

The cover features a warm, golden-yellow color palette. The top half is a lighter yellow with several overlapping circles of varying sizes. The bottom half is a darker, more saturated yellow with vertical stripes and overlapping circles. The text is centered and has a subtle drop shadow.

APN

Asia-Pacific Network for Global Change Research

Evaluation Report
1996 - 2004

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Executive Summary

The tenth anniversary of the Asia-Pacific Network for Global Change Research (APN) was an appropriate time to review its past activities; to learn from the past and plan for the future. As part of this process a group of eminent and committed scientists participated in a review that culminated in an Augmented Steering Committee Meeting (ASCM) in October 2004. Here, they reported on their evaluations of the achievements of the APN's scientific activities carried out between 1998 and 2003, and recommended a Science Agenda for the coming five years. In parallel to the scientific review, a review was conducted of the APN's institutional arrangements, resulting in recommendations on how to better position the APN for the future. Both reviews were coordinated by an external Consultant and are included in this overall evaluation.

The ASCM found that the APN should be proud of its achievements over the past decade. It has vigorously addressed its mission of fostering global change research and successfully focused on its goals. Projects and workshops sponsored by the APN have helped develop and strengthen a network of researchers throughout the region who collaborate to develop knowledge and tools to support policy development and decision-making. Scientific and technical capacity has been improved in both developed and developing countries through APN support for their scientists to lead or participate in projects, and to attend workshops along with policy-makers.

The careers of emerging scientists have been developed by APN support for attending significant international scientific meetings. There is a growing appreciation from scientists involved in APN work of the importance of interaction with policy-makers and of designing research to meet their needs. Some outstanding APN-supported projects are profiled in the scientific evaluation to illustrate the contributions outlined above. In many cases, APN funding has leveraged complementary support from international organisations or national institutions for work in the region. The ASCM concluded that the APN has, indeed, made a difference.

The ASCM prepared recommendations for activities during the next five years, based on the evaluation of past global change regional issues and consideration of these issues in the future. During the coming five years, the APN should facilitate activities that generate and transfer knowledge on the physical and human dimensions of global change and variability in the region. The scope includes: climate; ecosystems, biodiversity, and land-use; changes in the atmospheric, terrestrial and marine domains; and sustainable use of natural resources and pathways for sustainable development. The target audience for the APN includes the scientific and decision-making communities, as well as civil society in the Asia-Pacific region. The ASCM also recommended that the APN invest in the identification of existing methods and the development of new methodologies and tools to improve the effectiveness of the transfer of scientific knowledge to its user communities. This is an important and pressing need.

The institutional review found that the APN has made excellent progress as a network during its first ten years. It has developed solid institutional foundations, including the governing Framework Document, an effective Secretariat, a respected and competitive project funding process, and scientific capacity building activities. Some recommendations were made to strengthen member participation in the network and attract more resources to perform the APN's activities.

In conclusion, this review process has shown that the APN has developed well as a network that supports and builds scientific capacity for global change research in the Asia-Pacific region. By following the pathways recommended in these reviews, the APN can confidently continue to make a unique and invaluable contribution to the region's people and governments.

MESSAGE FROM THE DIRECTOR

It is my pleasure to present the Report of the Institutional and Scientific Evaluation of Phase 1 (1996-2004).

Shortly before the 9th Inter-Governmental Meeting in Canberra, which approved the work plan for the evaluation of the APN and preparation of the Second Strategic Plan, the Secretariat and Consultant began the initial work. It was decided to categorise the evaluation into two components of "Institutional" and "Scientific." To facilitate the evaluation of the large number of projects supported by the APN during Phase 1, with Project Leaders spread throughout the Asia-Pacific region, a questionnaire was distributed for self-evaluation by the Project Leaders. The feedback received from the Project Leaders was invaluable and very much appreciated; without their cooperation this scientific review would have been impossible. The high response rate is a good indication that the APN's scientific activities have established a strong network and that it is alive and well.

In order to evaluate the scientific components of the APN's past activities, as well as to provide input for the future; an Augmented Steering Committee Meeting (ASCM) was convened from 27-28 October 2004 in Kobe, Japan. The ASCM consisted of a selected group of external Scientific Experts and the APN's Steering Committee Members. At this meeting, the findings of the review of APN-funded projects were discussed, followed by an overall evaluation of the current APN Scientific Research Framework. The meeting concluded in making recommendations for the future. The complete results have been published in a separate volume: "Report of the Augmented Steering Committee Meeting (ASCM)."

In parallel with the scientific review, the review of the APN's institutional aspects was carried out primarily by the Consultant and the Secretariat, with additional input from the APN's members, who contributed by responding to a survey and providing country reports, as well as through periodic consultations by e-mail. A draft report of the institutional review was submitted to the Steering Committee meeting on 29 October, in Kobe, Japan.

The draft reports of the Evaluation and the APN's Second Strategic Plan (2005-2010) were prepared based on discussions at the aforementioned meetings. The draft reports were then circulated to the APN's national Focal Points and Scientific Planning Group members, as well as partners from the global change community from late January to mid February 2005, for comment.

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



Sombo T. Yamamura
Secretariat Director, Asia-Pacific Network for Global Change Research (APN)
March 2005

Preface

The Asia-Pacific Network for Global Change Research (APN) is an inter-governmental network created to foster global change research in the Asia-Pacific region, increase developing country participation in that research, and strengthen interactions between the science community and policy-makers.

Aware that the APN's tenth anniversary in 2005 would be an appropriate opportunity to review progress and plan for the future, the APN launched its first review with the following objectives: (1) to review and summarise the APN's activities, (2) to assess those activities, and (3) to reflect on lessons learned and incorporate them into the Second Strategic Plan (2005-2010). The review was coordinated by an external Consultant, and based on two components: Scientific and Institutional.

The scientific review started with questionnaires being sent to Project Leaders who had, as a result of the APN's competitive call for proposals process, received project funding at some point between 1998 and 2003. Their responses were reviewed by scientific experts, and finally an APN Steering Committee meeting augmented by nine external Scientific Experts was held from 27-28 October 2004, in Kobe, Japan, to complete the scientific review process.

The institutional review was based on a survey of the APN's members, correspondence with stakeholders, a document review, and selected interviews. The Secretariat assisted by providing extensive information relating to the APN's activities over the years. A key component of this institutional review was a detailed analysis of performance on items mentioned in the APN's First Strategic Plan (1999-2004).

1. Overview of First Phase (1996-2004)

1.1 History and Profile

During the 1980s, growing evidence of global environmental changes, such as climate change and the destruction of the ozone layer, forced the world to consider new scientific approaches in order to understand those changes, and new policies to deal with them. More than ever, it was realised that it is essential to have an integrated scientific understanding of the planet's complex atmospheric, terrestrial, and ocean systems, and policies that address threats at global, regional, country and local levels.

During the 1980s and 1990s, the world's leading scientific bodies created what would become known as "global change research programmes." Today, four key programmes include the International Geosphere-Biosphere Programme (IGBP); the International Human Dimensions Programme on Global Environmental Change (IHDP); DIVERSITAS, an international programme of biodiversity science; and the World Climate Research Programme (WCRP). In July 2001, the global change programmes launched a joint initiative known as the Earth System Science Partnership (ESSP), based on the recognition that the Earth must be understood as one integrated system.

Meanwhile, the USA proposed in 1990 that the countries of the world create three regional networks for North-South scientific cooperation at the inter-governmental level to deal with global environmental change research. Discussions along these lines progressed in three zones: Europe and Africa; North and South America; and the Asia-Pacific region.

After a series of planning workshops, the Asia-Pacific Network for Global Change Research (APN) was launched in 1996 at its first Inter-Governmental Meeting (IGM). By 1997, a competitive process was in place for proponents to apply for funding for scientific research projects relating to global change research. Since then, the APN's activities have advanced steadily. The 10th IGM, held in April 2005 in Kobe, Japan, marked the end of the first decade of activities and the beginning of a new five-year phase (2005-2010). (See Appendix 1 for a more detailed history of the APN's milestones.)

Membership of the APN has grown from the 12 countries represented at the 1st IGM, held in Chiang Mai, Thailand in 1996, to 21 countries as of March 2004. Although Fiji is the only Pacific Island Country formally represented at the IGM, all other Pacific Island Countries are approved countries to compete for APN funding and are active in APN scientific activities.

Australia	Bangladesh	Cambodia
China	Fiji	India
Indonesia	Japan	Lao PDR
Malaysia	Mongolia	New Zealand
Nepal	Pakistan	Philippines
Republic of Korea	Russian Federation	Sri Lanka
Thailand	USA of America	Viet Nam

Between April 1998 and March 2004, the APN provided funding for 66 project sets amounting to about US\$ 5.1 million under its Annual Regional Call for Proposals (ARCP). In 2003, the APN initiated its CAPaBLE Programme (Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries), following an initially successful capacity building and networking programme. After its first decade, the APN has developed a strong network and is now actively promoting cooperation in the Asia-Pacific region on scientific and policy-relevant issues relating to global change.

1.2 Establishment of the APN Secretariat

Early in the APN's development, the Government of Japan offered to support the establishment of the network. As an administrative base, an "Interim Secretariat" was set up in October 1995 at the Association of International Research Initiatives for Environmental Studies (AIRIES) in Tokyo, which served as the APN Secretariat's physical and institutional host. After the 2nd IGM in 1997, in Tokyo, Japan, to signify that the APN and its Secretariat had become fully operational, the word "Interim" was dropped. In 1999, the Secretariat moved office to where it remains today in Kobe, Hyogo Prefecture. The Hyogo Prefectural Government makes a substantial annual contribution to cover the APN Secretariat expenses and scientific activities. At present, the Secretariat continues to require an institutional "host" as it is not a registered legal entity. In April 2004, the Secretariat shifted from AIRIES the *administrative umbrella* of the Institute for Global Environmental Strategies (IGES), also located in Japan. The APN Secretariat has grown in size to seven full-time staff in 2004, and since July 1999, the position of Director of the Secretariat has been full-time. In 2004, the APN also introduced a pilot capacity building project, whereby two Programme Fellows from developing APN member countries (the first two are from the Philippines and Thailand) started work at the APN Secretariat for a period of nine months.

1.3 Development of the First Strategic Plan and the Framework of the APN

At the 3rd IGM in 1998, in Beijing, China, the APN's members agreed to establish a First Strategic Plan for the APN. Over the course of the ensuing year, a Programme Manager was hired at the Secretariat to coordinate this work, including document searches, questionnaires to stakeholders, visits to some member countries, and the drafting of the Strategic Plan. The First Strategic Plan was adopted at the 4th IGM in 1999, in Kobe, Japan,

and implemented for a five-year-period from 1999 to 2004.

One recommendation of the 1999 Strategic Plan was to create a “formal document” and “formal arrangement” for the APN. At the 5th IGM in 2000, in Islamabad, Pakistan, national Focal Points confirmed their consensus to support the APN’s development of a document entitled “Further Development of the APN.” Moreover, after extensive discussions, the “Framework Document” was endorsed at the 7th IGM in 2002, in Manila, Philippines. The Framework Document includes provisions relating to the mission, goals, activities, membership, organs, and organisational arrangements and procedures of the APN. Minor revisions were made at the 9th IGM in 2004, in Canberra, Australia, to reflect the administrative shift from AIRIES to IGES as described above. This document is discussed in the institutional evaluation in Section 3.

1.4 The APN’s Donors and Financial Status

Since its launch, Japan and the USA have provided financial support for the APN. In 2001, Australia made a financial contribution, and in 2003, both Australia and New Zealand started making regular financial contributions, which were earmarked for the APN’s CAPaBLE Programme.

During the past ten years, many countries and institutions have made important contributions of other varieties. These in-kind contributions have included the hosting of workshops, Scientific Planning Group meetings, Inter-Governmental Meetings, and Steering Committee (SC) meetings, as well as the personnel, equipment and facilities needed for conducting APN-funded projects. It is difficult to quantify these “in-kind” contributions in monetary terms, but they are certainly significant. Total direct contributions to the APN from 1996 to 2004 amounted to about US\$ 14.2 million, consisting of US\$ 10.7 million for scientific activities, and US\$ 3.5 million for the work of the Secretariat. The annual budget for fiscal 2004/2005 was just over US\$ 2 million (Figure 1). More information on in-kind contributions and financial resources is provided in Section 4.

