ASIA-PACIFIC NETWORK FOR GLOBAL CHANGE RESEARCH

PROJECT BULLETIN

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APN
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APN Project Bulletin
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Preface

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

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

Changes in the Earth system are clearly impacting the societies and economies of the countries within the Asia-Pacific region. These countries support more than half of the world's population. Recent research and supporting observations have provided new insights into some of these changes and their impacts, but have at the same time opened a number of new and challenging scientific issues. The APN seeks to identify such emerging issues and to promote and encourage regional cooperative research to address these. In doing so, the APN assures that the results of this research contributes to the development of a sound scientific base for decision- and policy-making related to issues for which global change is an important factor.

As part of its dissemination activities, the present publication outlines abstracts of currently-funded activities in the APN under its Annual Regional Call for Proposals (ARCP) and its Capacity Development Programme, CAPaBLE.

The APN supports and encourages the dissemination of the information contained in this publication and specifically notes that the potential results of the present research and capacity development activities can facilitate policy development relating to Global Change in the Asia-Pacific Region.

This publication is also available on the APN website
www.apn-gcr.org

Secretariat
Asia-Pacific Network for Global Change Research (APN)

Section One:
Projects funded under the Annual Regional Call for Proposals (ARCP)

1.1 APN2005-01CMY-Nikitina

Project Title: Institutional Capacity in Natural Disaster Risk Reduction: A Comparative Analysis of Institutions, National Policies, and Cooperative Responses to Floods in Asia

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APN Funding: US $45,000 (US$ 35,000 received in 2004)

Project Summary

IFA (Institutions Floods Asia) is aggregating and comparing results of case-studies (Bangladesh, Myanmar, Japan, Russia, Thailand and Viet Nam) in exploring the problem of "*How to strengthen institutional capacities and enhance their performance"* in floods risk reduction in Asia. It is assessing gaps between the *design* of existing institutions and their *action* at particular stages of flood management (before, during and after a flood). IFA compares and explains major successes and failures in performance of floods risk reduction institutions, and identifies common and specific problems across countries. It assesses domestic institutional frameworks and a variety of tools applied in practice to reduce risks of floods with a focus on disaster insurance and micro-finance. Lessons learned and good practices are discussed, and possibilities of their transfer and adaptation across countries are analyzed. Policy recommendations on how to reduce institutional vulnerabilities and to enhance performance of institutions towards greater human security against floods are being developed. While IFA has conducted activities on a broader scale than envisaged, it has yet to accomplish the whole set of items envisaged by its ambitious research protocol developed at the start of the project.

1.2 APN2005-02CMY-Sonak

Project Title: Role of Institutions in Global Environmental Change

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APN Funding: US$ 40,000

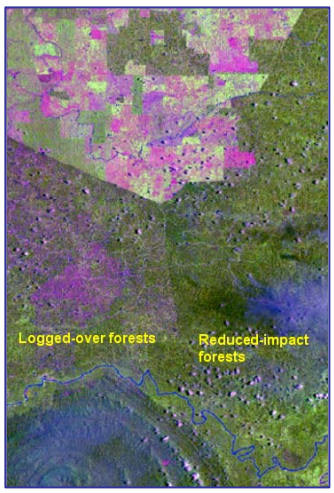
Above: Rubber plantation

Below: Sluice gate

Project Summary

The project assessed the role of institutions, especially the environmental and resource regimes operating at local level, in global environmental change. It investigated how the management of resources can be improved in the context of global environmental change by learning from a variety of management systems and their dynamics. It helped to build the capacity of local communities to adapt to global change through capacity building programmes. Project outcomes are as follows: conceptual frameworks showing feedbacks between ecological and human systems have been worked out for all five ecosystems; assessment of the impacts of environmental change on local communities in the selected five ecosystems is complete; analysis of the role of institutions (formal and informal), environment and resource management regimes in particular, operating at local level on global environmental change is being carried out; and capacity-building programmes for local communities in order to help them adapt to global change are being conduced in selected ecosystems. The project has been very successful and all major objectives of the project have been adequately addressed. There has been active participation of partners, as well as local communities, in most of the ecosystems under study.

1.3 APN2005-03CMY-Kitayama



Above: Aerial view of the project site: Deramakot Forest Reserve, Sabah, Malaysia.

Project Title: Synergy between Ecosystems Change and Biodiversity Studies in the Western Pacific and Asia: Establishing Case Studies for Carbon Management and Biodiversity Conservation

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APN Funding: US$ 39,000 (US$ 40,000 in 2004)

Project Summary

The Kyoto Protocol incorporates the vital role of forests and wetlands in its mechanisms to reduce greenhouse gases, favouring fast growing plantations. The Convention on Biological Diversity (CBD) emphasizes the conservation and sustainable use of forest and wetlands that harbour biological diversity. These two international frameworks need to be synergized to jointly achieve carbon sequestration and biodiversity conservation. Guidelines need to be developed without sacrificing these mutually exclusive requirements. This project aims at increasing the awareness and at disseminating the synergy concept through 1) organization of workshops, 2) the DIWPA network and 3) the establishment of a pilot case-study in Borneo. We focus on tropical rain-forest ecosystems that harbour rich carbon and biodiversity, yet are being converted to other land uses. The pilot project to demonstrate the importance of the synergy of carbon sequestration and biodiversity conservation was well established in the production forests of the Deramakot Forest Reserve in Sabah. The additionality of carbon gain and biodiversity conservation was evaluated by comparing with the baseline scenario. Preliminary results were presented at the 2nd international workshop and at the 1st Open Science Conference of DIVERSITAS in November 2005.

1.4 APN2005-04CMY-Snidvongs

Project Title: Integrated Regional Studies of Global Change in Monsoon Asia: Phase 1. APN/SCOPE/START Rapid Assessment Project of Global Change in Monsoon Asia

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APN Funding: US$ 45,000 (US$ 45,000 in 2004)

Project Summary

Monsoon Asia was identified by the ESSP (IGBP, IHDP, WCRP and DIVERSITAS) as a priority region for integrated research studies. Changes to the regional climate, biogeochemical, and terrestrial and marine ecosystem functioning brought about by human driving forces such as increase in population, intensified land use, urbanization, industrialization, and economic development may have global as well as regional consequences. Similarly, effects of global change will have a significant impact on sustainable development at both regional and national levels. Together with the ESSP, START and its regional networks in East Asia, South Asia and Southeast Asia are undertaking integrated regional studies of global change in Monsoon Asia. Supported by the APN and SCOPE, the integrated regional studies are being preceded by a first phase of three sub-regional Rapid Assessment Projects for China/East Asia, South Asia and Southeast Asia that is systematically reviewing current knowledge regarding regional aspects of global change in Monsoon Asia. It is expected that a series of book volumes primarily authored by regional scientists will be produced within one year of each project workshop.

