

Thailand's summer will be longer and even hotter, scientists say. The weather in Thailand might seem unbearable, but the latest climate research predicts that the country's summer will be even longer and hotter. The changes will occur as a result of global warming, according to a study published in the journal *Journal of Climate*. The study, led by scientists from the Center for Global Change Science at MIT, found that the summer season in Thailand will last about 10 days longer by the year 2050. The study also found that the number of hot days (days with a maximum temperature above 35°C) will increase significantly. The study is part of a larger project to assess the impacts of climate change on various regions around the world.

Environmental conservation strategies discussed

INTERNATIONAL NEWS
Wednesday, June 9, 2004

Networking and capacity building in global changes

Need for awareness in developing countries

He said the government is doing its best to create awareness about the environment through various ways, and said all the technologies being used for the betterment of the region. He said that efforts would be made to strengthen such operations in her presentation on 'Asia-Pacific Region: Status and National Level Capacity Building' at the APN Regional Conference on Climate Change in Bangkok. He said that APN is building a global change research network in the Asia-Pacific region.

CLIMATE-CHANGE STUDY

Jasmine rice fields at risk

Warming and sea level rise will cut output of crops, study indicates

The heat is on

Warming significantly will reduce rice yields in Thailand, study indicates. The study, led by scientists from the Center for Global Change Science at MIT, found that the summer season in Thailand will last about 10 days longer by the year 2050. The study also found that the number of hot days (days with a maximum temperature above 35°C) will increase significantly. The study is part of a larger project to assess the impacts of climate change on various regions around the world.

National conference on climate change tomorrow

COLOMBO: The National Conference on Climate Change will be held at the Kukuleganga Holiday Resort, Colombo, on March 10. The event will be the finale of a series of seminars on climate change organized by the Ministry of Environment and Conservation.

'Research vital to detect causes of global warming'

Research is vital to detect causes of global warming, scientists say. The study, led by scientists from the Center for Global Change Science at MIT, found that the summer season in Thailand will last about 10 days longer by the year 2050. The study also found that the number of hot days (days with a maximum temperature above 35°C) will increase significantly. The study is part of a larger project to assess the impacts of climate change on various regions around the world.

Environmental changes affect quality of human life

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Phase 1: Climate Change

CAPABLE

Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries

CAPaBLE

Asia-Pacific Network for Global Change Research

The APN was established in 1996 as a network of member governments in the Asia-Pacific region to foster global change research, increase developing country participation in that research, and strengthen interactions between the science community and policy-makers.

The APN promotes research activities on global changes in climate, ocean and terrestrial systems, and on related physical, biogeochemical and socio-economic processes. In so doing, the APN contributes to the development of policy options for responses to global change that contributes to sustainable development.

To date, 21 countries have joined the network.

Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries

Improving the scientific and technical capabilities of least developed nations in the region has been at the forefront of the APN's activities since it was established in 1996; and, in taking a strategic approach to scientific capacity building and sustainable development, the APN launched its CAPaBLE Programme in March 2003.

CAPaBLE was registered as a Type II Partnership Initiative by the Japanese Government in Johannesburg, September 2002 as a concrete initiative to realize parts 107 to 114 of the Johannesburg Plan of Implementation (JPOI) for the World Summit on Sustainable Development (WSSD).