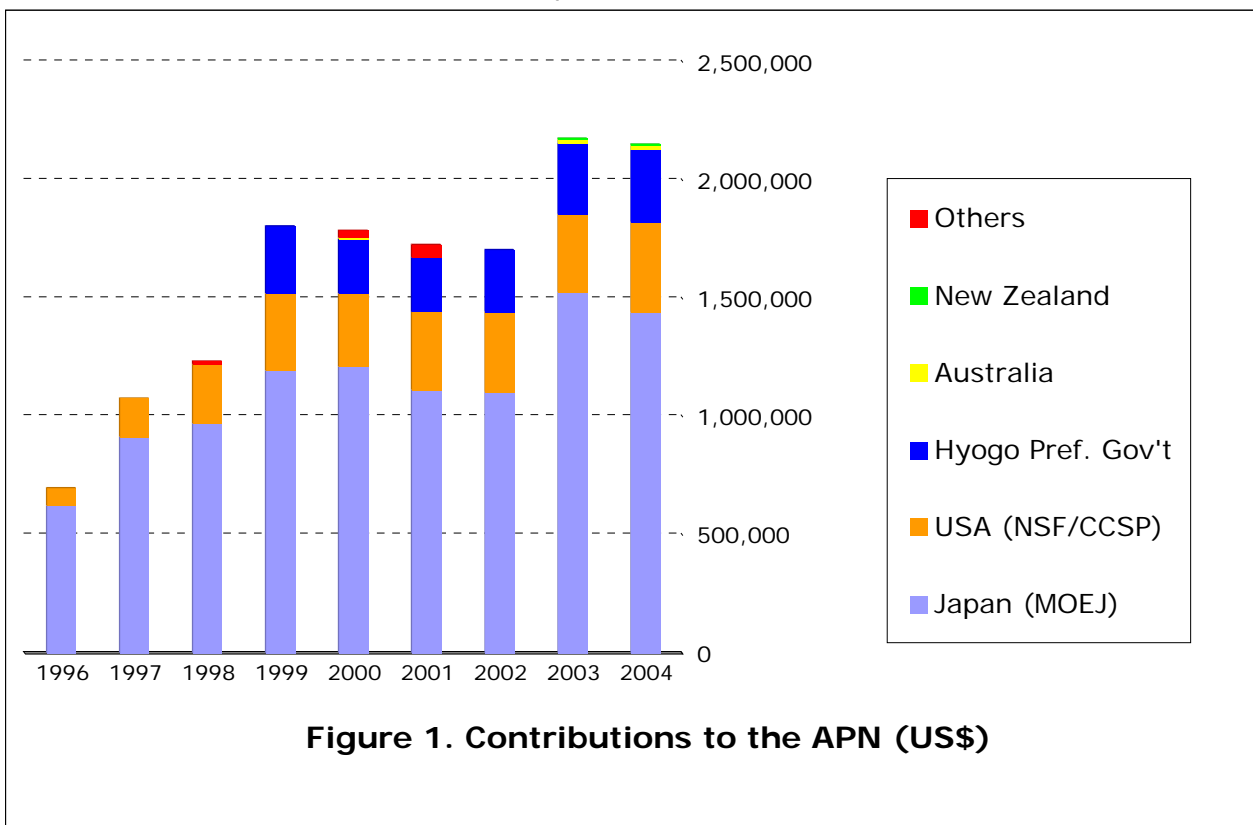


Figure 1. Contributions to the APN (US\$)

2. Scientific Evaluation

A pillar of the APN's support for global change research has been funding for projects selected under a competitive "Annual Call for Proposals" process. In 1998, the APN launched its first call for proposals on topics under its Scientific Research Framework. Types of activities eligible for funding included synthesis and analysis of existing research and new research addressing knowledge gaps in key scientific areas; capacity building and networking; planning and scoping workshops; and the development of integrated assessments, impact assessments, and climate models to assist policy-making decisions. The Scientific Research Framework of the First Strategic Plan (1999-2004) included (1) Changes in Atmospheric Composition, (2) Changes in Coastal Zones and Inland Waters, (3) Changes in Terrestrial Ecosystems and Biodiversity, (4) Climate Change and Variability, and (5) Human Dimensions of Global Change. See Figure 2 (page 11) for APN investment in its scientific programme.

Under the scientific review, external Scientific Experts were invited to review the scientific components of the APN's past activities and present their findings at the ASCM, 27-28 October 2004, chaired by Dr. David Wratt, of New Zealand's National Institute of Water and Atmospheric Research (NIWA), a leading climate scientist. The Scientific Experts conducted their independent reviews based on self-evaluations by the Project Leaders of the 66 project sets funded by the APN from 1998 through 2003. They then evaluated the projects' performance against the APN's six main goals in terms of relevance, efficiency, effectiveness, impact, and sustainability. Reviewers were also asked to identify projects whose performance was exemplary in terms of what has been achieved by APN support in the past, and what could be achieved in the future. The current report presents selected parts of the ASCM's findings. More detail can be obtained from the complete report of that meeting, available from the APN Secretariat.

Box 1. APN-Funded Projects: Evaluation of Performance on Six Goals

Excellent

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

Goal 5: Cooperating with other global change networks and organisations.

Good

Goal 3: Improving the scientific and technical capabilities of nations in the region.

Goal 4: Facilitating the standardisation, collection, analysis and exchange of scientific data and information relating to global change research.

Average

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

Goal 6: Facilitating the development of research infrastructure and the transfer of know-how and technology.

2.1 Key Findings and Outstanding Projects

The ASCM concluded that the APN has performed well overall in terms of the six goals stated in the APN's First Strategic Plan (1999-2004). The meeting identified key strengths of the APN, as well as areas where effectiveness could be improved. The ASCM's overall evaluation of performance against the APN's six goals is shown in Box 1. Selecting from "excellent," "good," "average," and "poor," the ASCM participants found that collectively the projects evaluated ranked "excellent" on two goals, "good" on two goals, and "average" on two goals.

The ASCM discussed which projects could be considered outstanding examples of the achievements of APN funding, taking into account the different needs and priorities of the

scientific and policy-making communities served by the APN. The ultimate purpose of this exercise was to showcase successful aspects of the projects and identify specific qualities (best practices) that might guide the APN's Second Strategic Phase (2005-2010). Titles of these projects are shown in Box 2, classified under the seven thematic areas used in this review. See Appendix 2 for descriptions of these projects.

Box 2. A Selection of Outstanding APN-Funded Projects (See Appendix 2 for descriptions) *

Changes in Atmospheric Composition

- Land Use/Management Change and Trace Gas Emissions in East Asia

Changes in Coastal Zones and Inland Waters

- Capacity Development Training for Monitoring of POPs in the East Asian Hydrosphere
- APN/SURVAS/LOICZ Joint Conference on Coastal Impacts of Climate Change and Adaptation
- An Assessment of Nutrient, Sediment and Carbon Fluxes to the Coastal Zone in South Asia and their Relationship to Human Activities

Changes in Terrestrial Ecosystems and Biodiversity

- Land Use/Cover Change in Asia and the Carbon Cycle
- Scoping Workshop on Global Change Impact Assessment for Himalayan Mountain Region for Environmental Management and Sustainable Development

Climate Change and Variability

- Continuation of Regional Climate Modelling (RCM) Development
- Asia-Pacific Workshop on Indicators and Indices for Monitoring Trends in Climate Change
- Training Institute on Climate and Society in the Asia-Pacific Region

Human Dimensions of Global Change

- South Asia and East Asia Workshops, "Research Agenda for IHDP-Industrial Transformation"
- Sustainable Livelihoods and Biodiversity in the Uplands of Southeast Asia: A Multi-Cultural Assessment of Resilience, Risks and Opportunities
- The Impact of El Niño and La Niña on Southeast Asia: The Human Dimensions, Policy Lessons and Implications for Global Change and
- Training Workshop on Forecasting El Niño and La Niña in Indochina

Land Use and Land Cover Change

- Land Use and Land Cover Change (LUCC) for South East Asia
- Land-use Systems in Temperate East Asia and Central Asia

General Global Change and Cross-cutting Projects

- The 3rd International Human Dimensions Workshop - Human Dimensions of Urbanisation and the Transition to Sustainability
- Training Workshop for the Pacific Island Countries to Enhance Skills in Global Change Negotiations and Synthesis Activities
- The 1st International Young Scientists Global Change Conference, 16-19 November 2003, Trieste, Italy

*** Note: The order of projects listed does not imply any ranking of evaluation. Further information on each project can be found on the APN website:**

<http://www.apn-qcr.org>

2.2 Strengths and Lessons Learned

Based on discussions at the ASCM, this section lists some of the key strengths and observations about the APN's competitive proposals process since the process started in 1998. See Box 3 for the list of strengths, and Appendix 2 for illustrative examples from specific projects.

Box 3. Strengths Observed Regarding APN's Competitive Proposals Process	
Finding	Examples (project set reference)
1. APN-funded projects have helped the APN achieve its goals, and funds invested in them have been cost-effective.	All projects
2. Many APN projects have established, strengthened and sustained research networks.	7, 14, 31, 33, 45, 52, 53, 61, 63
3. APN has established and strengthened partnerships with the global change community.	10, 14, 26, 31, 33
4. APN funding has fostered developing country participation in global environmental change research at a regional level.	All projects accomplished this, but for specific example see Projects 25, 26, 31, 49, 52, 55, 63, 64
5. APN has raised awareness of global environmental change issues in the region.	Most projects accomplished this, but for specific examples beyond the scientific community, see Projects 27, 31, 49, 55
6. APN has developed the scientific capacity of Asia-Pacific researchers.	Most projects accomplished this, but for selected examples see Projects 33, 49, 52, 53, 55, 63, 64
7. APN has developed some science-based tools that could be useful to decision-makers.	For selected examples see Projects 1, 3, 61, 64
8. APN has assisted the career development of promising young scientists.	Projects 49, 52, 53, 63
9. APN has a successful 10-year track record and the momentum of its achievements is growing.	All projects

The ASCM also pointed out a number of lessons that could be learned from the APN's experiences thus far, and recommended that the APN establish a set of "Best Practice Guidelines" for APN-funded activities in the future. Lessons included:

1. Though APN-funded activities received high evaluations overall, individual projects varied in effectiveness, impact and sustainability. The APN should continually monitor performance and strive for improvement.
2. The APN should make a greater effort to track any follow-up activities and outcomes after APN-funded projects have been completed (e.g., publication of articles in peer-reviewed journals and other publications; release of databases; development of young scientists' careers; creation of scientist networks; and production of policy tools).
3. Although the APN has funded many multi-year projects, there have also been some funded single year projects that would have been more effective if funding had continued longer.
4. Efforts should be made to ensure that more projects lead to publications, such as articles in peer-reviewed scientific journals.
5. Participants in some of the projects need guidance from the APN members on how to improve interactions between scientists and policy-makers, and how to improve scientific input into policy development processes.

On a final point, the ASCM found that although many of the project participants had good intentions about linking science with policy, in some cases they had found it difficult to do so,

because (1) it is a challenge in itself (and indeed, many organisations around the world struggle with the same issues), (2) it is time consuming, and (3) scientists are often unclear about how best to do it. This finding led to a recommendation, which is included section 2.3 below.

2.3 Key Recommendations for the Future

Looking to the future, the ASCM produced a number of recommendations for the APN's Second Strategic Plan (2005-2010), particularly input on the APN's mission statement, input on the APN's Science Agenda, a recommendation for special attention to linkages between science and policy, and a number of other suggestions.

The ASCM recommended the future Science Agenda of the APN, after discussion about the best way to categorise the scientific themes. The ASCM participants provided examples of potential project topics, which were incorporated into the draft Second Strategic Plan (2005 to 2010).

The ASCM devoted much attention to the APN's second goal; strengthening interactions among scientists and policy-makers, and providing a scientific input to policy decision-making. The ASCM found that the APN Project Leaders had demonstrated a widespread commitment to the concept of sharing the outcomes of their scientific work with policy-makers and other stakeholders.

While strengthening interactions between the science community and policy-makers is a stated objective of the APN, this commitment also arises from the desire of researchers to "make a difference." During the evaluation process, however, reviewers found that more success with science-policy linkages would be desirable. Noting that many scientists and scientific bodies face this challenge, the reviewers recommended that the APN address it in a more effective way.

A number of strategies were suggested, including investment in APN research activities that:

- Review existing best practices in options and approaches to promote science-policy interfacing, in ways that are appropriate for the APN (e.g., through the IPCC, science briefings, publications, participation in workshops by policy-makers as well as scientists, etc.).
- Develop additional approaches, methodologies and tools for science-policy interface and knowledge transfer in ways that are appropriate for the APN.
- Publish guidelines for the APN scientists based on this knowledge and experience
- Provide training and capacity building based on this knowledge for the community served by the APN.
- Purposefully include science-policy interface methodologies and objectives into new project definitions, publications and communications.
- Promote more active involvement of the APN national Focal Points in providing guidance on best practices, opportunities and training.

The following are additional recommendations from the ASCM:

- Expand the APN's activities and secure necessary resources by playing a leading role in expanding research activities, in cooperation with other entities, at the international level.
- Strengthen ties with policy- and decision-making processes and with civil society in order to put environmental concerns into the mainstream of consideration regarding sustainable development pathways.
- Continue to encourage initiatives from developing countries, especially those that assist with the development of their research capacity.
- Promote science and technology that supports "sustainability," by aligning APN activities with global scientific programmes such as the International Council for Science (ICSU) and the Global Earth Observation System of Systems (GEOSS).
- Support the observation, information gathering and dissemination of early warning information regarding global change.
- Continue to fund the most appropriate activities to deliver the desired outcomes in each field of endeavour, noting that different fields of endeavour call for different kinds of support (e.g., workshops are effective to build research networks, while scientific research can only be pursued through the funding of specific research projects).