1.5 APN2005-05CMY-Adrianov

Project Title: Climate Variability and Human Activities in Relation to Northeast Asia and their Land-Ocean Interactions and their Implications for Coastal Zone Management

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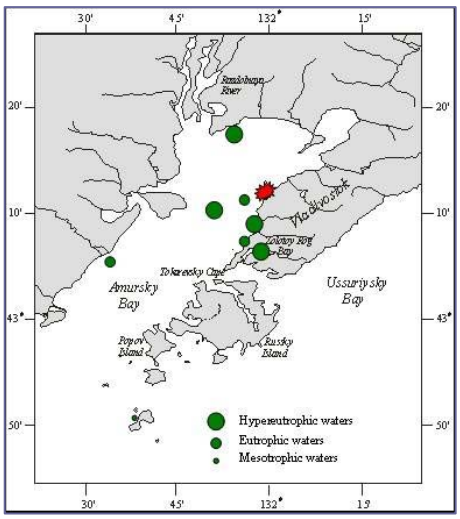
APN Funding: US$ 58,000 (US$ 60,000 in 2004)



Above: Eutrophication of Amursky Bay in 1990s (Stonik, Orlova 2004). The red star indicates the monitoring station.

Project Summary

The main objectives of the project are: to identify estuarine and coastal changes in the Northeastern Asia region, with particular reference to the Amur, Tumen and Razdolnaya rivers; to evaluate the sensitivity of regional changes in relation to anthropogenic processes and climate change; and to provide recommendations for sustainable coastal development management of the region. For this purpose, two expeditions to the Amur and Razdolnaya river- mouth areas were organized in summer 2005. New data on hydrological regime, oceanography, environmental contamination, and state of benthic and plankton communities were found to be linked with climatic change. A training workshop for young scientists and a seminar for local policy-makers were conducted in October, 2005. The project website was updated www.imb.dvo.ru/misc/apn/index.htm.

Below: Plankton sampling by young scientists.

A book entitled *Ecological Studies and the State of the Amursky Bay and Razdolnaya River Mouth Ecosystem*, is in preparation and is due for publication at the end of 2006.

1.6 APN2005-06NSY-Brigham-Grette

Project Title: PAGES Second Open Science Meeting

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APN Funding: US$ 25,000

Project Summary

Left: PAGES Second Open Science Meeting logo.

PAGES (Past Global Changes) 2nd Open Science Meeting (OSM), held in Beijing, China from 10-12 August 2005, was attended by 369 scientists from 45 countries, including 258 participants from 14 of the 21 APN-approved countries. The theme of the meeting was "Paleoclimate, Environmental Sustainability and Our Future" and focused on understanding past processes and natural variability to provide a knowledge base for the development of predictive models of future global change. It presented cutting-edge research within the topics of past climate, environmental change and human impact. The APN grant contributed substantially to the success of the meeting, enabling PAGES to boost attendance from many developing countries, as well as to cover some of the costs of key scientists. Overall, PAGES was very pleased with the OSM and what it achieved, and a third meeting, to be held in the USA, is planned for 2009. The OSM presented an extremely high standard of science in the plenary sessions, as well as a large number of noteworthy posters on a range of topics. Despite the size of the meeting, there were many possibilities for participants to interact, particularly allowing young researchers to exchange ideas with prominent scientists.

1.7 APN2005-07NMY-Ohtani

Project Title: Standardization and Systematization of Carbon-Budget Observation in Asian Terrestrial Ecosystems Based on Asiaflux Network

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APN Funding: US$ 25,000

Project Summary

The estimation of carbon budgets in terrestrial ecosystems is an urgent topic for climate change research and the implementation of the Kyoto Protocol. The micrometeorological approach has been the most common method in this study field; however, the technique has not yet been standardized nor fully diffused into Asian developing countries. We conducted an AsiaFlux Workshop in August, 2005 in Fujiyoshida, with key experts as well as young scientists from both inside and outside Asia attending. It was an excellent opportunity to understand the current situation and problems of each country, and the information was valuable for further promoting AsiaFlux activities. We also compiled a technical manual for Asian scientists with the aim of capacity building in methodology on flux observation and analysis. This manual will be used as a textbook in AsiaFlux training courses in 2006 and 2007. In conducting this project, we have been able to picture the current situation of carbon budget observations in Asian countries, particularly through the holding of the AsiaFlux workshop. The information gathered will help us to re-build the flux observation network in Asia, expanding to include some countries, such as India, where the network was previously unknown.

1.8 APN2005-08NSY-Shi

Above: Summer School Lecture

Project Title: The Surface Ocean – Lower Atmosphere Study (SOLAS) International Summer School 2005: Attendance of Young Scientists from the APN Region

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APN Funding: US$ 15,000

Project Summary

The 2nd SOLAS Summer School ran from the 29th August to the 10th September 2005 at the Institut d'Etudes Scientifique de Cargese, Corsica (France). 74 students of 29 different nationalities attended the Summer School, of whom six were funded by financial support from APN. This funding supported the students' travel and subsistence and registration fees for the school. Students were asked at the end of the Summer School to fill in an evaluation form. Of the 74 students who attended, 69 completed evaluations. Of these, 60% rated the school "excellent", 36% "good" and 4% "ok". None rated the school "poor" or "very poor". Students mostly found the Summer School a first rate learning experience and also found the opportunity to meet scientists from around the world a valuable and horizon-broadening experience. This was particularly the case for students from developing countries. SOLAS is delighted that it could support the attendance of the APN region's students through funding from APN and other sources. The SOLAS Summer School will run again in August 2007 and the participation of APN region students, as well as students from South America, Africa and other developing regions, will be encouraged.

Below: Summer School Trainees

1.9 APN2005-09NSY-Srivastava

Project Title: The 2005 Open Meeting of the Human Dimensions of the Global Environmental Change Research Community

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APN Funding: US$ 25,000

Above: Poster session during the 2005 Open Meeting.

Left: Plenary session during the 2005 Open Meeting.