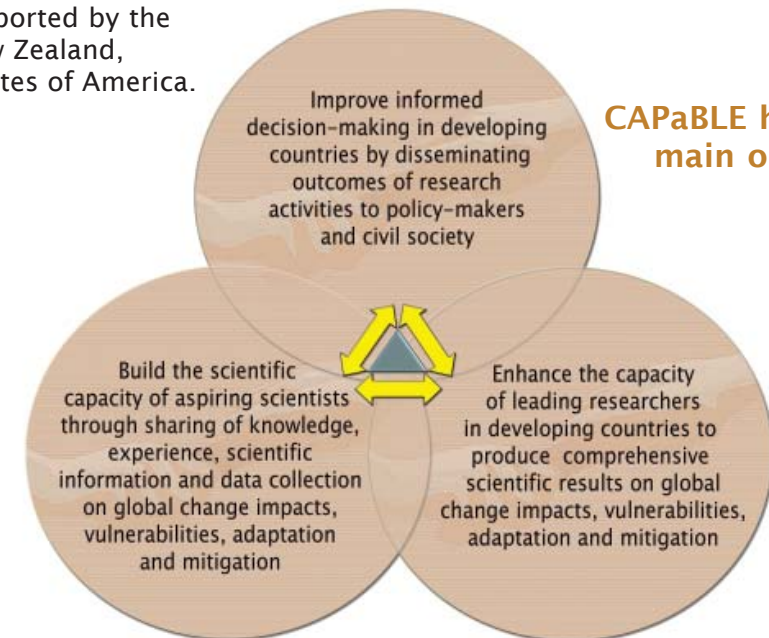
Currently, CAPaBLE is financially supported by the governments of Australia, Japan, New Zealand, Republic of Korea, and the United States of America.

In addition to the Annual Regional Call for Research Proposals (ARCP), CAPaBLE has become another pillar of APN activities and has played an important role in the transition period from the first phase of APN (1996-2004) to its second phase (2005-2010).

Of particular relevance to CAPaBLE is Part 111 of JPOI:

Establish regular channels between policy-makers and the scientific community for requesting and receiving science and technology advice for the implementation of Agenda 21, and create and strengthen networks for science and education for sustainable development, at all levels, with the aim of sharing experiences and best practices, and building scientific capacities, particularly in developing countries.

CAPaBLE has three main objectives



Phase One: CLIMATE CHANGE

In CAPaBLE's first phase, which spanned 3 years from April 2003 to March 2006, 17 projects throughout the Asia-Pacific Region, at all levels from community to national and regional levels, were completed. This was made possible through contributions both monetary and in-kind from all of APN's 21 member countries, the international global change programmes and other institutions.

The output of CAPaBLE Phase One activities on climate change, vis-à-vis this brochure, is timely in that it responds to the report of the 26th Session of the UNFCCC Subsidiary Body for Science and Technology Advice (FCCC/SBSTA/2007/4), for relevant research programmes to inform SBSTA of gaps and priorities in research and capacity building activities relevant to the convention, particularly in developing countries.

In addition to the scientific contribution of APN's ARCP Projects into policy processes, CAPaBLE projects attempted to address the needs identified by bodies such as SBSTA and the Intergovernmental Panel on Climate Change (IPCC). From this viewpoint, 2 of the 17 Capacity Building projects had a comprehensive research element which led to the citation of two papers in the IPCC 4th Assessment Report (AR4).



CAPaBLE is implemented via a two-track mechanism:

- Capacity enhancement for experienced leading scientists
- Capacity building for young and aspiring scientists

Scientific Capacity Enhancement

Considering the research priorities suggested in Working Groups II and III of the IPCC Third Assessment Report (TAR), two comprehensive research projects were conducted. In addition to interfacing science with policy processes, the projects are expected to produce relevant scientific information on climate change impacts, vulnerabilities, adaptation and mitigation as well as enhance the capacity of experienced leading researchers, and young and aspiring scientists.

IPCC TAR WG II

Enhancement of National Capacities in the Application of Simulation Models for the Assessment of Climate Change and Its Impacts on Water Resources and Food and Agricultural Production www.apn-gcr.org/en/CAPaBLE/CRP1.htm

- *Global Change Impact Studies Centre (GCISC), Islamabad, Pakistan in collaboration with institutions from Australia, Bangladesh, Nepal, Italy and USA.*

Objectives: To enhance national capacity in Regional Climate Modeling (RCM), Crop Simulation Modeling (CSM), Watershed Simulation Modeling (WSM), and Climate Scenario Development (CSD). To use these models to assess climate change impacts on water and food resources.