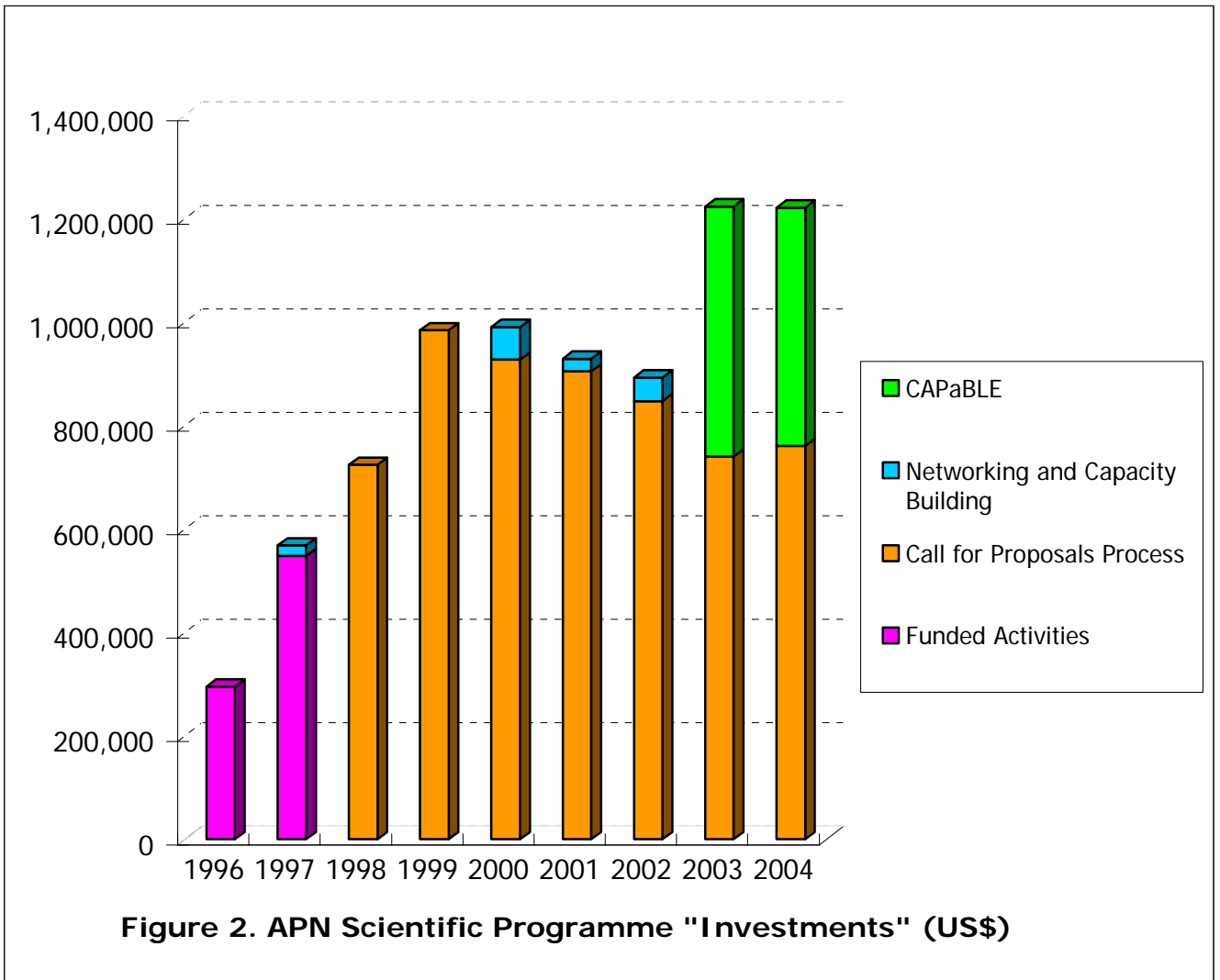
In conclusion, the ASCM participants hoped that the outputs of this scientific review would serve as a useful resource for the APN Scientific Planning Group and Inter-Governmental Meeting in developing a Science Agenda for the Second Strategic Plan (2005-2010) and for planning, developing and implementing scientific activities throughout its Second Strategic Phase.

2.4 Scientific Capacity Building Activities

From 2000 through 2002, the APN conducted a Networking and Capacity Building Programme that would enhance "regional networking and scientific capacity." The aim was to target APN member developing countries that were considered not to have strong scientific capacity or strong links to the regional research community. Initially, it was agreed to focus on two regional groups, namely South and Southeast Asia. Workshops were held there to allow participants to gain an overview of global change issues from international organisations, identify regional priorities, and pinpoint promising project proposals for submission to the APN and/or other funding agencies. By the time the programme was completed in 2002, the IGM felt that it had achieved its objectives and run its course.

In 2003, the APN launched a programme entitled "Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries" (CAPaBLE), as a Type II partnership initiative which was registered by Japan at the World Summit on Sustainable Development (WSSD). The objective of this programme is to develop and enhance scientific capacity in developing countries to improve their decision-making in target areas related to climate change and water and food security that are directly linked to their sustainable development. This is expected to be achieved through a two-track approach: (1) capacity enhancement for experienced leading scientists, and (2) capacity building for young and aspiring scientists. To date the reviews for the CAPaBLE programme by participants and third parties have been excellent.

It should be noted that CAPaBLE was not subject to review in the current evaluation, as the initial projects have not been completed. As this is a registered Type II programme, it provides the opportunity and vehicle for other nations to financially support this initiative.



3. Institutional Evaluation

The following evaluation covers institutional aspects of the APN, including its governance status and the functioning of its institutional organs. Furthermore, institutional issues such as participation and ownership, relationships with partners, the call for proposals process, media coverage, and financial resources were included during the review. Appendix 3 provides more details of the institutional evaluation for each of the subsections below.

Section 1

3.1 Framework Document and Status of the APN

The "Framework Document" (hereinafter referred to as "Framework") of the APN is the culmination of extensive discussions that began at planning workshops in the early 1990s and continued until its adoption at the 7th IGM in 2002, in Manila, Philippines. The Framework now functions as the governing document for the APN, and its legitimacy arises from its adoption by the 7th IGM, the APN's inter-governmental decision-making body. After much consideration, it seems as though the current status, the APN being a non-legal entity, is the most appropriate for the time being, and that it would be better to focus attention on the content and results of the APN's activities than to seek major changes to its formal status (although some changes are desirable to the content of the Framework, as described in Appendix 3).

3.2 APN Organs

The institutional bodies established under the Framework are (1) the Inter-Governmental Meeting (IGM), (2) the Scientific Planning Group (SPG), (3) the Steering Committee (SC), and (4) the Secretariat. The review of the APN covered the performance of these bodies as well as the APN Liaison Officers. For more details with regards to the functioning of the APN Organs, please refer to Appendix 3.

3.3 APN Member Participation and Sense of Ownership

Over the years, national Focal Points and SPG members have generously contributed their time and experience to develop the APN and guide its decisions. A consensus-based approach has over the years resulted in a network that is now functioning smoothly, although the current evaluation found that some changes would be desirable to boost member participation and the sense of ownership in order to strengthen the APN network.

3.4 Relationships with Key Partners

The First Strategic Plan contains a section entitled "The Partnership Approach" stressing the importance of working in partnership with other organisations involved in global change research. The APN believes that this partnership is essential to maximise the resources available and to deliver the best possible results. The APN works with partners in a number of ways. One criterion for the selection of projects for funding is "developing and strengthening relations with regional and international global change programmes." In addition, representatives from key partner organisations are invited as observers. Among others, key partners include the global change programmes (DIVERSITAS, IGBP, IHDP, and WCRP) and their ESSP, the APN's sister network (Inter-American Institute for Global Change Research) the IAI, and capacity building organisations such as START. Collaboration has primarily been through APN-funded activities, including joint research projects, scientific capacity building, international conferences, scoping workshops, and the development of networks of scientists. Input from these partners has been positive (see Box 4).

Box 4: Input from Global Change Partners

From IHDP: "The APN has played and continues to play a key role for capacity building in global change research in the Asia-Pacific region. It has been very important for introducing the human dimensions into global change research into the region and for developing it further. The constructive and smooth collaboration between the APN and IHDP was a key driving force for this process."

From WCRP: "It would also be valuable if the APN could (continue to) work with WCRP and our partner global environmental change research programmes (DIVERSITAS, IGBP and IHDP) in the Earth System Science Partnership (ESSP) to facilitate the implementation of aspects of our and their core projects, and the emerging joint activities of the ESSP, in developing countries. The APN should, of course, complement and support the efforts of the WCRP and others by continuing to promote the development of scientific capability in developing countries. In particular, the APN should support capacity building activities of priority to its member countries in the regions it serves."

3.5 Call for Proposals Process

This section addresses institutional matters relating to the competitive call for proposals process, which has become the main pillar of the APN's activities (scientific aspects have been covered in Section 2). Below are some basic statistics for results to date (6 years, from April 1998 to March 2004, not including the projects approved in March 2004):

- Number of project sets: 66 project sets
- Total funding support: US\$ 5.1 million
- Proposals received each year: Average 68 proposals
- Projects funded each year: Average 13 projects
- Percent funded each year: 19% of proposals
- Average amount funded for each project set: US\$ 77,300

The process of the call for proposals consumes more resources than any other activity of the APN. It is, however, to be expected due to the importance of the competitive funding process in the APN's activities. The time spent and money required for the involvement of the SPG members (reviewing proposals, attending meetings), "Small Group," Focal Points and the Secretariat to support the annual cycle of tasks in the call for proposals is the reason for such resource consumption.

Over the years, the entire process has been refined and streamlined to reduce the burden on everyone involved. A questionnaire issued to the Project Leaders of the 66 project sets funded by the APN since 1998 asked them to evaluate the process based on such aspects as (1) burden on time for proposing and reporting, (2) clarity of instructions, (3) efficiency of processing, (4) support from the Secretariat, and (5) conditions and restrictions on funds. The Project Leaders rated the APN favourably, with 80 to 90 percent of the responses saying that the APN was "good" or "excellent" compared to other funders.

3.6 Communications Issues (Media Coverage, Information Gathering and Dissemination)

Goal 2 of the APN includes the words to "*provide scientific input to policy decision making and scientific knowledge to the public.*" Media coverage is an important way to reach all parts of society; not only the public but also policy-makers. Although during its First Phase, the APN did not make a major effort to reach out to the media, the APN did receive a certain amount of media coverage. The modern information-based society requires the skilful

handling of information, and this is all-the-more essential in the field of global change science and policy. It would be worthwhile for the APN to systematically strengthen its communications efforts.

Section 2

3.7 Key Findings

Below is a summary of the key findings of the institutional review. See Box 5 for a summary of recommendations.

- The APN has made substantial progress on the institutional dimension since it was established in 1996. It has adopted a Framework Document that currently provides a practical and flexible approach to fulfil the APN mission, and the organs (IGM, SPG, SC, and the Secretariat) are generally functioning well.
- Regarding the recommendation above, some clarifications and improvements are possible in the roles of the organs and these would require revisions to the Framework.
- The current status of the APN, based on the Framework Document, as a non-legal entity is probably the most realistic, flexible and practical way for the next few years, although it may be advantageous, at a later date, to seek formal status as an inter-governmental organisation.
- The APN's competitive funding process is also functioning well and provides a sound basis for encouraging a wide range of research and cooperation relating to global change research in the Asia-Pacific region.
- The APN Secretariat plays a very important role in implementing all aspects of the APN. It is generally functioning well, promoting regional cooperation, and has earned credibility for its ability to manage a science programme. Some attention is needed to staff numbers, allocation and balance of work loads for personnel and a more systematic approach is needed for management and oversight of the Secretariat.
- This review has identified a number of institutional areas that require more attention, including the need for more financial resources for APN programme activities, the need for a greater sense of "ownership" among member countries, and a more systematic approach to information dissemination and communications. These issues are addressed in the institutional recommendations.

Box 5: Recommendations (Institutional Aspects)

Based on key findings from this evaluation, the following is a summary of key actions recommended to strengthen the APN institutionally.

- Empower a committee to propose changes to the Framework Document for approval at the 11th IGM (reviewing the roles of each organ, including the "Small Group" that pre-processes proposals).
- Find ways to strengthen member governments' sense of partnership and ownership, including more frequent efforts to determine their policy needs and priorities relating to global change.
- Promote communications between the APN and other regional inter-governmental committees, such as the Association of Southeast Asian Nations (ASEAN), the South Asian Association for Regional Cooperation (SAARC), and the UN Economic and Social Commission for Asia and the Pacific (UNESCAP).
- Enhance year-round communications between national Focal Points, SPG members, Liaison Officers and the Secretariat.
- Strengthen the role of the IGM, develop a more interactive relationship with national Focal Points, who represent their governments, and strengthen the role of Focal Points within the APN and the global change research community (scientific and policy-making).
- Consider reforming the SC to enhance its ability to guide the APN in the intervening months

between IGM sessions (consider mandate, membership, lengths of term for committee members (particularly the Chair), etc.).