Project Summary
The 2005 Open Meeting in Bonn was the 6th biennial international conference of its kind to take place, and with nearly 1,000 participants from 90 countries, also the largest to date. Thanks to the support from APN, there was strong representation from the Asia-Pacific region. Its title, "International Security, Globalization and Global Environmental Change," aptly reflected current global realities. In addition, the structure of the conference was deliberately chosen to address the main objectives of this meeting: developing the research agenda on human dimensions, identifying areas of future research, promoting capacity building and fostering the translation of scientific knowledge into the policy arena. The 6th Open Meeting was successful at its goals of strengthening IHDP's institutional alliances as well as broadening its funding base. A strong focus on interdisciplinarity and inter-regionalism encouraged new and innovative collaboration and comparison between and among previously disparate fields. A particularly successful side event was the embedded mini-conference for IHDP's National Committees. This meeting was well attended and all regions were represented. In this way, representatives from the Asia-Pacific region had numerous opportunities to network and exchange ideas.

1.10 APN2005-10NSY-Sheikh

Above: Opening of the Regional Workshop on Climate Extreme Indices and Indicators for South Asia, 2-6 January 2006, Islamabad, Pakistan.

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

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APN Funding: US$ 33,000

Project Summary

Climate extreme events are related to climatic variations whether natural or human-induced, which alter the frequencies, intensities and locations of extreme events. Any change in these variations would have profound impacts on socio-economic sectors potentially jeopardizing development goals related to water resources, agriculture, biodiversity and human health, etc. The project was thus needed in the South Asia region and was jointly initiated by GCISC and PMD in-line with the APN-funded projects already completed for Southeast Asia, Temperate East Asia and Oceania sub-regions of the Asia-Pacific by the Bureau of Meteorology Research Centre, Australia. The project expects to expand on the work carried out by Michael Manton, former APN Project Leader, and has two broad objectives: the first is to build and enhance the capacity of South Asian countries in the area of climate extreme indices and indicators and their socio-economic impacts; and the second is to promote the application of climate trend indicators for government policy development.

Below: Former Project Leader, Dr. Michael Manton, presenting to the workshop participants.

1.11 APN2005-11NSY-Bawa

Project Title: DIVERSITAS First Open Science Conference 2005: Travel Fund for Scientists from Developing Countries in the Asia-Pacific Region

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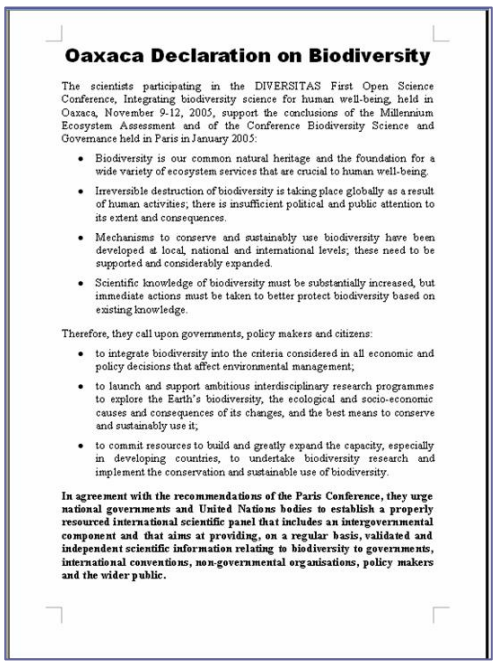
APN Funding: US$ 15,000

Project Summary

Funds were used for participants from the APN region to attend the first Open Science Conference of DIVERSITAS, in Oaxaca, Mexico, from 9th to 12th November 2005. The conference featured a mix of plenary lectures, symposia, oral and poster sessions, presented by invited speakers, as well as scientists selected from a call for abstracts on the three themes: 1) How is biodiversity changing, and why? 2) What are the consequences for ecosystems and for the delivery of ecosystem services? 3) What can we do to promote more sustainable use of biodiversity and improve human well-being? This was the first international conference of this type entirely dedicated to the many facets of biodiversity science. The conference was a success, attracting close to 700 scientists and policy-makers from 60 countries, including a large proportion of young scientists and participants from developing countries. It received wide press coverage with more than 100 press articles worldwide, and an editorial in Science, on the opening of the conference. New scientific knowledge was presented at the conference and a larger DIVERSITAS set of networks is emerging as a result of the conference.



Oaxaca Declaration on Biodiversity

The scientists participating in the DIVERSITAS First Open Science Conference, Integrating biodiversity science for human well-being, held in Oaxaca, November 9-12, 2005, support the conclusions of the Millennium Ecosystem Assessment and of the Conference Biodiversity Science and Governance held in Paris in January 2005:

- Biodiversity is our common natural heritage and the foundation for a wide variety of ecosystem services that are crucial to human well-being.
- Irreversible destruction of biodiversity is taking place globally as a result of human activities; there is insufficient political and public attention to its extent and consequences.
- Mechanisms to conserve and sustainably use biodiversity have been developed at local, national and international levels; these need to be supported and considerably expanded.
- Scientific knowledge of biodiversity must be substantially increased, but immediate actions must be taken to better protect biodiversity based on existing knowledge.

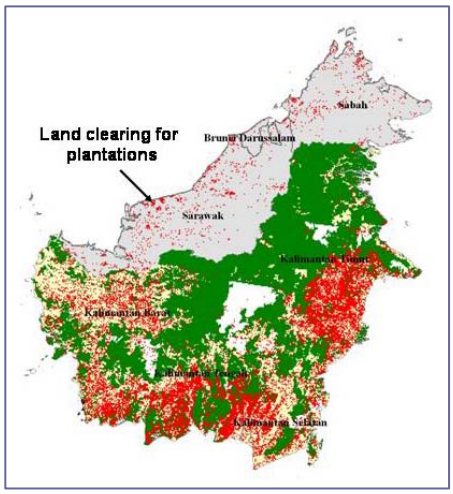
Therefore, they call upon governments, policy makers and citizens:

- to integrate biodiversity into the criteria considered in all economic and policy decisions that affect environmental management;
- to launch and support ambitious interdisciplinary research programmes to explore the Earth's biodiversity, the ecological and socio-economic causes and consequences of its changes, and the best means to conserve and sustainably use it;
- to commit resources to build and greatly expand the capacity, especially in developing countries, to undertake biodiversity research and implement the conservation and sustainable use of biodiversity.

In agreement with the recommendations of the Paris Conference, they urge national governments and United Nations bodies to establish a properly resourced international scientific panel that includes an intergovernmental component and that aims at providing, on a regular basis, validated and independent scientific information relating to biodiversity to governments, international conventions, non-governmental organisations, policy makers and the wider public.

Above: The Oaxaca Declaration on Biodiversity produced and adopted during the DIVERSITAS First Open Science Conference 2005.