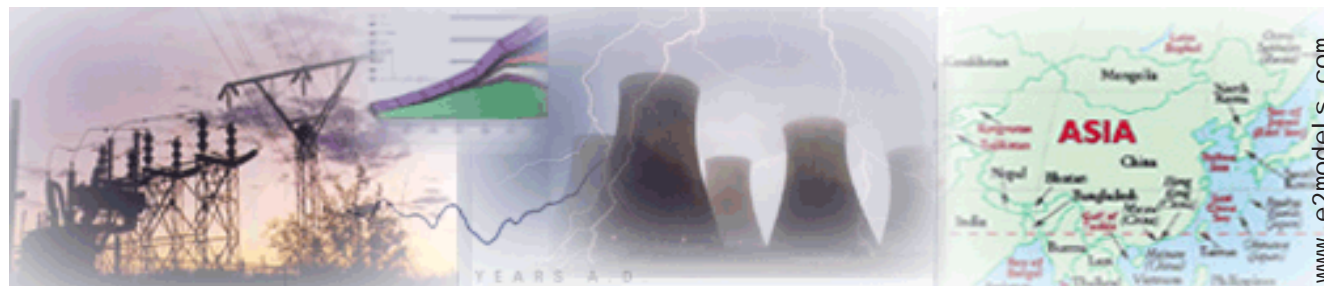
IPCC TAR WG III

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

www.apn-gcr.org/en/CAPaBLE/CRP2.htm

- *Indian Institute of Management (IIM), Ahmadabad, India in collaboration with institutions from China and Thailand.*

Objectives: To develop tools for policy analysis for integrating climate change and sustainable development concerns of policy-makers. To enhance capacity for integrated assessment of climate change mitigation options in the context of sustainable development.



“Regional cooperation in adaptation is considered crucial especially in sharing information, views and experience, as well as capacity building. In this regard, participants commended the activities under the CAPaBLE Programme...”

Asia-Pacific Regional Workshop on Article 6
(Education and Outreach) of the Convention
September 2005

Scientific Capacity Building

It is vital that countries in the Asia-Pacific region have the capacity to conduct high quality research that provides underpinning scientific support for policy-makers and policy-making processes. Under the CAPaBLE programme young and aspiring scientists are provided with opportunities to develop their knowledge and capabilities in global change research. This is implemented in Phase One of CAPaBLE through the enhanced sharing of knowledge, experience and scientific information on quality data collection and analysis on the impacts, vulnerability, adaptation and mitigation to climate change.



Building the Capacity of Mekong River Countries to Assess Impacts of Climate Change: Case Study Approach on the Assessment of Community Vulnerability and Adaptation to the Impacts of Climate Change on Water Resources and Food Production

- Southeast Asia START Regional Centre, Chulalongkorn University, Thailand

Training Institute on Climate and Extreme Events in the Pacific

- University of the South Pacific, Fiji; East-West Center, United States of America (USA); National Institute for Water and Atmospheric Research, New Zealand

Capacity Building for Greenhouse Gases Inventory Development in Asia-Pacific Developing Countries

- National Institute for Environmental Studies (NIES), Japan; Ministry of Environment, Cambodia; King Mongkut's University of Technology, Thailand

Creating Climate Knowledge Networks through Strategic Global Linkages

- APSRU, Department of Primary Industries, Australia; Inter-American Institute for Global Change Research (IAI), Brazil

Capacity Building in Climate Change Mitigation with Locally-Owned Technology and Systems

- Kyoto Institute for Eco-Sound Social Systems (KIESS), Japan; University of Kalyani, India; TFRC Water Treatment Research Laboratories, China

UNFCCC Training Workshop for National Climate Change Focal Points in the APN Region on Guidelines for National Communications for Non-Annex I Parties

- UNFCCC Secretariat, Germany; Government of the Philippines

National Capacity Building Workshops on Global Change Research

- Asianics Agro Development International, Pakistan; GCISC, IGBP, and IHDP

Travel Fellowships for Young Scientists to Attend the 1st Climate Variability and Predictability (CLIVAR) Conference and Climate Modeling Workshop on Regional Climate Models (RCMs)

- WMO, World Climate Research Programme (WCRP), Switzerland

An Assessment of the Socio-Economic Impacts of Floods under Climate Change Conditions in Large Coastal Cities in South and Southeast Asia