- Continue looking for other ways to fulfil the APN's mission most efficiently, by reducing costs and increasing impacts (e.g., a biannual IGM, allocation of resources to different activities in the APN's overall "portfolio" of activities, seeking more joint activities with other partners that will fulfil needs but lower cost, etc.).
- Engage more proactively in dialogue with each of the main global change research partners (especially DIVERSITAS, IGBP, IHDP, WCRP and their ESSP; START; and APN's sister network, the IAI) to identify ways to contribute to each others' goals.
- Conduct a review of the role of Liaison Officers and make changes to better meet the APN's objectives.
- Develop and implement a comprehensive "information and communications plan."
- Make some changes at the Secretariat (including preparation of an annual operating plan, and assignment of the Director for a longer term).

4. Financial Resources

4.1 Funding and Other Resources

The APN's total annual budget roughly tripled from US\$ 698,000 in 1996 to US\$ 2,152,000 in 2004. The APN funding has grown since the 1st IGM, but not as much as was desired (the 1999 Strategic Plan had a target of US\$ 4 million, but it is now just over US\$ 2 million).

Figure 3 shows trends in income, scientific and administrative expenditures (see Appendix 4 for a summary of financial information). Important points include:

- US\$ 14.4 million in cumulative contributions over nine years.
- US\$ 10.7 million in cumulative expenditures for scientific activities (consisting of US\$ 5.9 million for projects funded under the competitive proposals process from fiscal 1998/99 through fiscal 2004/05, US\$ 0.9 million under the CAPaBLE programme, and the balance for other programme activities).
- US\$ 3.5 million for cumulative administrative expenditures, of which salaries and related expenses account for about US\$ 1.8 million (this US\$ 3.5 million does not include in-kind contributions from the Hyogo Prefectural Government for maintenance of the Secretariat office, covered directly and not part of the regular budget).

The First Strategic Plan stated the intention to target other sources of funding, including the private sector, local government, and government agencies that have not traditionally provided money for global change research within the developed member countries. No major progress was made in this respect.

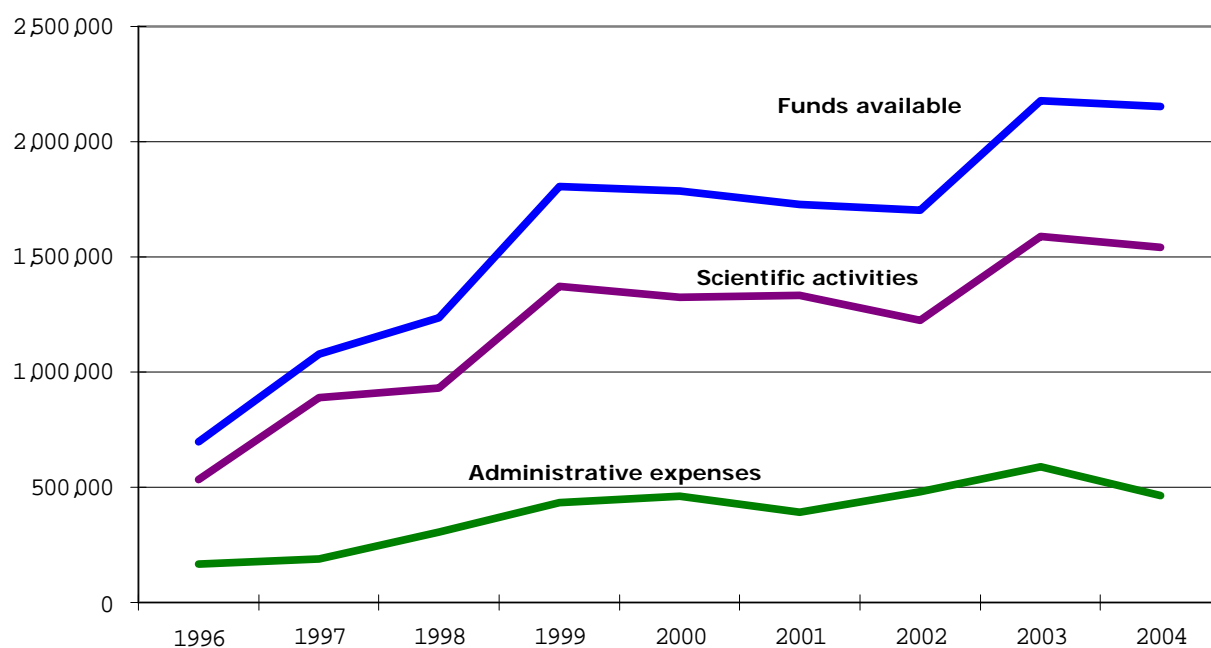


Figure 3. APN Financial Summary (US\$)

Financial Contributions from Member Countries: The major financial contributors to the APN for the nine years since 1996 have been Japan (Ministry of the Environment, US\$ 10 million cumulative), the USA (National Science Foundation/US Climate Change Science Program, US\$ 2.5 million, administered through the International START Secretariat), the Hyogo Prefectural Government in Japan (US\$ 1.6 million, not counting in-kind contributions), Australia (Australian Greenhouse Office, US\$ 43,000), and New Zealand (Climate Change Office, Ministry for the Environment, US\$ 11,000).

In-kind Contributions: In-kind (i.e., non-financial) contributions from institutions and member governments play a crucial role in the APN, and primarily include (1) hosting of meetings, (2) provision of equipment, facilities and personnel for APN-funded projects, (3) hosting of the Secretariat, and (4) the time provided by Focal Points and SPG members (particularly the Co-Chairs). It is sometimes difficult to calculate in-kind contributions; where possible, these amounts should be quantified, but in other cases, the best approach is simply to list details.

To date, the following eleven countries have hosted IGM, SPG, and SC meetings since 1996: Australia, China, Japan, Malaysia, New Zealand, Pakistan, Philippines, Republic of Korea, Thailand, USA and Viet Nam. While the APN usually covers the cost of the international travel, the host often provides support staff and office services, a reception, ground transportation, and frequently the venue itself. The participation of APN members from developed countries is self-funded.

Other Sources ([a] financial and [b] non-financial/in-kind contributions): Under the competitive call for proposals process, the APN funds activities that are often supported by other funding sources. In such cases, the APN funding sometimes supports the Asia-Pacific component to a larger activity (e.g., an international research project, or attendance at an international meeting). At times, the APN's support is an important endorsement of a research activity that helps it to attract other funders. At other times, the APN's contribution is incidental to a larger project. Also, in the case of research and workshops, generally the host institutions in member countries provide the salaries, equipment, facilities, and administrative support for APN-funded projects.

The in-kind contributions in this category are often difficult to quantify, but they are certainly large and the institutions that provide them deserve recognition and appreciation.

Based on responses from Project Leaders of the 66 project sets (1998-2003) reviewed above, *other funders provided at least US\$ 5.6 million in both financial and in-kind support for activities that the APN supported under the competitive call for proposals process.* This is significant compared to the approximately US\$ 5 million provided by the APN for the same projects.

Host of the Secretariat: Since 1999, the Hyogo Prefectural Government, as the local host for the APN Secretariat, has covered (1) office rent, (2) maintenance, (3) electricity, and (4) two salaries (including the Director's). As an indication of the size of this contribution, the total figure for fiscal 2004 is US\$ 322,000.

4.2 Ad-hoc Resources Development Committee

An Ad-hoc Resources Development Committee (RDC) was created in 2003. Members that volunteered to take part in the committee included Australia, China, Japan, Malaysia, New Zealand, Republic of Korea, Sri Lanka, Thailand and the USA. The committee has discussed the issues under its mandate, but no new funds have been found to date. Indeed, in order for the RDC to work effectively, it needs to be established as an APN Committee with a clear mandate and strategy.

Box 6: Recommendations (Financial Resources)

The APN's annual budget has more than tripled since 1996. Many stakeholders have suggested, however, that the limited programme budget was one of the main obstacles to date, and that during the APN's next phase it will be important to increase its financial resources. The APN has discussed this topic at length for ten years, but more than 99 percent of the APN's funds still come from just two countries; there are currently no prospects for other major direct funding sources for the APN budget. Below are recommendations for the next five years.

The APN should do the following:

- Seek consensus on the desired scale of activities and funding targets for APN activities over the next five or more years.
- Establish the Resources Development Committee with a clearly articulated mission to develop financial resources through a strategic approach, and allocate responsibility (e.g., within the Secretariat) for implementation. This committee should review discussions and conclusions to date on this topic, realistically analyse the obstacles faced to date in raising funds, and devise various options to raise funds (one of which might be a framework to attract contributions from member countries).
- Examine not only ways to raise more direct funds for the budget, but also (1) ways to leverage APN funds, including through matching funds and in-kind contributions from other sources, (2) ways to strategically allocate available resources among administrative and various programme activities, (3) the possibility of mobilising funds from national development agencies (e.g., official development assistance from developed countries) in ways that meet the objectives of the APN, (4) the idea of having associate members outside the APN region (e.g., European countries and Canada) who have an interest in the Asia-Pacific region, and (5) private foundations.
- Explore, with the National Science Foundation, opportunities for the USA funding to go directly to the APN.

5. Overall Evaluation of Activities

As a summary of the more detailed discussions above, below is the subjective evaluation of the APN's performance since 1996 in terms its six stated goals. This represents a

combination of input from APN members, partners, Project Leaders, and outside experts. The ratings (chosen from among excellent, good, average and poor) are provided in Box 7.

Based on this performance evaluation, one could conclude that the APN has successfully achieved its six goals. Much has been accomplished through the efforts of all stakeholders to date, and the APN now has a solid foundation for greater success in the coming years. See Box 6 for a summary of the overall evaluation.

Box 7. Overall Evaluation of APN Activities

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

Performance: Excellent. Particularly through its "Annual Regional Call for Proposals" process (ARCP), as well as through the CAPaBLE Programme, the APN is seen as having a good system for identifying global change issues that are relevant to both member countries and the scientific community, and a good track record in selecting and supporting projects that involve regional cooperation.

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

Performance: Average. Although there were some excellent examples of APN-supported projects that contributed to policy-making processes, people representing both the policy-makers and scientific community felt that the APN has not done enough so far on this goal. The view was expressed that this is not strictly a problem with the APN, but rather a part of a larger problem that faces many organisations. Outreach to the public (e.g., through the media) has also been minimal, although there have been some outstanding examples that should be duplicated in the future.

Goal 3: Improving the scientific and technical capabilities of nations in the region.

Performance: Good. The general impression is that the APN has done well on this goal, through both the call for proposals process, and CAPaBLE. Models have been developed, researchers have been trained, scientist's careers and capabilities have been advanced.

Goal 4: Facilitating the standardization, collection, analysis and exchange of scientific data and information relating to global change research.

Performance: Good. Although this is a lower-priority goal of the APN, it has been seen as facilitating progress on this goal.

Goal 5: Cooperating with other global change networks and organizations.

Performance: Excellent. Taken as a whole, the APN's funded projects and the CAPaBLE Programme pay much attention to supporting the activities of DIVERSITAS, IGBP, IHDP and WCRP and their core projects. Indeed, strengthening relations with them is one criterion for selection of projects to be funded. The APN has also worked closely with START for many years, and has begun to conduct joint activities with IAI. There is, however, a need to further strengthen and diversify the types of cooperation, and to form more symbiotic partnerships with due recognition of the APN's contribution to the global change community.

Goal 6: Facilitating the development of research infrastructure and the transfer of know-how and technology.

Performance: Average. Although this is a lower-priority goal, and the APN is not expected to play a major role in developing "hard" research infrastructure, observers have noted that in many ways, the APN has certainly achieved some success with this goal, including through the "soft" infrastructure such as networks of scientists.

6. Conclusion

The APN has made good progress as a network during the years from 1996 through 2004. It has developed solid institutional foundations, including the governing Framework Document, an effective Secretariat, a respected and competitive project funding process, and scientific capacity building activities.

The scientific community views the APN very positively in terms of its contribution to global change science and scientists. The Scientific Experts who provided their reviews to the APN's ASCM, gave the APN a solid rating, and identified outstanding projects that serve as examples of what the APN has achieved in the past and the potential it has to achieve in the future.

The operation of the APN is generally efficient and effective, although some changes in the future might help it to accomplish more with the finite resources available. The APN's overall budget has tripled since 1996 to just over US\$ 2 million, but many still feel that this is inadequate to fulfil the APN's mission. In the future, it will be important to seek ways to increase the available funds, and to get the maximum "leverage" for money spent, through matching funds and in-kind contributions for activities that are in line with the APN's mission and goals.