1.12 APN2005-12NSY-Parish



Above: Fire occurrence on Borneo Island 1997-2004 (by Florian Siegert)

Project Title: Vulnerabilities of the Carbon-Climate System: Carbon Pools in Wetlands / Peatlands as Positive Feedbacks to Global Warming

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APN Funding: US$ 45,000

Project Summary

Ecosystem responses that cause carbon loss to the atmosphere as a result of warmer climates and land-use changes could greatly accelerate climate change during this century. Potentially vulnerable carbon pools that currently contain hundreds of billion tons of carbon could release as much as 200 ppm of atmospheric CO_2 during this century, so rivaling the expected release from fossil fuel combustion. This project is attempting to quantify the carbon content of one of the largest vulnerable carbon pools in the Earth system - tropical peatlands in the Asia Pacific region; analyze the risk of large releases of carbon over this century; and analyze the plausible impact on global warming. Main activities so far have included the establishment of a team of peatland and climate experts, the compilation of initial datasets, and workshop preparation on vulnerability of carbon pools in tropical peatlands (in Sumatra, Indonesia).

1.13 APN2005-13NSY-Lansigan

Project Title: Supporting Regional Capacity Contributions to LOICZ II Development at the IGBP/IHDP LOICZ II Inaugural Open Science Meeting, 27-29 June 2005

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APN Funding: US$ 15,000

Project Summary

The project provided support for regional scientists from natural and human dimension disciplines to contribute their expertise and knowledge of regional issues and needs into the scientific agenda of the first global forum of the Inaugural Open Science Meeting of LOICZ II. This project is also contributing to the future direction and agenda of LOICZ research and synthesis; and the drafting of a regional implementation strategy addressing the Earth System as well as regional coastal sustainability information needs. The meeting was attended by over 270 scientists from 52 countries and provided a vibrant and diverse forum for exchange and dissemination of global change science relating to the world's coastal zones. The workshops provided a series of status assessments coupled to the theme structure of LOICZ as well as an evaluation of future science needs. The APN's Coastal Zone Management Synthesis was also featured at the LOICZ Meeting. The keynote presentation at the Integrated Coastal Management Session by Professor Nick Harvey showcased the APN Coastal Management Synthesis Report which was completed and presented at the APN's 10th Inter-governmental Meeting (IGM), in Kobe, Japan, in April, 2005. The talk outlined the evaluation of previous APN-funded coastal projects, gave an assessment of current issues for Asia-Pacific coasts, and identified future global change research directions relevant for coastal management in the region.

1.14 APN2005-14NSY-Campbell

Project Title: Community Relocation as an Option for Adaptation to the Effects of Climate Change and Climate Variability in Pacific Island Countries (PICs)

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APN Funding: US$ 44,295

Project Summary

This project is about community based adaptation to climate variability and change. A previous APN project examined ethnographic perspectives in resilience in PICs. This project will examine the implications of community relocation as an adaptive option. Taken together these projects provide a basis for the development of a major regional project on community based adaptation to climate variability and change. The present project is a pilot study of the human dimensions of global change with a focus on the social and policy implications of community relocation as a response to climate variability and climate change. The project includes a synthesis of existing research on post-disaster relocation in PICs, field work in a relocated community and the conduct of a workshop bringing together a small group of relevant academics and PIC policy-makers. The outputs of the workshop will be a preliminary report on relocation as an adaptation measure to climate variability in PICs and the development of a proposal for a comprehensive project on this issue. Other outcomes will be the training of personnel from one PIC in applied human dimensions research and the provision of interim policy advice to SPREP which will be entering phase II of its PICCAP activities.

1.15 APN2005-15NSG-Pallewatta

Project Title: Climate Change Impacts on the Ecology of Rice Pest Complex and the Resulting Threat to Food Security and Farming Economy in South Asia

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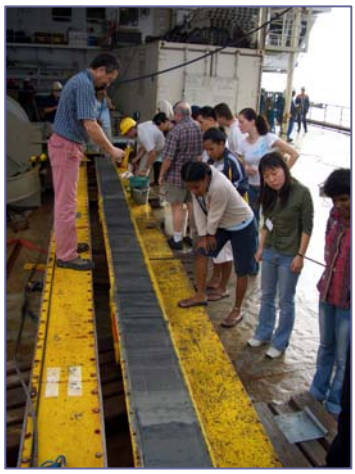
APN Funding: US$ 15,000

Project Summary

The regional meeting was held from 23rd to 25th September 2005, in Sri Lanka. There were three foreign participants and eight Sri Lankans all of whom were senior level scientists representing areas of climate change, rice insect pests and their impacts; socio-economic aspects of rice production and food security including policies that affect these, especially in rural areas. Participants presented on these topics which were all discussed in great detail according to the objectives of the workshop and the main components of the proposal to be submitted to APN. The design of experiments for field studies, variables to be studied, sources of existing data and methods of collection of data were also discussed. The participants discussed other potential funding sources and suggestions for seeking funding, which is required over and above the ceilings provided by APN, for further work in this new area of research. The project proposal benefited very much from the opportunity that was provided to contributing scientists to meet with and discuss intensively the details of the proposed work. This resulted in a focused effort, enabling the discussion of specific technical details of the main components and the exchange of ideas and knowledge on the proposed work. A proposal for project funding from April 2006 has been submitted to the APN for further consideration.

1.16 APN2005-16NSY-Skilbeck



Project Title: Asian Neighbours Network: Training through Global Change Research

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Above: University of the Sea students sampling a box core collected in the Gulf of Papua.

APN Funding: US$ 15,000

Project Summary

Eighteen students from eight Asia-Pacific countries, accompanied by two instructors and one observer, participated in the inaugural Asia-Pacific University of the Sea cruise aboard the French Polar Institute research vessel *Marion Dufresne.* The training cruise left Port Moresby (PNG) on June 24th 2005 and arrived in Darwin (Australia) two weeks later on July 8th. Students received practical instruction in a number of aspects of marine science including multibeam bathymetric profiling, seismic surveying, plankton sampling and seafloor sampling using piston and gravity cores. While at sea they attended daily lectures from the instructors, and guest lectures from research staff from Universities of Louisiana, Aix Marseille III, Tokyo and Rice, who were also present on the leg. Student self-evaluation comments were made on each of the objectives. We believe the principal objective of providing an opportunity for young marine scientists from the Asia-Pacific region to gain experience in sea-based research activity has been met and all participants provided positive feedback about this.

Left: Students examine plankton samples collected in Torres Strait.

