **Batheay** irrigation system has reservoir which acts as a paddy field – during the wet season a dyke keeps floodwater outside, the gates are opened in the dry season, allowing water inside while rice is grown outside the dyke (Someth et al., 2009).

## Approaches to address loss and damage worldwide

### Risk retention

- The **Africa Risk Capacity** is a regional project that combines contingency funding with early warning and forecasting to reduce risk (Africa Union and WFP, 2012).
- A conditional cash transfer program in **Indonesia** – *Keluarga Harapan* – provides money to mothers based on school attendance of children, pre-natal checkups, etc. (Schelzig Bloom, 2009).

- The government of **Mexico** developed a system through which resources are provided for uninsurable losses – including emergency response and disaster relief – through FONDEN, a national contingency fund (Field et al., 2012).

### Risk transfer

- The **Horn of Africa Adaptation Initiative for Adaptation (HARITA)** allows farmers in Ethiopia to pay for insurance premiums by providing labour on risk reduction projects (Oxfam and WFP, 2012).
- In the Caribbean catastrophe bonds are issued to provide funding for relief efforts immediately following a catastrophe by the **Caribbean Catastrophe Risk Insurance Facility (CCRIF)** (World Bank, 2011).

## Addressing loss and damage in the Asia Pacific

### Risk reduction

- The government of **Japan** is providing incentives for citizens to retrofit their homes to make them more resilient to extreme events (Okazaki, 2010).
- In the Xinjiang area of **China** some farmers use a traditional irrigation system – consisting of vertical wells and underground canals - that helps make efficient use of ground water (Fang et al., 2008).

### Risk retention

- The "Enhancing Resilience" programme in **Bangladesh** aims to strengthen the resilience of communities and households to natural disasters and the effects of climate change on nutrition and food security (WFP/SDC, 2011).
- An emergency fund to be used for disaster response was approved in the **Cook Islands** in 2011 (UNFCCC, 2012).





# Future Earth in Asia and the Pacific

Keynote presentation, Interactive Session III

Nordin Hasan, Director, ICSU Regional Office for Asia and the Pacific

**APN**

**INTERACTIVE SESSION III**  
Future of Global Change Research

Nordin Hasan  
Director  
ICSU Regional Office for Asia and the Pacific

*Future Earth in Asia and the Pacific*

18<sup>th</sup> IGM/SPG Meeting of the APN, Kobe, Japan  
08<sup>th</sup>-12<sup>th</sup> April 2013



**INTERACTIVE SESSION III**

*Rationale for Future Earth*

- Human activities altering the Earth system in ways that threaten well-being and development (Steffen et al., 2004; Steffen et al., 2011)
- Impacting many Earth system processes
- Growing evidence that transformation to global sustainability is necessary to secure global prosperity in the future
- Will require important shifts in governance and development paradigms (Galaz et al., 2012; Kanie et al., 2012)

**INTERACTIVE SESSION III**

*Future Earth main goals*

To provide the knowledge required for societies in the world to face risks posed by global environmental change and to seize opportunities in a transition to global sustainability

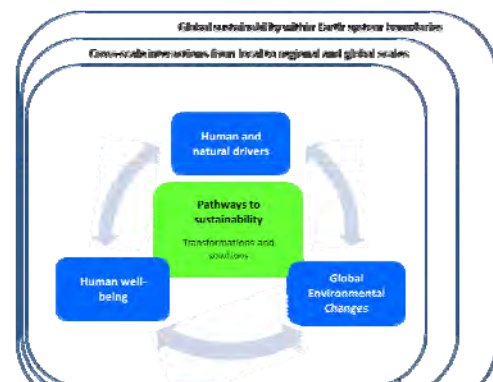
**INTERACTIVE SESSION III**

*Key features of Future Earth*

- A global platform for international research collaboration on GEC and towards sustainability
  - Augments Earth system science with impacts of environmental change on people, adaptation and transformation
  - Delivers interdisciplinary research on global environmental change for sustainable development
  - Strengthens partnership between researchers/funders/users (co-design)