The APN now has 21 member countries in the Asia-Pacific region and also invites Pacific Island Countries, as well as others, to participate in scientific activities. Governments and institutions have contributed significantly to the development of the APN, with four providing direct funding at present, and essentially all involved providing other forms of support, including guidance and in-kind contributions. More can also be done to invite members to be more active in the APN, by proposing and supporting activities that may also be outside of the annual call for proposals process.

Demand for global change science is accelerating. Major developments since the birth of the APN include the Kyoto Protocol's entry into force, growing evidence of the impacts of global change in the natural environment and on human systems, and more questions in the policy arena. These trends require sound science that underpins policy, and environmental concerns need to be incorporated more into mainstream development plans.

The APN is at the forefront of global change research in the Asia-Pacific region and has played a vital role in enhancing scientific research capacity in the region particularly in developing countries, and its activities are highly appreciated by the global change community. The APN's uniqueness, however, is that it is the only existing international network in global change research that focuses exclusively and entirely on the Asia-Pacific region. It has great potential to make further progress in the coming years to fulfil its mission in society.

Appendix 1. Milestones in the Development of the APN

Year	APN	World
1990	<ul style="list-style-type: none"> White House Conference on Science and Economics Research Related to Global Change, Washington DC, USA 	
1992	<ul style="list-style-type: none"> 1st Inter-Governmental Workshop (Dec.), Tokyo, Japan 	UNCED (Earth Summit), Rio de Janeiro, resulting in Agenda 21
1994	<ul style="list-style-type: none"> 2nd Inter-Governmental Workshop (Jan.), Tokyo, Japan, creates Working Group 1 (WG1) for scientific agenda, Working Group 2 (WG2) for mechanisms 1st WG1 meeting (Oct.), Jakarta, Indonesia Establishment of the APN Interim Secretariat. Host: Japan Environment Agency 	
1995	<ul style="list-style-type: none"> 1st WG2 meeting (Jan.), Cairns, Australia 2nd WG1 meeting (Mar.), Tokyo, Japan 3rd Inter-Governmental Workshop (Mar.), Tokyo, Japan The APN Interim Secretariat established at AIRIES (Oct.), Tokyo, Japan 	
1996	<ul style="list-style-type: none"> Workshop of the APN Scientific Planning Committee (25-26 Jan.), Tokyo, Japan 1st IGM (Mar.), Chiang Mai, Thailand, marks official launch of the APN 1st SPG, Kuala Lumpur, Malaysia 	
1997	<ul style="list-style-type: none"> 2nd IGM and 2nd SPG (Mar.), Tokyo, Japan "Interim Secretariat" becomes "Secretariat" (at 2nd IGM) The APN website launched (May) Launch of Liaison Officer positions in the APN sub-regions 1st APN open Call for Proposals (Sep.) 	COP3, UN Framework Convention on Climate Change, Kyoto
1998	<ul style="list-style-type: none"> 3rd SPG meeting, Canberra, Australia 3rd IGM, Beijing, China 	
1999	<ul style="list-style-type: none"> 4th IGM and 4th SPG meeting, Kobe, Japan First APN Strategic Plan (1999-2004) adopted at IGM (Mar.) Dedicated APN Secretariat is established and relocated to Kobe; staff numbers increase First full-time Director for the APN Secretariat (Jul.) Launch of Internet server with dedicated APN e-mail and URL addresses First APN Steering Group meeting (Oct.) 	
2000	<ul style="list-style-type: none"> 5th IGM and 5th SPG meeting, Islamabad, Pakistan Networking and Capacity Building Programme initiated at IGM First Pre-Proposals Process launched (May) APN Global Change Symposium, "Urbanisation in Asia and the Global Environment" (Jul.) APN Global Change Symposium and workshops in Kobe—first major APN sponsored global change event (Oct.) in this new phase 	
2001	<ul style="list-style-type: none"> 6th IGM and 6th SPG meeting, Jeju Island, Korea 	
2002	<ul style="list-style-type: none"> 7th IGM and 7th SPG meeting, Manila, Philippines (Mar.) Adoption of the "Framework Document" as governing document (Mar.) 	World Summit on Sustainable Development (WSSD), Johannesburg, resulting in Plan of Implementation
2003	<ul style="list-style-type: none"> 8th IGM and 8th SPG meeting, Hanoi, Viet Nam (Mar.) Ad-hoc Resources Development Committee established at 8th IGM (Mar.) CAPaBLE programme launched (Apr.) 	

2004	<ul style="list-style-type: none"> • Work begins on 10-year review and 5-year Second Strategic Plan (Jan.) • 9th IGM/SPG meeting, Canberra, Australia (first time held jointly) (Mar.) • Framework of the APN amended at IGM (Mar.) • The APN shifts from AIRIES to the administrative umbrella of IGES (Apr.) • New website developed and launched (May) • The APN Newsletter switches to electronic format only (Jul.) • Launch of the APN Programme Fellowship at the APN Secretariat in Kobe (Jul.) • Publication of 1st APN Annual Report (2003-2004) for external distribution (Oct.) 	
2005	<ul style="list-style-type: none"> • 10th IGM/SPG meeting, Kobe, Japan, 2nd Strategic Plan adopted (Apr.) 	Kyoto Protocol enters into force

Appendix 2. A Selection of Outstanding APN-Funded Projects

The 66 projects funded by the APN from 1998 through 2003 were the subject of this review. The projects shown below were selected to exemplify what has been achieved by APN support. Please note that these projects are listed alphabetically, by theme and title. Their order does not suggest any rank or evaluation. *Project numbers shown were assigned for the review of 66 project sets. For the complete list of projects see the [Report of the Augmented Steering Committee Meeting \(ASCM\) 27-28 October 2004, Kobe, Japan.](#)*

Changes in Atmospheric Composition

Project Set 25; Project Reference Nos.: [2000-01](#), [2001-16](#)

Land Use/Management Change and Trace Gas Emissions in East Asia

This project included three workshops (including two model training sessions for capacity building) and aimed to estimate trace greenhouse gas (CH₄ and N₂O) emissions from agricultural land. It successfully developed a trace gas flux database in East and Southeast Asia. The strength of this project was its successful interactive link between the trace gas emissions and land use and land management database. This project brought together scientists collecting trace gas data from the field, remote sensing specialists, and biogeochemical modellers, who had seldom worked together thus far. Two articles were published (a third is pending) and at least five young scientists advanced in their professional development.

The APN provided two years of funding, totalling US\$ 139,100. Participants came from China, Germany, Indonesia, Japan, Philippines, Thailand, and the USA. Many institutions cooperated and provided resources, including but not limited to USDA-ARS / Institute of Soil Science, Chinese Academy of Sciences, International Rice Research Institute (IRRI), Philippine Rice Research Institute, and Philippines Agricultural University.

Changes in Coastal Zones and Inland Waters

Project Set 64; Project Reference No.: [2003-13](#)

Capacity Development Training for Monitoring of POPs in the East Asian Hydrosphere

This project involved capacity development training for monitoring of persistent organic pollutants (POPs) in the East Asian hydrosphere. The key outcome was a well-conducted and well-documented workshop for scientists and policy-makers. It enhanced regional collaboration, utilised the expertise in the region, trained technicians, and had sustainable outcomes. The detailed project report clearly indicated the sequence of actions required to deal with pollution caused by POPs—through the need to create a harmonised database by means of regional collaboration—and inputs for effective policy.

The APN provided US\$ 41,000. Participants came from Australia, China, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand and Viet Nam. Other funding and support totalled US\$ 18,500. The United Nations University also supported the project, and Shimadzu Corporation provided equipment to participating laboratories.

Project Set 31; Project Reference No.: [2000-09](#)

APN/SURVAS/LOICZ Joint Conference on Coastal Impacts of Climate Change and Adaptation

The key outcome was a well-organised regional conference for countries in the Asia-Pacific

region on issues such as sea-level rise. The conference provided strong support for existing networks and projects from the APN, LOICZ (the IGBP/IHDP Core Project on Land-Ocean Interactions in the Coastal Zone) and SURVAS (Synthesis and Upscaling of Sea-Level Rise Vulnerability and Assessment Studies). Besides scientists, the conference successfully involved policy-makers, the public and other stakeholders at an open symposium. As follow-up activities, a Global Synthesis Workshop was held, and a SURVAS database of global impacts of climate change and sea-level rise was developed.

The APN provided US\$ 75,000. Other funding sources, totalling about US \$20,000, included the Science Council of Japan, Asahi Glass Foundation, and SURVAS. Participants came from Australia, Bangladesh, Cambodia, China, Cook Islands, Federated States of Micronesia, Fiji, India, Indonesia, Japan, Malaysia, Nauru, Philippines, Republic of Korea, Samoa, Thailand, the United Kingdom, the USA, Vanuatu and Viet Nam.

Project Set 52; Project Reference Nos.: [2001-20](#), [2002-05](#)

An Assessment of Nutrient, Sediment and Carbon Fluxes to the Coastal Zone in South Asia and their Relationship to Human Activities

This project assessed the nutrient, sediment and carbon fluxes to the coastal zone in South Asia and their relationship to human activities. The key outcomes of the project included improving a *network of researchers* and institutes in the Asian region, compiling existing data, issuing of publications, and conducting a regional workshop. Key features of this project included a good capacity building component through visits of scientists to laboratories in other countries, and the introduction of computer modelling to scientists. Several research students engaged in the project received their MSc degrees based on the work carried out under the project.

The APN provided funding for two years, totalling US\$ 103,000. Funds from other sources were US\$ 6,000. Participants came from Australia, Bangladesh, India, Nepal, Pakistan, Sri Lanka and the USA. The project worked closely with Land-Ocean Interactions in the Coastal Zone (LOICZ) and START-SASCOM.

Changes in Terrestrial Ecosystems and Biodiversity

Project Set 26; Project Reference No.: [2000-02](#)

Land Use/Cover Change in Asia and the Carbon Cycle

This project included a workshop, five commissioned studies, and the development of two research proposals. The workshop reviewed the current knowledge on ongoing projects of carbon flux and storage in terrestrial ecosystems, leading to five case studies. The two proposals for further research, submitted to the Global Environmental Facility (GEF) and the APN, were approved for funding. The focus of this project, which was to estimate carbon storage and flux, is scientifically relevant to better understand climate change. The project produced 12 published papers in peer-reviewed journals, which will have strong impacts among scientists in this field. This project contributed to the collection of information on carbon storage and flux in this region, and to the ESSP's Global Carbon Project (GCP).

The APN provided US\$ 61,000. Participants came from Australia, China, Indonesia, Japan, Malaysia, Mongolia, Philippines, Republic of Korea, Russian Federation, Thailand and the USA. About US\$ 10,000 in additional funding came from Global Change and Terrestrial Ecosystems Office, in Canberra, Australia.

Project Set 49; Project Reference Nos.: [2002-03](#), [2003-03](#)

Scoping Workshop on Global Change Impact Assessment for Himalayan Mountain

Region for Environmental Management and Sustainable Development

Aiming to assess the vulnerability of mountain ecosystems and people to global change, this project started with scoping meetings in the first year and was conducted over three years. The project included several workshops, with proceedings and papers published, together with the training of graduate students. Issues facing mountain ecosystems are extremely important, both scientifically and socially, in the Asia-Pacific region. Impacts of the workshops included effectively building the capacity of graduate students and promoting links between science and policy by having invited ministers and planning commission members.

The APN provided US\$ 141,555. Participants came from India, Nepal and Pakistan. In-kind support from other bodies amounted to about US\$ 28,000. Institutions in the participating countries provided necessary inputs, both in-kind and manpower. START funded the participation of two representatives from the Mountain Research Initiative (MRI) in a scoping workshop, and training of one research team member. Guelph University (Canada) funded the travel of one presenter to Kathmandu.

Climate Change and Variability

Project Set 1; Project Reference Nos.: [2000-05](#), [2001-05](#), [2002-02](#)

Continuation of Regional Climate Modelling (RCM) Development

Regional climate modelling groups from throughout the region collaborated to compare their models. This set the scene for comparing regional projections of the future climate by these models, a process that will provide vital information for policy-makers. Information from this project is feeding into the Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC). APN funding helped networking between RCM research groups in Asia through workshops and joint research, and also supported capacity building in developing countries through training courses and fellowships.

The APN provided US\$ 351,000 over five years. Participants came from Australia, China, India, Italy, Japan, Republic of Korea and the USA. Major funds, amounting to about US\$ 1.5 million, also came from other sources, including the G1999043400 project of the Ministry of Science and Technology of China, and the G7 Project of the Ministry of Environment, Republic of Korea.

Project Set 3; Project Reference Nos.: [2001-01](#), [2002-01](#), [2003-01](#)

Asia-Pacific Workshop on Indicators and Indices for Monitoring Trends in Climate Extremes

This project consisted of a set of data workshops to which participants from individual countries brought their own data and analysed it to develop indicators and indices of trends in climate extremes. A series of papers were submitted to scientific journals, enabling the IPCC to incorporate these results, which are of relevance to policy developers and hazard managers, in the IPCC's Fourth Assessment Report. Participants also brought the results to the attention of their own in-country policy-makers. Furthermore, the WMO (World Meteorological Organization) intends to use this series of workshops as a model for other regions.