- Asian Institute of Technology, Thailand

Training Seminars on Methodological Issues Related to the Human Dimensions of Global Environmental Change

- International Human Dimensions Programme for Global Environmental Change (IHDP), Germany; Independent University, Bangladesh

Prototype Training Workshop for Educators on the Effects of Climate Change on Seasonality and Environmental Hazards

- National Center for Atmospheric Research (NCAR), Center for Capacity Building (CCB), USA

Toward Quantitative Understanding of Natural Fluctuations of Marine Coastal Fisheries of Sardines and Anchovies and their Impact on Fishing-Dependant Human Communities

- Hokkaido University, Japan; GLOBEC, IAI, PICES

National Climate Change Public Awareness and Outreach in Sri Lanka

- Department of Meteorology, Sri Lanka

APN's First and Second Scoping Workshops on Global Earth Observations and the Capacity Building Needs of the Region: Focus - Climate

- Ministry of the Environment (MoEJ), Japan; National Science Foundation (NSF), USA; Hyogo Prefectural Government, Japan; National Institute for Environmental Studies (NIES), Japan; Ministry of Natural Resources and Environment, Thailand

Development of a Mobile Environmental Education Programme to Raise Awareness about Climate Change

- Ministry of Environment, Cambodia; Association for the Protection and Development of the Cambodian Environment, Cambodia

I am pleased to note that APN is active in the Asia-Pacific region and is making efforts to develop capacity in global change research especially through award of research grants to scientists in the region to work on priority areas affecting several countries.

Deputy Chairman
Planning Commission
Government of Pakistan
National Capacity Building Workshop
on Global Change Research
June 2004

The APN CAPaBLE Greenhouse Gas Inventory Project will help Cambodia improve its National Greenhouse Gas Inventories by focusing on the key factors.

Chief of Climate Change Office
Ministry for the Environment, Cambodia
Workshop on GHG Inventories in Asia (WGIA)
February 2005

People are empowered by active participation, so they should be involved in assessing what is needed. Community level involvement is fundamental.

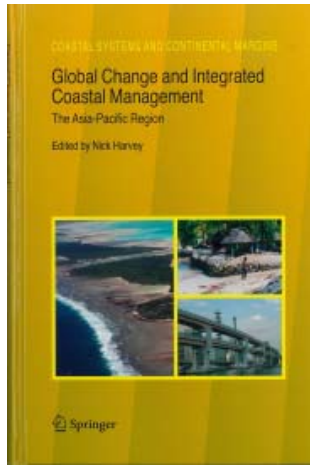
APN/WHO Public Forum on
Climate Calamities & Human Health

February 2005



Sustainable Development: Selected Activity

In an attempt to address the need for *integrated management and sustainable development of coastal areas* reiterated at the WSSD Summit in 2002, and to raise awareness and disseminate information on this topic in the Asia-Pacific region, a synthesis of relevant APN projects was conducted by leading scientists under the CAPaBLE Programme.



The output from this endeavour resulted in the publication of APN's first book ***Global Change and Integrated Coastal Management: The Asia-Pacific Region*** by Springer in 2006. This book focuses on a systematic analysis of the future direction of global change coastal research in the region to better inform coastal managers and policy-makers. Two chapters from this book were cited in the IPCC's 4AR:

Mimura, N., 2006: State of the Environment in Asia and Pacific Coastal Zones. *Global Change and Integrated Coastal Management: The Asia Pacific Region*, N. Harvey, (Ed.), Springer, pp. 17-38. (Cited in IPCC A4R WGII, Chapter 11.)

Woodroffe, C.D., Nicholls, R.J., Saito, Y., Chen, Z. and Goodbred, S.L., 2006: Landscape Variability and the Response of Asian Mega-Deltas to Environmental Change. *Global Change and Integrated Coastal Management: The Asia-Pacific Region*, N. Harvey, (Ed.), Springer, pp. 277-314. (Cited in IPCC AR4 WGII, Chapter 6 and Cross Chapter Case Studies.)