**INTERACTIVE SESSION III**

*The conceptual framework*



Global sustainability requires Earth system transformation  
Cross-scale interactions from local to regional and global scales

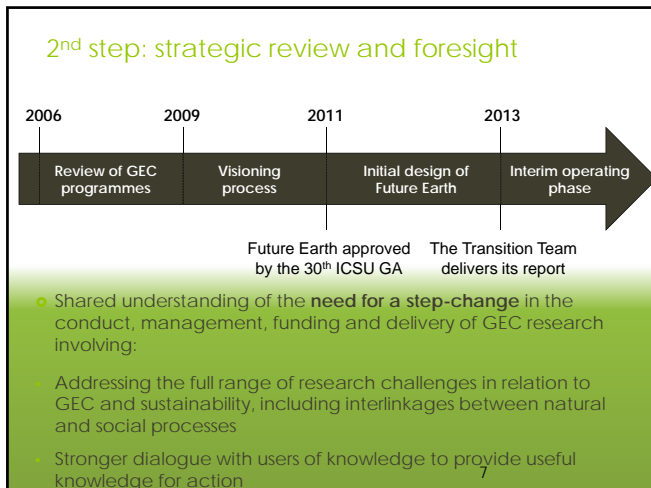
**INTERACTIVE SESSION III**

*Future Earth will build on the current GEC programmes*

1980	World Climate Research Programme (WCRP)
1987	International Geosphere-Biosphere Programme (IGBP)
1991	DIVERSITAS - An International Programme of Biodiversity Science
1996	International Human Dimensions Programme on Global Environmental Change (IHDP)



2001: Earth System Science Partnership (ESSP)  
1<sup>st</sup> step towards more integration of GEC research



### INTERACTIVE SESSION III

#### Future Earth Regional Workshop for Asia and the Pacific (November 2012)

- 51 participants, 21 countries

- Members of transition team and representatives of GEC community (IGBP; IHDP; Diversitas)

### INTERACTIVE SESSION III

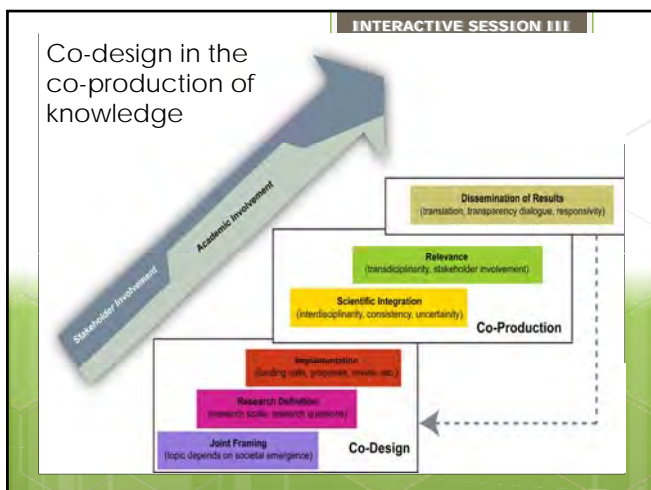
#### Key outcomes

- Foundation laid for understanding of *Future Earth* among participants
- Preliminary research priority list was developed
- Opportunities and challenges for implementing discussed
- Ways of establishing regional interface for Future earth
- A series of specific recommendations were also made on coordination and convergence; capacity development; science-policy and stakeholder interface

### INTERACTIVE SESSION III

#### General priorities

- Natural characteristics of the region – seismic risks, monsoons, cyclones and heat stress;
- Pressures of urbanization – megacities, health, pollution;
- Coastal hazards, vulnerability and impacts on communities and new development plans;
- Climate variability and extremes;
- Key social pressures - rapid economic growth, population, consumption, global connectivity;
- Water, energy, land and food security issues specific to the region;
- Emerging health issues;
- Green economy, new economic models.;
- Valuation of natural capital;
- Mountain and low land interactions – trans-boundary issues.