The APN provided US\$ 208,000 over five years. Eighteen participating countries included Australia, Cambodia, China, Fiji, French Polynesia, Japan, Indonesia, Malaysia, Myanmar, New Caledonia, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Solomon Islands, Thailand and Viet Nam. Although no total figure is available, in-kind support was considerable. Countries provided in-kind support for their participation. Additional support came from the Australian Bureau of Meteorology to host workshops,

prepare and distribute software and prepare scientific papers. START provided some additional funding.

Project Set 27; Project Reference No.: [2000-03](#)

Training Institute on Climate and Society in the Asia-Pacific Region

This training institute on climate and society brought together participants from universities, research institutions, NGOs, government agencies, and private sector enterprises from throughout the Asia-Pacific region. It included presentations about several of the research projects supported by the APN, and participants shared experience on applying climate information for the benefit of society. This made a substantial contribution to the APN goal of strengthening interactions between scientists and policy-makers.

The APN provided US\$ 69,300. Participants came from Australia, Bangladesh, China, Cook Islands, Fiji, India, Indonesia, Pakistan, Philippines, Papua New Guinea, Sri Lanka, Thailand and Viet Nam. Other funds included US\$ 20,000 from NOAA (USA), US\$ 20,000 from START, and US\$ 43,255 from the East-West Centre. In addition, the project benefited from an in-kind contribution of personnel time from the University of Waikato (est. US\$ 5,000) and similar in-kind contributions of human resources and materials from other participating institutions including the University of Hawaii (East-West Centre), the International Research Institute for Climate Prediction, the Queensland Department of Primary Industries and the Australia Bureau of Meteorology.

Human Dimensions of Global Change

Project Set 10; Project Reference No.: [1998-10](#)

South Asia and East Asia Workshops, "Research Agenda for IHDP-Industrial Transformation"

This project contributed to the development of the research agenda for the Industrial Transformation core research project of the International Human Dimensions Programme on Global Environmental Change (IHDP). Its value was in connecting networking on a topic of high relevance in the region with agenda setting in an international scientific programme (i.e., the IHDP). The project also triggered a series of follow-up activities, including a workshop and a research project. It contributed to the IHDP programme by embedding "voices" from the Asia-Pacific region into the development of the IHDP-IT project.

The APN provided US\$ 18,700. Participants came from Austria, Bangladesh, India, Sri Lanka, Pakistan, Thailand, the USA and Viet Nam. Additional funding was provided by START.

Project Set 61; Project Reference No.: [2002-18](#)

Sustainable Livelihoods and Biodiversity in the Uplands of Southeast Asia: A Multi-Cultural Assessment of Resilience, Risks and Opportunities

This project involved a planning meeting, five case studies, and a synthesis meeting. There were several significant outcomes of this project. It established research networks and institutional networks in a region that did not previously have a strong research infrastructure in this field. It linked global change in a very effective way with issues of sustainable development. It offered training in methods and approaches for integrative research, coupling biophysical and human dimensions and creating a basis for the comparison of case studies (i.e., a case studies guide). It produced a scientific product in the format of a book and implemented a successful follow-up project.

The APN provided US\$ 59,000. Participants came from China, India, Indonesia, Philippines, Thailand and Viet Nam.

Project Sets 14, 45; Project Reference Nos.: [1999-03](#), [2001-08](#)

The Impact of El Niño and La Niña on Southeast Asia: The Human Dimension, Policy Lessons and Implications for Global Change and Training Workshop on Forecasting El Niño and La Niña in Indochina

These closely linked projects focussed on the impact of El Niño and La Niña on Southeast Asia. They covered human dimensions aspects, policy lessons and implications for global change in an APN training workshop on forecasting El Niño and La Niña in Indochina. Outcomes of the project included the establishment of research and institutional networks (e.g., the Indochina Global Change Network, or IGCN) in a region that had a weak research infrastructure, and cooperation between research institutions and developing organisations. They also fostered integrative research and science/policy-making linkages, produced visible products (workshop reports, documents in a cyber library and documents on webpage), had successful follow-up activities, and helped to strengthen the IHDP, by establishing an IHDP National Committee. These two grants show how, by a sequence of activities (and a quite modest investment), multiple and long-lasting impacts can be achieved.

The APN provided US\$ 30,000 Participants came from Australia, Cambodia, Laos, Myanmar, Thailand, the United Kingdom, the USA and Viet Nam. About US\$ 37,000 in additional funding came from NOAA and WOTRO.

Land Use and Land Cover Change

Project Set 33; Project Reference Nos.: [2000-13](#), [2001-13](#)

Land Use and Land Cover Change (LUCC1) For Southeast Asia

This project, conducted in Southeast Asia over two years, had a number of accomplishments: (1) the installation of hardware and software in Cambodia, Laos and Viet Nam, (2) acquisition of satellite data, (3) training of researchers in Land Use and Land Cover Change (LUCC) methodologies, and (4) an advance-training workshop on ETM+, SPOT VGT and LTM models. Draft country reports were coordinated and compiled. In the second year, there was a follow-up workshop that generated a LUCC Southeast Asia LUCC-SEA Synthesis Report, the publication, of which, was fully funded by the APN. This project also contributed to the LUCC Focus 2 Project (Land Cover Dynamics) and its interaction with terrestrial ecosystems and biodiversity in Southeast Asia, particularly in large-area rapid assessment of forest cover, networking through the Southeast Asia Research and Information Network (SEARRIN), and capacity building for remote sensing, geographical information systems and modelling skills. The network today has more than 60 researchers registered, maintains a web site, and the strength of the network continues to grow. This project, together with a number of other APN-sponsored projects, also helped establish the APN's first publication in its syntheses series entitled "Land Use and Land Cover Change in the Asia-Pacific Region: an Initial Synthesis."

The APN provided US\$ 98,700 over two years. Participants came from Cambodia, Indonesia, Laos, Malaysia, Philippines, Thailand, and Viet Nam. All implementing agencies contributed to the research activities in the form of providing researchers, laboratory services and office support.

¹ The term is adopted from the IHDP-IGBP Core Project on LUCC.

Project Set 7; Project Reference Nos.: [1998-07](#), [1999-02](#)

Land-Use Systems in Temperate East and Central Asia

This project's main focus was an international Symposium which was attended by over 40 international and 60 Mongolian Scientists. As a result of the symposium, close working ties between the SARCS and TEACOM regional networks of START were developed. The work focused on the full range of the APN's goals, including the development of advanced remote sensing monitoring of inter- and intra-annual greenness for the assessment of forage and range quality, support to sustainable management of rangelands, and networking and capacity building. The project provided fora for regional and international scientists to share information and develop a stronger understanding of linkages between climate, ecosystems and human elements of the region. The project also facilitated the integration of the knowledge gained by different research groups of natural and social scientists, and identified policy products and knowledge gaps. As a follow-up activity, the APN funded in early 2004, an international workshop on global change, sustainable development and environmental management in Tashkent, Uzbekistan.

The APN provided US\$ 90,850 for this project. Participating APN-member countries included Australia, China, Japan, Mongolia, Republic of Korea, the Russian Federation and the USA. MEDIAS-France supported participants from France and from the Central Asian countries of Kazakhstan and Uzbekistan. START supported TEACOM members. Some participants from Germany and the United Kingdom were self-funded. The U.S. National Science Foundation and the U.S. National Aeronautics and Space Administration (NASA) provided project funding.

General Global Change and Cross-cutting Projects

Project Set 53; Project Reference No.: [2002-06](#)

Third International Human Dimensions Workshop - Human Dimensions of Urbanisation and the Transition to Sustainability

Rapid urbanisation in the Asia-Pacific region without clear strategies causes many problems for human well-being. By sending young scientists from the region to an IHDP workshop in Bonn, Germany, on Urbanisation and Transition to Sustainability in June 2002, this project introduced many young scientists to this pressing issue and initiated a network of researchers that was expanded following the next workshop. Many of the young scientists who were invited continue their research work in global change. APN support allowed this project to establish, develop and sustain research capacity in the region.

The APN provided US\$ 25,000. Participants came from Australia, China, India, Indonesia, Japan and Malaysia. About US\$ 122,000 in other funds came from START, IAI, IHDP, and a German foundation.

Project Set 55; Project Reference No.: [2002-08](#)

Training Workshop for the Pacific Island Countries to Enhance Skills in Global Change Negotiations and Synthesis Activities

Negotiators in Small Island Developing States (SIDS) are not always well informed and possess limited knowledge on the science and impacts of climate change, although such knowledge is essential for them to engage effectively in dialogue and negotiations relating to climate change. This workshop succeeded in transferring to negotiators and advisors, from nine countries, the much-needed knowledge summarised in the Third Assessment Report of the IPCC, such as vulnerability assessments of the region and policy measures to respond to changes. It also built their capacity to synthesise information for national communications to the United Nations Framework Convention on Climate Change (UNFCCC). This workshop has

been regarded as a best practice activity to interface regional scientific outcomes with decision-making processes, and to build capacity to respond effectively to international requirements.

The APN provided US\$ 40,000. Participants came from the Cook Islands, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tuvalu and Vanuatu. One participant, from Grenada (Caribbean), was funded by the Caribbean Community Secretariat, (CARICOM). The Fijian participants were mostly self-funded. Resource people came mainly from Australia, Japan, New Zealand, Pacific Island Countries, Sweden and the USA.

Project Set 63; Project Reference No.: [2003-07](#)

The First International Young Scientists Global Change Conference. Trieste, Italy, 2003

The First international Young Scientists' Conference succeeded in inspiring many young scientists. It gave them the opportunity to make contact directly with eminent scientists, including Nobel laureates, who are on the forefront of knowledge in global change research. It also stimulated competition among the younger generation of scientists in developing countries. The conference was initiated by the Earth System Science Partnership (ESSP) and organised by START in close collaboration with other global change research programmes, the APN, the International Council for Science (ICSU) and the Academy of Sciences for the Developing World (TWAS). The conference has established a network of enthusiastic young scientists. Relationships at the global and regional levels were established in some cases and strengthened in others. The research capacity, particularly of the young and emerging scientists within the Asia-Pacific region, was strengthened by this project.

The APN provided US\$ 70,000. Participants came from Australia, China-Taipei, Fiji, India, Japan, New Zealand, Pakistan, Philippines and Thailand.

Appendix 3. Detailed Findings of Institutional Review

1. Framework Document and Status of the APN

The “Framework Document” (hereinafter referred to as “Framework”) is the culmination of extensive discussions that began at planning workshops in the early 1990s and continued until its adoption at the 7th IGM in 2002, in Manila, Philippines. The Framework now functions as the governing document for the APN, and its legitimacy arises from its adoption by the 7th IGM, the APN’s inter-governmental decision-making body. However, member countries did not engage in ratification procedures under their own national processes, and the document does not grant the APN any formal legal status. It should be noted, however, that member countries generally view this Framework as the simplest and most practical arrangement at present. Moreover, the current status appears to be consistent with the “Conclusion on the Further Development of the APN” (5th IGM, 2000, Islamabad), which supports “flexible and practical approaches.”

Nevertheless, according to responses from some members, this situation may be one factor that discourages some governments and institutions from formally recognising the APN, possibly limiting the APN’s ability to attract funds, to foster a sense of commitment from member governments, and to contribute to policy processes. Some members have expressed the view that a more formal arrangement would be desirable in the future.

If members develop a greater desire to pursue formal status for the APN in the future, much can be learned from case studies of other institutions and networks in the Asia-Pacific region, and it will also be important to weigh the advantages (e.g., greater recognition and national commitments) and disadvantages (e.g., less flexibility) of more formal status. All considered, it appears that the current status will be the most appropriate for the next few years, and that it would be better to focus attention on the content and results of the APN’s activities than to seek major changes to its formal status (although some changes are desirable to the content of the Framework, as described below).

2. Review of the Functioning of APN’s Organs

2.1 Inter-Governmental Meeting (IGM)

The Framework describes the IGM as the APN’s “general policy and decision-making body” and describes its mandate with items such as “sets policy for the programmes, finances and other activities of the APN; adopts rules and procedures of the APN; and identifies, approves and keeps under review implementation of long-term plans, including the Strategic Plan.” This evaluation concludes that the IGM has been fulfilling the basic functions of its mandate.

The IGM has met annually since 1996, for a total of nine times to date. The 5th through to the 8th IGM sessions were held back-to-back with the Scientific Planning Group meeting, and in recent years, the SC has also met immediately before or after the IGM. The 9th IGM was the first time a combined IGM and SPG was held with a joint agenda. This format was intended to promote dialogue between policy-makers (IGM) and scientists (SPG). Combined costs of IGM, SPG and SC meetings over the past five years averaged about US\$ 100,000 per year, which is equivalent to 5 percent of the current annual budget.

Under the Framework, “each member country appoints a national Focal Point, who coordinates *national activities* relating to the APN and participates in the annual IGM.” The appointment is usually done by a ministry most closely related to global environmental issues.