Partnerships

Crucial to the implementation of the CAPaBLE Programme is working in partnership with organizations involved in global and climate change research, capacity building and policy development. Key partners include the Global Change Programmes - the International Programme of Biodiversity Science (DIVERSITAS), the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme for Global Environmental Change (IHDP), the World Climate Research Programme (WCRP), the Earth System Science Partnership (ESSP) and their programme on global change SysTEM for Analysis Research and Training (START); and the APN's sister network, the Inter-American Institute for Global Change Research (IAI).



*science-policy
interfacing
& earth
observations*



*promotion of
local technology*



*awareness
raising*

*capacity
building
using
local
language*



media outreach

Publications

Selected Peer-Reviewed Papers of Comprehensive Research Projects

Hussain, S. S. and Mudasser, M., 2007: Prospects for Wheat Production under Changing Climate in Mountain Areas of Pakistan – An Econometric Analysis. *Science Direct, Agricultural Systems*, Elsevier Applied Science, UK, Vol. 94, pp. 494-501.

Jiang, K. and Hu, X., 2006: Energy Demand and Emissions in 2030 in China: Scenarios and Policy Options. *Environmental Economics and Policy Studies*, 7(3), pp. 233-250. (Cited in IPCC AR4 WGIII, Chapter 11.)

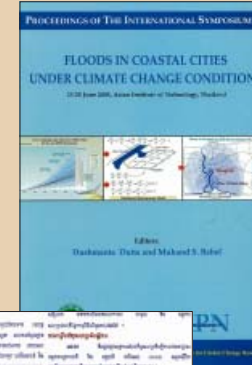
Jiang, K., Songli, Z. and Shrestha, R.M., 2007: Analysis on Policy Options for Promotion of Clean and Energy Efficient Technologies in Transport Sector in Beijing. *International Journal of Environment and Pollution*, 30 (1), pp. 59-74.

Pal, J.S., Giorgi, F., Ashfaq, M., Syed, F.S. et al., September 2007: Regional Climate Modeling for the Developing World: The ICTP RegCM3 and RegCNET. *Bulletin of the American Meteorological Society*, pp.1396-1409.

Shukla, P.R., Rana, A., Garg, A., Kapshe, K. and Nair, R. , 2006: Global Climate Change Stabilization Regimes and Indian Emission Scales: Lessons from Modeling of Developed Country Transitions. *Environmental Economics and Policy Studies*, 7(3), pp. 205-232. (Cited in IPCC AR4 WGIII, Chapters 3 and 11.)

Syed, F.S., Giorgi, F., Pal, J., King, M. P. , 2006: Effect of Remote Forcings on Winter Precipitation of Central Southwest Asia Part 1: Observations. *Theoretical and Applied Climatology*, Springer, Germany, Vol. 86, pp. 147-160.

Selected Publications of Capacity Building Projects



CAPABLE: Phase Two

While Phase One of CAPABLE ended in March 2006, the programme itself has become an integral part of APN's activities. Each year, a Call for Proposals is launched under the CAPABLE programme for activities in global environmental change specifically related to capacity building, awareness-raising and dissemination; and science-policy linkages in developing countries in the Asia-Pacific region.

A second phase of the CAPABLE programme is also underway focusing on scientific comprehensive research activities of experienced leading scientists in the Asia-Pacific Region related to water and food security. Three regional projects are currently being conducted in China, Nepal and Thailand and are due

for completion in March 2009. Results of these activities will be disseminated in due course.

An evaluation of all activities under Phase One of CAPABLE is to be conducted by stakeholders and expert scientists in 2008.

Recognizing the important role that regional networks can play, and are playing, in the Americas and the Asia-Pacific in strengthening engagement of developing countries in climate change research, the SBSTA...encouraged Parties to support and further develop these regional networks.



Australian Government
Department of the Environment,
Water, Heritage and the Arts



Hyogo Prefectural Government
Japan



Ministry of the Environment
Japan



Ministry for the
Environment
Manatū Mo Te Taiao

New Zealand



Ministry of Environment
Republic of Korea



National Science Foundation
United States of America



United States of America

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

APN CAPaBLE

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