1.17 APN2005-17NSG-DeCosta

Project Title: Optimization Strategies for the Management of Change in Coastal Zones and Inland Waters Caused by Salinity Intrusion

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APN Funding: US$ 16,000

Project Summary

This work was possible through a seed grant for project development from the APN. Changes in coastal zones and adjacent waters caused by extraction of water and resulting salinity intrusion has been a problem, and is an emerging problem, in many countries, and is the case in certain locations of all the participating countries. As managing such changes and related quality degradation of water necessitates tools and information, here initially preliminary data as well as information was collected and analyzed. The proponent and the Indian counterpart met with other stakeholders in India and the project was discussed. Thereafter, the proponent organized a workshop at the Galadari Hotel, Colombo, Sri Lanka on the 5th and 6th of October 2005, where the collaborators as well as other stakeholders came together to develop a strategy to identify the scope of the problem, the desired tools and solutions and the methodology for detailed investigation. Thereby a draft detail research proposal to investigate this issue was developed. This proposal was then finalized and submitted to APN. The workshop/proposal had inputs from participating countries, the International Water Management Institute, LOICZ South Asia node, and the ESSP's Global Water Project. A proposal for project funding from April 2006 has been submitted to the APN for further consideration.

1.18 APN2005-18NMY-Marcotullio

Project Title: Application of Human Ecosystems Model (HEM) to Urban Environmental Management in ASEAN: Addressing Potential Impacts of Climate Change

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APN Funding: US$ 35,000

Project Summary

Resolving environmental challenges that are being experienced by Cities in Asia demands new management approaches. The ecosystem approach to urban environmental management provides opportunities to uncover policy leverage points not always articulated in more traditional, sectoral engineering approaches. The Human Ecosystem Model (HEM), for example, presents a way to examine the relationship between the major social, economic and biophysical elements responsible for the emergence of environmental challenges, and hence a roadmap for addressing harm and proposing effective action that are locally appropriate. This project uses the HEM as a basis to create a capacity building tool for the application of the ecosystem approach for ASEAN urban environmental planning and management. Research findings will be produced in the form of case studies, and demonstrations on how to use the HEM to identify policy responses. We are on target with our proposed project goals and products. Importantly, the preliminary administration of the project has been completed. We are expecting endorsement for the project from ASEAN during the 13 February 2006 meeting.

1.19 APN2005-19NSG-Wikramanayake

Project Title: Regional Scoping Workshop on Science-Policy Interactions in Coastal Zone Management in South Asia

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APN Funding: US$ 15,000

Project Summary

The principal activity proposed was a workshop to develop a proposal for an integrated study of science-policy interactions in coastal zone management in the South Asian region. By holding the workshop immediately after a regional workshop on river-basin coast interactions, it was possible to have a large number of participants representing the natural and social sciences and the policy and management areas as well. The development of a regional implementation strategy for LOICZ, discussion on how natural and social sciences can be integrated, the evaluation of several case study sites and the development of the proposal were the main activities at the workshop. An important feature of the workshop was that the natural sciences and the social sciences were equally represented. The workshop was able to accomplish much more than originally envisaged due to the increase in the number of participants made possible by combining the workshop with the river-basins workshop. The increased number made possible a representative regional meeting, a useful discussion between natural and social scientists and the initial assessment of a number of case studies covering a broad range of issues. A proposal for project funding from April 2006 has been submitted to the APN for further consideration.

1.20 APN2005-20NMY-Mitra

Project Title: Assessment of the Effects of High Particulate Pollutants on Pulmonary Health Status in Selected Mega-cities of South Asia

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APN Funding: US$ 58,500

Above: Children's ward in a Colombo Hospital's pulmonary disease unit.

Project Summary

This project aims to investigate impacts of high particulate pollutants on the pulmonary health in select mega-cities of South Asia. The cities which have been selected for this study are Dhaka (Bangladesh), Delhi, Calcutta (India), Lahore (Pakistan), Kathmandu (Nepal) and Colombo (Sri Lanka). In each of these cities specific locations have been identified to study ambient air quality as well as pulmonary health status of inhabitants of that place using common protocols. The design of the study and common health and air quality monitoring protocols were finalized and agreed upon during the project initiation meeting held in Colombo from 14th to 15th July, 2005. The team members of each of the participating countries included health experts and aerosol experts, as well as members of the South Asian START Committee (SASCOM). The project has been progressing well as per the work-plan agreed during the Colombo meeting and has provided a unique opportunity for health and aerosol experts to work together. The progress of this project until now has shown the potential of excellent scientific contribution which the country teams expect to make in this project.

Below: A source of air pollution in Lahore.

1.21 APN2005-21NMY-Rajan

Project Title: Agricultural Land-use Policy in East and South Asia – Rapidly Changing Landscapes and Its Impacts on Regional Food Security and Its Future Scenario

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APN Funding: US$ 30,000

Project Summary

Agricultural land-use changes have been quite dramatic in the last four decades, since the green revolution, leading to intensive use of land for food production. In South and East Asia, this growth has come from irrigated fields (multiple cropping), increased inputs and government policies. However, there are widespread disparities in productivity, environmental conditions and economic outputs across the region. Also, rapid economic development and demographic changes are resulting in accelerated land-use changes (structure and pattern) in this region, leading to large impacts on the environment, such as soil degradation. Potentially, good policies backed with good models are a major tool for sustained progress. In the current project, the AGENT-LUC land-use model is being adapted for development of a regional model that is able to take into account both meso- and micro-characteristics and help provide a tool for a more balanced policy to improve the food security of the region. As part of the first year, we need to determine the conditions and assumptions for the model more specifically, although a broad consensus has been agreed upon. Furthermore, emphasis on a user-friendly interface for the model is necessary to help other users, including decision-makers, understand its utility.

1.22 APN2005-22NMY-Akimoto

Project Title: Asian Ozone Pollution in Eurasian Perspective

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APN Funding: US$ 40,000

Project Summary

Under this project two main activities were held in 2005. The first was a project planning meeting, which was held in Beijing on 3rd August at the occasion of IAMAS 2005. The scope and the schedule of the first workshop/seminar for the APN project were discussed at this meeting. The second activity focused on a workshop and seminar entitled "The 1st Symposium on Asian Ozone Pollution in Eurasian Perspective", which was held in Beijing on 21-22 November, and attended by 33 scientists and students. The symposium consisted of two parts, the first a delivery of lectures on historical and recent scientific information on hemispherical and regional tropospheric ozone oriented mainly for young scientists and students; and the second, presentations on the ongoing observations of surface ozone in each participating country. The data protocol for submitting observed surface ozone data by collaborators of the project was determined as well as the scope of the project to focus on a synthesis of ozone data in Asia. As an initiative for accomplishing the original proposal objectives, the Symposium was very successful in integrating scientists from East, South and Southeast Asia in this field for the first time. A visit to one of the WMO/GAW stations in China provided a very good opportunity for the scientists in this field to learn other country's experience of observation.