This review raised the following points:

- The Framework should be revised to strengthen the mandate of the IGM, particularly the role of the national Focal Points. The APN would benefit greatly by more active involvement of Focal Points (FPs) and their governments. For example, there needs to be improved communications, intersessionally (i.e., throughout the year), between the APN national FPs, SPG members, Liaison Officers and national scientists and policy-makers. Moreover, the APN national FPs should be more active in developing new APN activities, attracting additional funds for the APN and disseminating the outcomes of activities of the APN and other global change partners in their respective countries and sub-regions.
- Positive changes have been made to boost the efficiency and impact of IGM meetings, and, of course, improvements should continue. There are significant costs of holding an IGM in terms of time (i.e., for all participants, about a week each year, including travel time; for the Secretariat, several months of preparation and follow-up), financial (as stated above, about US\$ 100,000 each time). The APN should continue to seek ways to reduce its environmental footprint (CO₂) emissions for travel, paper consumption for documentation, etc.) and fiscal costs while maintaining the functions. Possible options include the idea of a bi-annual IGM, combined with other changes to ensure that the other decision-making functions continue efficiently. However these costs need to also be balanced against other benefits, such as the value of personal communications and networking that builds and strengthens the network.

2.2 Scientific Planning Group (SPG)

The SPG has met annually since 1996. The Framework states that the SPG is the scientific advisory body to the IGM, and that among other things; it “recommends a scientific programme including proposals for priority of funding and allocation of current available funding for consideration by the IGM.” Based on a review of documentation, discussions and decisions to date, the SPG has been fulfilling its mandate.

Under the Framework, each APN member country appoints a scientist who acts as the scientific contact in the respective country and participates in the annual Scientific Planning Group meeting. Two of the most time-intensive functions of the SPG members are rating proposals under the “Annual Regional Call for Proposals” process, and attending the SPG meeting. Besides the SPG members appointed by member countries, international organisations and research institutions involved in global change research and programme activities related to responses to global change are typically invited to send observers to SPG meetings.

This review raised the following points:

- The APN should constantly consider ways to minimise the burden on SPG members while maximising the benefit of their expertise and contributions. For some, the annual review of proposals under the call for proposals consumes approximately one week, sometimes requiring the SPG member to do the work in their personal time. If one also counts approximately a week for preparing for, travelling to and from, and attending the IGM/SPG meeting, the time commitment to the APN is considerable.
- Further discussion about the “Small Group” also requires some attention. This group was first established for practical purposes at the 3rd SPG meeting in 1998, in Canberra, Australia, and now prepares a recommendation for the annual SPG meeting regarding the selection of APN-funded projects under the competitive proposals process, which then discusses and makes a recommendation to the IGM. The Small Group was necessary to handle the large volume of information involved in processing proposals. Some members have expressed the view that this Small Group should be formally designated in the Framework, that some revisions may be needed to the Small Group to ensure fair representation, and that the APN’s current conflict-of-interest policy should

be reviewed to ensure transparency.

- It was felt that SPG members could be more active, intersessionally, at disseminating APN project information and global change research activities to their national scientific communities. Stronger links also need to be forged between the scientific and policy-making communities, particularly when it comes to identifying national research priorities and the development of science based tools for policy development. SPG members also need to recognise the opportunity they have to nurture the development of capacity building proposals under the CAPaBLE Programme, as well as regional research proposals to be submitted under the call for proposals process. There also needs to be more effective communications between SPG members, national FPs, Liaison Officers and Principle Investigators of APN funded projects.

2.3 Steering Committee

The Steering Committee (SC) has met annually since 1996. The Framework states that among other things, the SC “acts on behalf of the IGM during the period between the IGM sessions.” Based on a review of documentation, discussions and decisions to date, the SC has been fulfilling the general tasks of its mandate.

With the following particular items in the SC’s mandate, however, more results would be desirable, particularly the following items: (a) “developing funding for the APN and its programmes and activities by encouraging member countries to contribute funds or in-kind support”, (b) “exploring funding from international agencies and the private sector”, (c) “assisting those research activities with relevant counterparts of international agencies, and seeking their support, including through funding”, and (d) “encouraging regional cooperative action among research organisations, as a basis for mobilising existing resources, and for taking advantage of resources from outside the region that may be available for support of APN’s programme.” The SC currently consists of five members: the Focal Point of the preceding IGM, the Focal Point of the next IGM, the two SPG co-chairs, and the Director of the Secretariat.

This review raised the following points:

- Changes may be needed in order to strengthen the mandate, structure, and composition of the SC. The APN needs this committee to play an important role in the twelve months between IGM sessions in promoting the APN network based on a long-term vision, ensuring efficiency and impact of all activities, and seeking and responding quickly to opportunities. At present, the SC’s structure means frequent change in its membership (in practice each member has changed about every two years), and it essentially functions as a body to plan IGM and SPG meetings. This means that it is now structured with a focus on meeting preparations and logistics rather than on truly “steering” the APN in a strategic sense in the period between IGM meetings.
- The current Ad-hoc Resources Development Committee (RDC) under the SC (see Section 4.2 of the main report) may be the best body to address the need to increase financial resources during the coming years, but to do its work this committee needs to be established with a clear mandate and strategic approach.

2.4 Liaison Officers

Under the Framework, the APN Liaison Officers are appointed to “act as regional representatives” of the APN in Oceania, South Asia, Southeast Asia, and Temperate East Asia, and to “coordinate the flow of global change information.”

Their tasks are to contact Project Leaders of APN-funded activities; represent the APN at APN-funded workshops and symposia and other global change research events in their respective regions; establish and maintain regular contact with national Focal Points and SPG

members; represent the APN in the region; attend and report at SPG meetings; monitor global change research in the region, report to the Secretariat and write for the APN Newsletter; and facilitate communications between the APN and the START Regional Committee. In 2004, the total cost for Liaison Officers was about US\$ 31,000 per year, and about US\$ 228,000 has been spent for this function since it began in 1997.

This review raised the following points:

- Liaison Officers (LOs) have generally done a good job of monitoring and reporting on global change activities in their regions, although in some cases more attention needs to be paid to regional activities and not just the activities of one or two major countries in the region.
- The 10th SC meeting noted that if this level of funding is to continue, the APN needs to ensure an effective strategy for LO selection and responsibilities that also represents value for money. The following points were noted:
 - The LO Terms of Reference should be revised to be more effective.
 - The LO selection process should be reviewed to identify possible improvements.

2.5 Secretariat

The Framework states that the Secretariat is to (a) “carry out the day-to-day operations of the network,” (b) “provide secretariat support to the organs of the APN,” and (c) “implement IGM decisions.”

In reality, however, over the years, as the APN has evolved, increasing responsibilities have been placed on the Secretariat to implement its mandate—responsibilities that are much more extensive than suggested in the Framework. Moreover, as the IGM convenes only once a year, the Secretariat relies on SC support to offer guidance with regards to major issues that need immediate action. Some of its tasks include organising and supporting the IGM, SPG and SC meetings; implementing and coordinating the ARCP competitive process cycle; implementing the CAPaBLE programme and its associated activities; implementing other networking and capacity building activities; managing synthesis projects, publishing the quarterly newsletter, annual reports, and other documents; managing the website; coordinating the work of the Liaison Officers; communicating with members and other stakeholders; managing financial affairs; travelling to represent the APN at APN-funded project workshops and events as well as important meetings of the global change community; and liaising with and reporting to sponsors, etc.

Staff numbers have gradually increased along with the growing work load. The Secretariat staff grew from the equivalent of about 1.5 persons (no one was full-time, including the Director) in 1996 to the equivalent of about 3.5 persons (all still part-time) in 1999, and seven persons (all full-time) in April 2004. In response to one recommendation in the Strategic Plan (1999-2004), the Director of the Secretariat became a full-time position in July 1999. Though changes in the Director have been less frequent since 1999, the Secretariat now has its third Director since that year, for an average term of 20 months. In 2000, a position was created for a Programme Manager for Scientific Affairs. And in the autumn of 2004, two Programme Fellows joined the staff for nine-month periods (one person from the Philippines and one from Thailand).

The total of about US\$ 3.5 million was spent over nine years on administrative expenditures (of which salaries and related expenses account for about US\$ 1.9 million), which amounted to US\$ 465,000 in FY 2004/05.² (See also section 4.1 on in-kind contributions from the

² It should be noted that any comparison of administrative versus programme costs requires a careful look at specific budget details, as different organisations have different criteria for classification of these costs.

Hyogo Prefectural Government for the Secretariat, amounting to US\$ 322,000 in FY 2004/05.) The Secretariat has made an effort to be cost-conscious, such as by deciding to halt the hard-copy printing of the quarterly newsletter and to publish only in electronic format. Nevertheless, the administrative costs are still relatively high in comparison to the programme budget, and further efforts are needed to address costs. Another way of viewing this is that the administrative costs currently represent the minimum level required to provide the service needed, and that rather than cutting these costs, the programme budget needs to be increased.

It should be noted that with the Secretariat now under the administrative umbrella of IGES, the APN's finances will undergo an annual external audit with its financial results considered along with those of IGES. This seems to be a cost-effective approach to auditing and since this audit is of approved international standards, it is expected that it will meet the needs of potential funders.

This review raised the following points:

- The Secretariat is functioning effectively, fulfilling its mandate, and supporting the APN network well.
- The Secretariat staff appears to be working under an extremely heavy work load. In the long-term, this requires serious attention to several aspects, including (1) balance between the APN's core activities, as well as the design of these activities (e.g., ARCP process and the CAPaBLE Programme) so that the APN can achieve its mission most efficiently; (2) securing adequate financial and personnel resources for the Secretariat; (3) possibly the need for more programme staff even for the current level of activities; (4) a system of staff development, training and evaluation, and more consideration of working conditions to ensure stable long-term employment (and thus, "institutional memory"); (5) a system to prioritise and select which events and activities should be attended; and (6) further consideration of points raised at the Secretariat's "goal oriented project planning" meeting in the summer of 2003, which identified other key issues.
- The Secretariat's mandate in the Framework should be revised to reflect the importance of its role more accurately. The SC should be given a greater role in supporting the Secretariat and providing oversight for management, finances, planning, review and evaluation, i.e., truly act as an "SC."
- Some consideration should be given to a formal job description and performance measures for the Secretariat Director. In similar international organisations, the role of Director often involves the functions of representation and fundraising, selection is done by competitive process, and the tenure is for several years. If this is not possible under the current arrangement, in the future it may be worth creating two separate roles, one to raise funds and represent the APN internationally, and one to manage the Secretariat.
- To "practice what it preaches" it might be advantageous for the Secretariat to formulate a comprehensive environmental policy, including the use of green energy certificates to power the Secretariat office, carbon accounting and offsets for overseas travel and major meetings, and introduction of an environmental accounting system for small offices.
- The Secretariat should prepare an annual "business plan" or "operational plan," in addition to the standard financial plan, for approval by the SC or IGM, and should report periodically to the SC on progress.

3. APN Member Participation and Sense of Ownership

Over the years, national Focal Points and SPG members have generously contributed their time and experience to develop the APN and guide its decisions. A consensus-based approach has over the years resulted in a network that is now functioning smoothly.

During the APN's formative stage, initial contact with member governments was at a high

diplomatic level (through Ministries of Foreign Affairs). As discussions became more concrete each member country appointed a national Focal Point, who generally held a post in a department within a national ministry related to one of the global environmental change issues. Subsequently, when a person's post changed, the department would usually appoint the successor to be the APN Focal Point. According to the APN Framework, these Focal Points "coordinate national activities," although it is not exactly made clear what these activities should be.

To function as an inter-governmental network, member governments would ideally see the APN positively as a shared network belonging to all member countries and be actively engaged to ensure that the APN reflects common regional priorities on global change issues. To do this, as an example of one member country's approach, the APN Focal Point sits within the ministry of science and technology, and the government has established an inter-ministerial committee that exists to share information on global environmental issues. This APN Focal Point has the opportunity to report periodically at the monthly meetings and gather input on issues important for the APN.

This evaluation found that some changes would be desirable to boost member participation and sense of ownership in order to strengthen the network. Responses suggested that member governments have differing levels of recognition and expectations about the APN. In some cases, communications and interactions between members and the APN in the months between the annual meetings are quite limited. In addition, there is somewhat of a disparity of views regarding funding; most members believe that the APN's science programme budget should be larger, but while some countries hope that all members will contribute funds, others at present have no intention of doing so.