### INTERACTIVE SESSION III

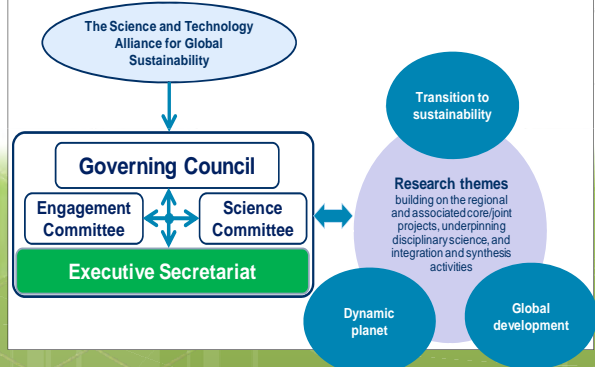
#### What has happened since the regional workshop?

- International Symposium on Future Asia, December 2012, RIHN Kyoto.
- APL - SATREPS Symposium Living in the changing planet: Future Earth Designed by Simulation, JAMSTEC, Tokyo, Japan. February 2013
- OECD Global Science Forum (GSF) Workshop on Research Collaboration between Developing Countries and Developed Countries in Climate Change Adaptation and biodiversity, Nanyang Technological University, Singapore. 18 – 19 March
- MAIRS Scientific Steering Committee Meeting, Guangzhou 25-26 March
- Brain-storming session on Future Earth in Asia; Academia Sinica, Chinese Taipei. 8-9 April

Proposed research themes

1. **Dynamic Planet:** Observing, explaining, understanding, and projecting earth, environmental, and societal system trends, drivers and processes and their interactions; anticipating global thresholds and risks.
2. **Global development:** Knowledge for the pressing challenges to provide sustainable, secure and fair stewardship of food, water, health, energy, materials, biodiversity and other ecosystem functions and services.
3. **Transformation towards Sustainability:** Understanding transformation processes and options, assessing how these relate to human values, emerging technologies and social and economic development pathways, and evaluating strategies for governing and managing the global environment across sectors and scales.

Schematic of governing structure for *Future Earth*



Stakeholder engagement



*Thank you for your attention!*

Nordin Hasan  ICSU

*Future Earth in Asia and the Pacific*

18<sup>th</sup> IGM/SPG Meeting of the APN, Kobe, Japan  
08<sup>th</sup>-12<sup>th</sup> April 2013


# Ecosystem Services and Biodiversity in the Asia-Pacific Region

Keynote presentation, Interactive Session IV

Anna Hasemann, International Centre for Climate Change and Development

**APN**

**INTERACTIVE SESSION IV**  
Biodiversity and Ecosystem Services



Anna Hasemann  
International Centre for  
Climate Change and  
Development


*18th ICGM/SPG Meeting of the APN, Kobe, Japan  
08th-12th April 2013*

**INTERACTIVE SESSION IV**

## Ecosystem Services and Biodiversity in the Asia-Pacific Region

A large variety of diverse ecosystems in the Asia-Pacific region provide income and livelihoods for millions of people and are worth billions of dollars annually in exports and national income (WB, 2012).

- 5 of 17 so-called Megadiverse Countries are from this region: China, India, Indonesia, Malaysia and the Philippines (UNEP, 2010).
- Asia-Pacific contains the majority of the world's remaining mangrove forests and coral reefs – the rainforests of the sea (Ibid).
- However, increasing resource demand is putting these ecosystems under extreme pressure and leading to large biodiversity loss.




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## Biodiversity Loss in Asia-Pacific


**Deforestation**

- Countries in the East Asia and the Pacific region are losing at least 0.6 percent of their forest cover each year - almost 3 times the global rate of forest loss (WB, 2004).