Above: Visit to Shiangdianzi, China World Meteorological Organization (WMO)/Global Atmosphere Watch (GAW).

1.23 APN2005-23NSY-Wang

Project Title: The Degraded Ecosystem Restoration in the Arid and Semi-Arid Northern China-Mongolia Region

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APN Funding: US$ 28,000

Project Summary

This project has set up a network of scientists within APN countries to exchange information on best practices for desertification control and degraded ecosystem restoration related to climate change and human dimensions. An in-situ workshop was held in Yinchuan City, China where effective techniques are being implemented. Through international cooperation and multi-disciplinary information exchange, new knowledge for understanding fundamental regulations and mechanisms of environmental degradation in arid and semi-arid areas was exchanged. Discussions also included developing new scientific frameworks to interrelate human activities and global climate change, proposing an integrated technical package to aid policy-makers and local residents for sustainable ecosystem restorations. An in-situ training course for young scientists from APN countries is expected to be held as a follow-up activity, the main objectives of which will be to show effective techniques for degraded ecosystem restoration in arid/semi-arid areas; provide new knowledge of fundamental mechanisms of environment degradation, and provide new understandings to interrelate human activities, global climate change, policy-making, etc.

1.24 APN2005-24NSG-Babar

Project Title: Impact of Global Change on the Availability of Fodder & Forage and Performance of Livestock in South Asia

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APN Funding: US$ 20,000

Above: Participants of the Scoping Workshop on Impact of Global Changes on the Availability of Fodder and Forage Production and Performance of Livestock in South Asia, 15-16 December 2005, Lahore, Pakistan.

Project Summary

A proposal entitled "Impact of Global Change on the Availability of Fodder and Forage and Performance of Livestock in South Asia" was submitted to APN in 2004. In response, APN provided a seed grant for a scoping workshop to further sharpen the methodologies of the proposal. The scoping workshop was held on 15-16 December, 2005. Many eminent scientists in the region engaged in livestock and fodder research and two Canadian scientists engaged in monitoring GHG emissions from livestock systems, gathered at the workshop in Lahore, Pakistan. Participants discussed the emerging crisis of global warming that threatens food security in the region. An inventory of local research was discussed as were methods for monitoring GHG emissions from ruminant livestock systems. Potential strategies, crops, and feeding strategies that simultaneously improve performance and lower GHG emissions were identified. These suggestions have been incorporated into a new proposal. When the original proposal was submitted in 2004, the methodologies of estimation of different gases from the livestock were not clear. However, as a result of the workshop, the research team is now capable of working in this important field of global change. The revised proposal was submitted to APN for funding consideration from April, 2006.

1.25 APN2005-25NSY-Sari

Project Title: Issues Related to Future Action on Climate Change in Asia and the Pacific

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APN Funding: US$ 40,000

Project Summary

The Kyoto Protocol entered into force in February 2005, but the Protocol is limited in terms of its duration (2008-2012) and coverage of commitments on GHG emission limitation. In order to address climate change at an acceptable level, action by countries in Asia and the Pacific is necessary in the near future. This initiative seeks to examine the question of "how to get there", rather than "where we need to go" concerning future actions on climate change. The output of this initiative is not another proposal for the design of climate regimes as there are already many available, but imperatives for furthering the process in countries in the Asia-Pacific region. The project outputs will be delivered timely at the end of the project. The challenge lies on the project team's ability to secure co-financing for activities to leverage the support provided by APN. The following activities still need to be conducted in the remaining project time: research to produce national case studies (China, Japan, Republic of Korea, Thailand, Indonesia, and Bangladesh), national dialogues in case countries, website development, publication of occasional papers, a synthesis study, and publication of reports. Additional co-financing for research in the second stage, regional dialogues, and side events at COP/MOP2 to present the initial findings of the project, is being sought.

Above: Side Event at the COP/MOP1 in Montreal, Canada on 7 December 2005.

Section Two:
Projects funded under the CAPaBLE Programme

2.1 APN2004-CB06NSY-Rhaman

Project Title: Pre-Open Meeting Training Seminars on Methodological Issues Related to the Human Dimensions of Global Environmental Change, 6-8 October 2005 in Königswinter, Germany

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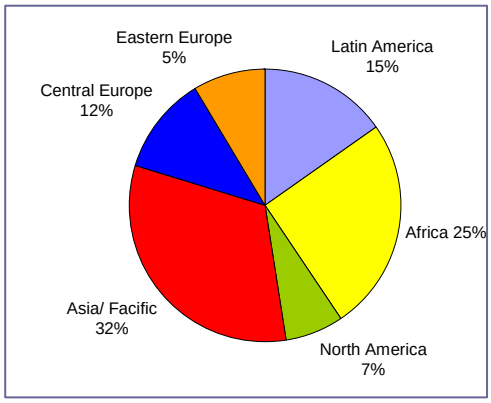
APN Funding: US$ 45,000

Above: Participant at the Training Workshop on the "Analysis of Spatial Data for Human Dimensions Research."

Project Summary

Four Pre-Open Meeting Training Seminars took place from October 6-8, 2005 in Königswinter, Germany. These capacity building activities focused on methodological issues related to research questions on the human dimensions of global environmental change, with topics linked to IHDP core projects and ESSP projects. The four training seminars proved to be an exiting and challenging interactive exercise, which enabled young researchers from all over the world to meet with top researchers to learn from each other. The themes/topics of the four training seminars were 1) Urbanization and Global Environmental Change; 2) Understanding Vulnerability to Global Environmental Change in the Context of Globalization; 3) Analysis of Spatial Data for Human Dimensions Research; and 4) Economic Methods for Global Environmental Change Research. These seminars developed concrete skills and provided state-of-the-art information, as well as enhanced collaboration between the young researchers and the broader Global Environmental Change research community.



Left: Distribution of Training Participants' Country of Residence.