This review raised the following points:

- The APN should clarify what "national activities" Focal Points could be asked to do during the year. To strengthen the APN as an inter-governmental network, member governments and their Focal Points might be able to be more proactive within the APN, not only at IGM meetings but throughout the year.
- Greater involvement of Focal Points and their governments might strengthen the APN's potential to contribute to policy-making processes.
- A better sense of ownership may also improve the APN's chances of attracting contributions and resources from members and other sources.
- Members might do well to share more information about each other, facilitated by the Secretariat. Information collected for this review would provide a good start, and could be updated annually. For example:
 - Does the country have an inter-ministerial committee on global change?
 - What bodies determine national science policy relating to global change?
 - What institutes are relevant to the APN?
 - What are the current national policies and priorities relating to global change?
 - What is the total research budget for this field?
 - What is inhibiting investment in the APN?
 - What specific science based issues can develop policy that the member country would be interested in?
- Also, a basic information package (paper or on-line) might be useful for members, including the history of persons who have held Focal Point or SPG posts in the past, and relevant projects currently being conducted in the given country.
- Special APN "orientation" sessions at IGM and SPG meetings for newly appointed persons appear to be an excellent way to gain personal understanding of the APN, especially after Focal Points and SPG members from a country change.
- Obtaining formal legal status as a network of governments in the Asia-Pacific region may improve the APN's recognition and member governments' sense of "ownership," although this status should probably be seen as a long-term goal.

- Members should see the APN as a vehicle that gives them the opportunity to suggest creative or new activities on shared issues in the region, and these activities do not necessarily have to be part of the ARCP process.
- It is important to emphasise that the APN is a network truly shared by the whole region. As an important step in this direction, it has been suggested that an international domain (".org" for example) for the APN website would be more appropriate than the current domain of ".jp" (Japan) to show that APN is an international organisation.

4. Relationships with Key Partners

The First Strategic Plan contains a section entitled "The Partnership Approach" stressing the importance of working in partnership with other organisations involved in global change research. The APN believes that this partnership is essential to maximise the resources available and to deliver the best possible results.

The APN works with partners in a number of ways. One criterion for selection of projects for funding is "developing and strengthening relations with regional and international global change programmes." In addition, representatives from key partner organisations are invited as observers of the SPG meeting. Among others, key partners include the global change programmes (DIVERSITAS, IGBP, IHDP, and WCRP) and their ESSP, the APN's sister network, the IAI, and capacity building organisations such as START. Collaboration has primarily been through APN-funded activities, including joint research projects, scientific capacity building, international conferences, scoping workshops, and the development of networks of scientists.

The international programmes generally see the APN as a partner that can build scientific capacity in developing countries and this includes encouraging developing countries to indicate their own priorities within the international research framework. In the field of climate research, for example, collaboration is seen as particularly valuable in the area of regional climate variability and change, including regional analyses of climate data and identification of indices for monitoring trends and indicators of climate extremes; the use of regional climate models for climate impact and other studies is also seen as important.

This review raised the following points:

- The APN should be even more proactive and seek deeper dialogue with each of its partners, particularly through the core projects of the four global change programmes and their ESSP. The programmes view some APN-funded activities as excellent models for collaboration, such as the project on "Indicators and Indices for Monitoring Trends in Climate Extremes." The APN's approach to date has generally been to wait for proposals under its proposals process, but a more proactive approach might now be appropriate.
- START has been a key partner throughout the evolution of the APN and both organisations are closely linked. As both organisations evolved since the early 1990s, it would be appropriate to discuss constructive changes that will help both to achieve their objectives with the greatest synergies in the Asia-Pacific region.
- When appropriate, the APN might consider entering into formal arrangements with partners through exchanges of letters or memoranda of understanding.
- The APN should expand its partnerships with newcomers to the issue of global change. Many entities with a serious concern about global change have become involved in both the science and policies relevant to global change. Opportunities are constantly emerging to find new synergies with other entities (whether they be national or sub-national agencies, corporations, universities, institutes, etc.) for funding, research, and network-building. One example of a potential partner is the Academy of Sciences for the Developing World (TWAS). This requires an active system of gathering information and using it within the APN network (described in Section 3.6 of the main report and Section 6 of this Appendix).

5. Annual Regional Call for Proposals (ARCP) Process

This section addresses institutional matters relating to the Annual Regional Call for Proposals (ARCP) competitive process, which has become the main pillar of the APN's activities (scientific aspects have been covered in Section 2 of the main report). Below are some basic statistics for results to date (6 years, from April 1998 to March 2004, not including the projects approved in March 2004):

- Total number project sets: 66 project sets
- Total funding support: US\$ 5.1 million
- Proposals received each year: Average 68 proposals
- Projects funded each year: Average 13 projects
- Percent funded each year: 19% of proposals
- Average amount funded for each project set: US\$ 77,300

The process of the call for proposals consumes more resources than any other activity of the APN. It is, however, to be expected due to the importance of the competitive funding process in the APN's activities. The time spent and money required for the involvement of the SPG members (reviewing proposals, attending meetings), "Small Group," Focal Points and the Secretariat to support the annual cycle of tasks in the call for proposals is the reason for such resource consumption.

Over the years, the entire process has been refined and streamlined to reduce the burden on everyone involved. A questionnaire issued to the Project Leaders of the 66 projects funded by the APN since 1998 asked them to evaluate the process based on such aspects as (1) burden on time for proposing and reporting, (2) clarity of instructions, (3) efficiency of processing, (4) support from the Secretariat, and (5) conditions and restrictions on funds. The investigators rated the APN favourably, with 80 to 90 percent of the responses saying that the APN was "good" or "excellent" compared to other funders.

This review raised the following points:

- The APN should monitor the amount of time and financial resources put into the ARCP process, in the context of the entire budget and all activities. Whatever the size of APN's overall budget, it will be important to make a conscious allocation of resources for this process vis-à-vis other activities that could also help the APN to fulfil its mission.
- The ARCP is constantly evolving, and the APN should continue to seek ways to streamline it further.
- While it is important to have a clear selection criteria to guide which project proposals will receive funding, in special cases it may be worthwhile to allow some flexibility within the criteria, as well as with restrictions placed upon funding for projects. While the APN does aim to benefit the entire region it is important to recognise that the needs of different countries could be quite different from each other (compare the Pacific Island States, Mongolia, and India, for example). The exclusion preventing the payment of salaries from APN funding is another topic that members are concerned with.
- The APN should continue to track the number of proposals coming from each member country to ensure that all members are involved and benefiting from scientific capacity development.

6. Communications Issues (Media Coverage, Information Gathering and Dissemination)

Goal 2 of the APN includes the words to "*provide scientific input to policy decision making and scientific knowledge to the public.*" Media coverage is an important way to reach all parts of society; not only the public but also policy-makers. Although during its first phase, the

APN did not make a major effort to reach out to the media, reporters did on occasion seek information from Liaison Officers, APN-funded researchers, and the Secretariat. Examples of coverage in 2003/04 include an APN/UNEP/MEDIAS-France symposium in Uzbekistan (covered by radio, television and newspapers), a project in Thailand that received front page newspaper coverage in Bangkok, and coverage about the APN at the Pacific Islands Forum, including a presentation to the Japanese Prime Minister and Pacific Island leaders. In addition, one outstanding project in 2003 included media training for scientists.

The modern information-based society requires the skilful handling of information, and this is all-the-more essential in the field of global change science and policy.

A systematic approach is needed for communication and information flows, both inbound and outbound. Key components of a comprehensive “information and communications plan” might include:

- (1) Basic elements to convey a clear and consistent image (e.g., a style handbook, a slogan, etc.).
- (2) Information collection on new developments in global change science, policy, and organisations (What information is strategically important for the APN, and who is to collect it?).
- (3) Information handling (How is the information to be used—e.g., to identify opportunities for funding or partnership; to identify important events; to better understand the policy priorities and needs of member countries, etc.?).
- (4) Information dissemination (e.g., not only through the APN newsletter and website, but also other means such information provision to the media; pro-actively encouraging peer-reviewed publication of research results; supporting scientists to be more proactive with the media, etc.).

The APN should also examine the need for, and provision of, information “products” that are demanded in the region. For example, the Secretariat is in the process of preparing a Directory of Global Change Agencies and Organisations in the Asia-Pacific Region, which should be published, and improved, on an ongoing basis (e.g., expand to include regional bodies such as UN-related and regional bodies relevant to science and policy like ASEAN, the Asia-Pacific Economic Cooperation forum (APEC), etc.).

Appendix 4. Asia-Pacific Network for Global Change Research—Financial Summary 1999 to 2004

	1996	1997	1998	1999	2000	2001	2002	2003	2004	Cumulative	%
1. INCOME											
Ministry of the Environment (Japan)	623,000	913,000	970,000	1,194,000	1,210,000	1,112,000	1,102,500	1,525,000	1,440,000	9,995,500	70.3%
Hyogo Prefectural Government				285,700	230,800	230,800	261,000	299,000	305,000	1,611,300	11.3%
NSF/Climate Change Science Program (USA)	75,000	165,000	250,000	325,000	308,750	328,400	340,300	330,000	380,000	2,452,450	17.3%
Environment Australia through Australian Greenhouse Office					4,600			17,200	21,000	42,800	0.3%
Ministry of Foreign Affairs and Trade, NZ / New Zealand Climate Change Office								5,200	6,000	11,200	0.1%
Others			15,400		32,700	55,400				103,500	0.7%
Income Total	698,000	1,078,000	1,235,400	1,804,700	1,786,850	1,726,600	1,704,000	2,176,400	2,152,000	14,216,950	100.0%
Exchange Rate US\$ 1.00 to JPYen	125	125~134	130	105	130	130	135	125	115		
2. EXPENDITURES											
A. Scientific Activities											
Funded Activities	295,000	548,000								843,000	5.9%
Approved Projects from Regular Call for Proposals including Contingency Fund Partnership			724,000	984,000	927,000	904,600	847,300	740,000	760,000	5,886,900	41.4%
Activities/Inter-Regional Collaboration		77,000		18,000		100,000	52,000	40,000		287,000	2.0%
Travel for Scientific Activities				34,000	54,100	36,500	12,000	14,000	30,000	180,600	1.3%
Networking and Capacity Building		20,000			63,000	24,000	45,000			152,000	1.1%
- CAPaBLE Capacity Enhancement (MOEJ)								240,000	191,000	431,000	3.0%
- CAPaBLE Capacity								243,000	270,000	513,000	3.6%

	1996	1997	1998	1999	2000	2001	2002	2003	2004	Cumulative	%
Building:											
Internship/Programme Fellowships									21,000	21,000	0.1%
Hyogo Prefecture Projects				131,400	94,000	106,000	95,000	43,000	67,000	536,400	3.8%
Evaluation/2nd Strategic Plan and Local Outreach Meeting								42,500	22,000	64,500	0.5%
Scientific Planning Group and Inter-Governmental Meetings	190,000	205,000	150,600	102,200	108,500	91,500	79,000	120,000	110,000	1,156,800	8.1%
APN showcase actions									4,000	4,000	0.0%
Liaison Officers		24,000	18,500	40,000	32,600	26,500	23,700	31,500	31,000	227,800	1.6%
Project Coordinators		12,000								12,000	0.1%
Publications											
Newsletter	300				13,000	13,500	8,700	13,600		149,000	1.0%
Website Management	24,400	4,000	37,500	62,400	6,000	6,000	6,000	7,000	2,000	55,400	0.4%
Printing	22,300				28,000	25,000	21,000	53,400	34,000	183,700	1.3%
Renewal of APN English Website							34,500			34,500	0.2%
Sub-total	532,000	890,000	930,600	1,372,000	1,326,200	1,333,600	1,224,200	1,588,000	1,542,000	10,738,600	75.5%
B. Administrative Expenses & Secretariat Activities											
Travel for Administrative Purposes	24,000	48,000	36,000	31,000	16,200	15,000	32,500	32,200	21,000	255,900	1.8%
Salaries and Related Charges	128,000	80,000	149,800	169,500	249,000	191,000	213,000	271,600	275,000	1,726,900	12.1%
Insurance				13,200	23,500	22,000	36,000	42,000	42,000	178,700	1.3%
General Office Expenses				31,400	19,700	12,500	14,000	21,400	15,500	114,500	0.8%
Office Equipment				25,400	45,400	40,000	28,000	30,000	28,000	196,800	1.4%
Interest on Loan				21,000	8,700	8,000	7,500	8,700	1,500	55,400	0.4%
Tax				55,000	62,300	78,000	65,000	74,000	6,000	340,300	2.4%

	1996	1997	1998	1999	2000	2001	2002	2003	2004	Cumulative	%
Bank Charges					1,900	2,000	1,600	2,600	2,000	10,100	0.1%
Miscellaneous				5,500	8,150	2,500	1,000	4,300	2,500	23,950	0.2%
Communications, Postage	14,000	24,000	20,300	30,700	25,800	22,000	14,500	24,000	26,000	201,300	1.4%
APN Contribution to AIRIES/IGES Overhead			98,700	50,000			66,700	77,600	45,500	338,500	2.4%
Others		36,000								36,000	0.3%
Sub-total	166,000	188,000	304,800	432,700	460,650	393,000	479,800	588,400	465,000	3,478,350	24.5%
Expenditures Total	698,000	1,078,000	1,235,400	1,804,700	1,786,850	1,726,600	1,704,000	2,176,400	2,007,000	14,216,950	

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