**Disappearing Coral Reefs and Mangroves**

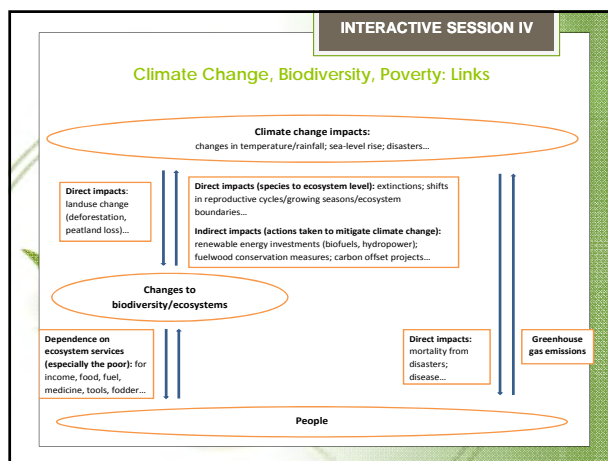
- In the Coral Triangle (situated in the western Pacific ocean), over 40% of coral reefs and mangroves have disappeared over the last 40 years, resulting in declining fish stocks (ADB and WWF, 2012).



**Loss of Flora and Fauna**

- From 2002-2009, nearly 2,500 species in Asia-Pacific were recorded in the Red List of the International Union for Conservation of Nature and Natural Resources (IUCN) as "critically endangered", "endangered" or "vulnerable" (UNEP, 2010)

Conservation activities are progressing relatively slowly in the region due to various issues such as a lack of awareness, funding, capacity, and technology (Ibid).



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## Ecosystem-based Approaches to Adaptation


*Ecosystem based adaptation (EBA) has been defined as "the use of biodiversity and ecosystem services to help people adapt to the adverse effects of climate change as part of an overall adaptation strategy" (CBD, 2009)*

- Integrates the use of biodiversity and ecosystem services into an overall adaptation strategy
- Questions about whether EBA is the adaptation of ecosystems or people
- Very little people-centred EBA
- Conservation activities sometimes re-packaged as EBA without integrating new strategies or activities

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## REDD+ Practices

- The Asia-Pacific region is host to 18.6% of the world's forested area including temperate and tropical forests, coastal mangroves (FAO, 2009).
- REDD+ strategies go beyond simply trying to stop deforestation and forest degradation, and include the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in reducing emissions (UN-REDD, 2013).
- A large number of pilot projects are currently under way in East Asia.



## Seima Protection Forest (SPF) in Cambodia (RECOFTC, 2012)

- In 2002, the Seima forest was given protected status due to its globally important biodiversity: extensive evergreen and semi-evergreen as well as more than 40 species found on the IUCN Red List (Pearson et al., 2008; Evans et al., 2011).
- In 2008, a REDD + Pilot Project was initiated, which is currently in its third phase (one of two pilot REDD + sites in Cambodia).
  - The first two phases focused on facilitating discussion and raising awareness among local communities
  - The project helped indigenous people to make communal land title claims and strengthen their rights.
- As the project advances and trade-offs with respect to livelihoods become apparent, maintaining support and buy-in among all stakeholders has become increasingly challenging, although it is still considered feasible. A1
- It is hoped that in a future phase, Verified Emission Reduction Credits can be sold.

## Marine Ecosystems: Invasive Alien Species (contd.)

- Marine invasive species are one of the greatest threats to biodiversity and ecosystems in the East Asian region (as well as globally) (UNEP, 2010).
- Most East Asians are dependent on fisheries - the rivers and adjacent seas of East Asia produce about 40% of the global fisheries yield and 80% of global aquaculture production.
- Marine invasive species are spread through fisheries, shipping, or construction in coastal regions, which means that East Asia is particularly threatened due to high concentration of shipping in the region.



## Palau National Species Strategy

- Very few initiatives to combat marine invasive species are currently being implemented as it is still an emerging issue.
- In Palau, an island in the western Pacific, marine invasive species are a major concern.
- However, on-going efforts to fight invasive species are to some extent undermined by continued construction activities.
- Some lessons learnt: Capacity Building is imperative such as marine invasive species survey and training workshops as well as establishing a regional cooperative approach.

## Way Forward/ Further Research

- Ensuring effective implementation of planned projects is imperative.
- Further capacity building, technology transfer, funding are urgently needed.
- Local ownership needs to be increased through integrating livelihoods approaches into conservation projects.
- It is also important to engage the private sector.

Thank you for your attention!

**The APN Secretariat**

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