2.2 APN2004-CB07NSY-Glantz

Project Title: Prototype Training Workshop for Educators on the Effects of Climate Change on Seasonality and Environmental Hazards in South and Southeast Asia

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APN Funding: US$ 29,000

Project Summary

This workshop aims to introduce and enhance interest in the notion of Climate Affairs in South and Southeast Asia by "educating educators" and "training trainers" at professional training centers in capacity building. The interactions among aspects of climate, seasonality, and environmental hazards will be discussed and assessed at the workshop. Special emphasis will be placed on seasonality and on shifts and changes in the expected flow of the seasons. The feasibility of the development of a regional Climate Affairs network will be discussed and assessed. This project supports Agenda 21 and the WSSD Johannesburg Plan of Implementation, which is an attempt to explicitly foster local expertise for national development activities. By educating educators and training trainers, it is expected that a "multiplier effect" will occur as they train the next generation of policy-makers. There is real near-term capacity being fostered by this project, and it fits well into the CAPaBLE programme. Glantz has developed the notion of "capacity building by proxy," which involves relying on regional experts to backstop the early stages in the development of Climate Affairs activities. A website http://www.ccb.ucar.edu/apn has been created for project activities and is linked to the APN website.

2.3 APN2004-CB08NSY-Kishi

Project Title: Toward Quantitative Understanding of Natural Fluctuations of Marine Coastal Fisheries of Sardines and Anchovies and their Impact on Fishing-dependent Human Communities

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APN Funding: US$ 10,000

Project Summary

Together with long-term ecosystem-specific oceanographic and fisheries data sets, our aim is to understand the effect of climate change effects on marine ecosystems, quantify its effects on fish growth and production in distinct geographic regions that support sardine and anchovy populations. We also aim to provide explanations for the sardine and anchovy abundance trends, and explore how to best integrate these results into the decision-making process by fisheries/resource managers and policy-makers. At the workshop held in Tokyo, Japan (14-17 November 2005) we reviewed recent data and modeling approaches that could help explain the annual and inter-decadal variability of sardine and anchovy populations. We also outlined a common multi-species, spatially-explicit modeling approach, which is an extension to the NEMURO.FISH model. The work-plan for the group in the coming months will focus on addressing the question “How much can bottom-up food-web dynamics explain sardine and anchovy growth and relative abundance between warm and cold regimes in the different ecosystems?” The presentations at the October 2006 PICES Annual Conference in Yokohama will provide a forum for the project’s results.

2.4 APN2004-CB09NSY-Dharmaratna

Project Title: National Climate Change Public Awareness and Outreach in Sri Lanka

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APN Funding: US$ 21,000 for two years

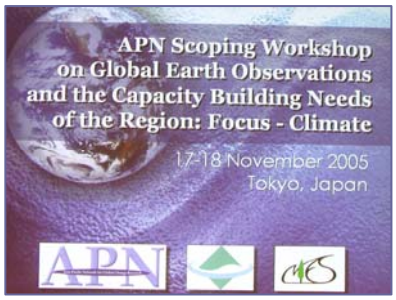
Project Summary

Since the effect of climate change will be experienced by humans over a longer time-scale, convincing civil society of these consequences is difficult. The best example of this would be the rising sea level of 0.88 metres by the year 2100, under the highest emission scenario proposed by the IPCC. It is difficult for people to realize this possible scenario without experiencing it themselves. However, the tsunami that occurred on 26 December 2004, made people more aware of issues related to coastal management, such as flooding. By realizing the importance of this national threat, the Centre for Climate Change Studies (CCCS) is conducting a project under the APN's CAPaBLE programme, entitled "National Climate Change Public Awareness and Outreach in Sri Lanka." The project aims to raise awareness on climate change among policy-makers, government officers, university lectures, school teachers, NGOs and the private sector by conducting eighteen seminars throughout several Districts in Sri Lanka. One of the goals of the project is to prepare a video documentary on climate change and its consequences. The documentary will be telecast on four local channels in Sri Lanka. As a follow-up to the documentary, seventeen district level seminars will be conducted, as well as a two-day seminar in Colombo to conclude the project.

Above: Participants at Outreach Seminars in Sri Lanka in 2005.

2.5 APN2005-CB01NSY-Lal

Project Title: APN Scoping Workshop on Global Earth Observations and the Capacity Building Needs of the Region: Focus – Climate



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APN Funding: US$ 65,000

Project Summary

The "APN Scoping Workshop on Global Earth Observations and the Capacity Building Needs of the Region: Focus – Climate" was held in, Tokyo, Japan, on 17-18 November 2005. The Workshop was organized by the APN, the Ministry of the Environment, Japan and National Institute for Environmental Studies, Japan. The workshop was attended by 32 participants from 12 countries, including Bangladesh, China, Fiji, Indonesia, Japan, Malaysia, Mongolia, New Zealand, Samoa, Thailand, USA, and Viet Nam. The key objective of the workshop was to consider the capacity building necessary for research and monitoring related to climate change and its impacts, to discuss the role of the APN in such research and underpinning systematic observations, and to create road maps for designing ideas appropriate for capacity building activities in the Asia-Pacific region. The discussions also focused on exchange of information on observational data needs, experience and views on climate change and adaptation strategies among the countries in Asia and the Pacific, and to facilitate further activities to address the capacity building needs for climate change related issues in relation to the 10-Year Implementation Plan for GEOSS in the region. A second follow-up workshop is being planned and will take place in Thailand, March 2006.

Above: Participants at the APN workshop, Japan, 2005.

2.6 APN2005-CB02NMY-Taniguchi

Project Title: Guidelines for Environmental Education Focusing on Environmental Ethics and the Human Dimensions of Global Change

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APN Funding: US$ 70,000 over 2 years

Project Summary

Environmental education is considered as a major tool for sustainable development and is an interaction between the science community, policy-makers and those involved in the education sectors (primary, secondary and tertiary). In this sense, environmental education is an important tool to materialize one of APN's goals in linking science and policy of global environmental change. This project, being conducted over 2 years in Japan and Malaysia, expects to: make full use of participating countries experience and knowledge of global change research; to formulate guidelines for environmental education and sustainable development; and to fill existing gaps among teachers and other stakeholders involved such as global change experts, decision-makers, etc., by developing methods/modules for environmental education that can be used as a basis for countries in Asia. The project includes two sets of international symposia and workshops, the first in Kobe, Japan in early 2006, and the second in Kuala Lumpur, Malaysia in 2007. The outcomes of both sets of symposia are expected to be used to formulate guidelines that can be used by countries in Asia to develop environmental education guidelines to suit the needs of their own countries.

2.7 APN2005-CB03NMY-Boer

Project Title: Increasing Adaptive Capacity of Farmers to Extreme Climate Events and Climate Variability through Enhancement of Policy-Science-Community Networking

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APN Funding: US$ 45,000 in year one

Project Summary

Extreme climate events have caused serious impact in the Asia-Pacific region, including Indonesia. Extreme climate events associated with the ENSO event that occurred in 1997/1998 caused a total loss of about eight billion US dollars at the global level and almost half a billion US dollars at the national level (Indonesia). Historical data showed that the frequency of extreme climate events tended to increase while capacity to adapt to such events has yet to be developed. The production of good climate forecasts that are timely is very important to improve the adaptive capacity to extreme climate events. The present project, which was approved for funding by APN in November, 2005, is expected to increase the understanding and to develop capacity of local scientists on climate information application and their working relationship with policy-makers in assisting farmers to address climate-related problems. Institutionalizing climate information applications is expected to be a long process as it will involve various institutions and different groups of communities. Good understanding and knowledge as well as networking between scientific communities, policy-makers and intermediaries will help accelerate this process.

2.8 APN2005-CB04CMY-Koshy

Project Title: Training Institute on Climate and Extreme Events in the Pacific

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APN Funding: US$ 150,000 over three years

Above: Community level sea-wall adaptation project shown to trainees by the Village Chief in centre of above picture.

Project Summary

The Samoa Training Institute represented phase two of a three-year training/capacity-building project being undertaken by the University of the South Pacific, the East-West Center (EWC) and the New Zealand National Institute of Water and Atmospheric Research (NIWA). The 2-week workshop was very fruitful, not only increasing the capacity of Samoa to deal with climate and climate extreme events, but also by raising awareness among key people that Samoa is an approved country of APN and can submit proposals to the APN under both its ARCP and CAPaBLE Programmes. The workshop achieved all of its objectives, including enhancement of individual capabilities; increased knowledge about climate and extreme events; integrating climate information into sustainability, exploration of climate change issues, especially vulnerability and adaptation, and knowledge to support capacity building at national and community levels. The participants showed keen interest in exploring the consequences of climate variability and climate change for offshore fisheries (e.g., tuna) in order to predict changes and use as guidance for management plans, integrating information about climate variability and change into environmental management. The third and final Training Institute in this three-year project will be held in Kiribati in April, 2006.

2.9 APN2005-CB05CMY-Nakane

Project Title: Capacity Building for Greenhouse Gas Inventory Development in Asia-Pacific Developing Countries

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APN Funding: US$ 120,000 over three years

Project Summary

Developing countries are particularly vulnerable to the adverse impacts of climate change. To help prioritize countermeasures, good greenhouse gas (GHG) inventories that provide an accurate knowledge of GHG emissions/removals trends are critically important. In the Asia region, it is known that, although the degree of development of inventories varies widely, forums for neighboring countries to exchange information and experience are not established enough. Moreover, it is often pointed out that many countries have faced the lack of realistic emission factors and activity data to be used in inventories. Two pilot studies are being implemented in Cambodia and Thailand to demonstrate the comprehensive and source-specific approach for the improvement of inventories. The former identifies the priority categories of inventories to be improved by primarily studying the entire aspects of inventories. The latter adopts measures to improve inventories of a specific source category, given specialty available. The outcome of these pilot studies is shared at regional workshops, which are held annually. The project is being executed by the Ministry of Environment of Cambodia (MoEC), the National Institute for Environmental Studies (NIES), Japan, and the King Mongkut's University of Technology Thonburi (KMUTT) in Thailand.

2.10 APN2005-CRP01CMY-Khan

Project Title: Enhancement of National Capacities in the Application of Simulation Models for the Assessment of Climate Change and its Impacts on Water Resources and Food & Agricultural Production

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Above: Training workshop on watershed modeling in progress.

APN Funding: US$ 300,000 over three years

Project Summary

This project is aiming to overcome a major weakness of three South Asia countries; Bangladesh, Nepal and Pakistan, in climate change research viz. the lack of sufficient expertise and experience in the development and use of mathematical models for assessment of the impacts of global climate change. It is directed towards (1) enhancing the climate change-related research capacity of the above countries in the areas of Regional Climate Modeling (RCM), Crop Simulation Modeling (CSM), and Watershed Modeling (WSM) by training 5-10 scientists in each discipline from each country in the operation, validation and use of selected models by holding intensive training workshops with the help of ICTP, Italy; University of Georgia, USA and CSIRO, Australia; and (2) making use of this enhanced capacity to conduct research to formulate plausible climate change scenarios, assess the corresponding impacts on water resources and agricultural production, and identify appropriate adaptation measures. The results of this research will be disseminated to national planners, policy-makers, and the general public. It may also provide useful inputs to future IPCC Assessment Reports.

2.11 APN2005-CRP02CMY-Shukla

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

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APN Funding: US$ 300,000 over three years

Project Summary

This project emerged from recommendations of various international assessments on long-term global environmental issues, especially by the IPCC, which showed gaps in quality and capacity of assessment for developing countries in the area of policy modeling. The two broad themes were identified as vital in this context. First, the development of tools for policy analysis for integrating climate change and sustainable development concerns of developing country policy-makers. Second, the enhancement of capacity in developing countries for integrated assessment of climate change mitigation options in the context of sustainable national development priorities and policies. The project aims include creating an inventory of knowledge and databases for the Asia-Pacific region and proposing enhanced modeling approaches suitable to developing country dynamics and related modeling tools for integrated policy analysis for developing countries. Three institutions are joint partners of the project: the Indian Institute of Management, India (IIMA), the Energy Research Institute, China (ERI), and the Asian Institute of Technology, Thailand (AIT). Communications in the project are being channeled via a website providing an online interface for information exchange.

UPDATED PROJECT LEADER CONTACT INFORMATION

Should the contact information of any of the Project Leaders listed in this publication have changed, please kindly fill out the form below and return it by fax or email to:

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Contact Details	
Full Name (write LAST NAME in CAPS)	*Title* (select as appropriate) ☐Dr. ☐Prof. ☐Mr. ☐Mrs. ☐ Ms. ☐Other _____
Qualifications/Specialty	
Specific areas of interest relating to Global Environmental Change	
Name of Organisation	*Designation/Position*
Type of Organisation: ☐Government Agencies ☐Educational Institutions ☐ NGOs/NPOs ☐Private Foundations ☐Professional Societies ☐Others	
Business Address	*Postal Code* *Country* (in CAPS)
Telephone	*Facsimile*
Email	*Website*

This form may also be downloaded from this link:
http://www.apn-gcr.org/en/downloads/blankform_apndirectory.pdf.

For more information, contact:

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