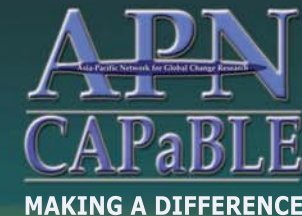


Thai summ... longer and even...

Asia-Pacific Network for Global Change Research



*transferring knowledge
education and training
promoting tools and technology*



Environmental conservation strategies discussed
INTERNATIONAL THE NEWS Wednesday, June 9, 2004
Networking and capacity building in global change
Need for awareness developing countries
CLIMATE-CHANGE STUDY
Jasmine rice fields at risk
National conference on climate change tomorrow
Research vital to detect causes of global warming
environmental changes affect quality of human life

CAPaBLE Phase 1 In Review Climate Change



*empowerment
awareness raising
dissemination activities
science-policy interfacing*

Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries

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 in global environmental change related to climate, ocean and terrestrial systems; and 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.

*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 and Viet Nam

CAPaBLE

Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries

Having the capacity to conduct high quality research that provides *underpinning scientific support* for decision-makers and decision-making processes is vital for least-developed nations in the Asia-Pacific region and is recognised by the APN as crucial for improving the scientific and technical capabilities of these nations.

The APN is taking a strategic approach to capacity building and sustainable development through its capacity development programme, CAPaBLE, which was launched in April 2003.

CAPaBLE was registered as a *Type II Partnership* Initiative by the Ministry of the Environment Japan (MOEJ) at the World Summit for Sustainable Development (WSSD), held in Johannesburg in September 2002. CAPaBLE is addressing parts 107 to 114 of the Johannesburg Plan of Implementation (JPOI).

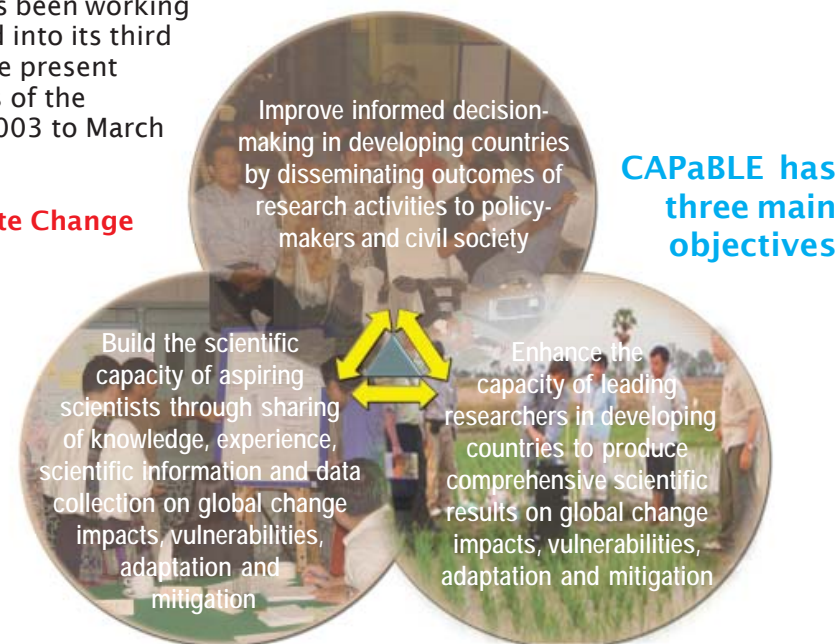
For six years, the CAPaBLE programme has been working actively in the region and has now entered into its third 3-year phase of activities. The scope of the present brochure is to highlight the key outcomes of the programme in its first phase from April 2003 to March 2006.

Phase One activities focussed on Climate Change



Of main 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.



Evaluation of Phase One: CLIMATE CHANGE

Eighteen projects spanning the Asia-Pacific region were completed during the first phase of the CAPaBLE programme. These activities were conducted at community, local, national and regional levels.

The key message from the evaluation is the success of the CAPaBLE programme, particularly in developing the capacity of individuals and institutions in significant areas such as:

- Development of research infrastructure and transfer of expertise and technology through the provision of equipment and user-knowledge, transferring and sharing of data, provision of information and methodologies to researchers and institutions
- Strengthened regional collaboration for climate change research and development
- Developed and enhanced scientific and technical capabilities of researchers
- New and enhanced awareness of policy-makers and civil society on climate change issues
- Successful science-policy interactions particularly in areas where they had previously been lacking
- Successful development and better use of climate change tools for decision-making processes
- Unique and timely outputs that can be incorporated into future work on climate change

CAPaBLE projects are contributing to bodies such as the UNFCCC, SBI, SBSTA and the IPCC.

CAPaBLE is addressing the needs identified by UNCSO in ensuring that activities and outputs fully address issues of sustainable development for the region.



CAPaBLE is implemented via a three-track mechanism:

1. Capacity enhancement for experienced leading scientists
2. Capacity building for early- to mid-career scientists
3. Science-policy interfacing and awareness-raising of scientists, decision-makers and civil society

CAPACITY DEVELOPMENT THROUGH TRAINING & AWARENESS-RAISING

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

Training Institute on Climate and Extreme Events in the Pacific

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

Creating Climate Knowledge Networks through Strategic Global Linkages

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

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

National Capacity Building Workshops on Global Change Research

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

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

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

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

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

National Climate Change Public Awareness and Outreach in Sri Lanka

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

CAPACITY DEVELOPMENT THROUGH APN-INITIATED ACTIVITIES

APN Synthesis in Integrated Coastal Zone Management

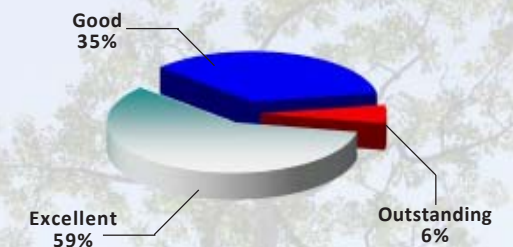
APN Scoping Workshops on Global Earth Observations and the Capacity Building Needs of the Region: Focus Climate

CAPACITY ENHANCEMENT THROUGH COMPREHENSIVE RESEARCH

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

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

CAPaBLE Project Evaluation





Dr. A.M. Khan

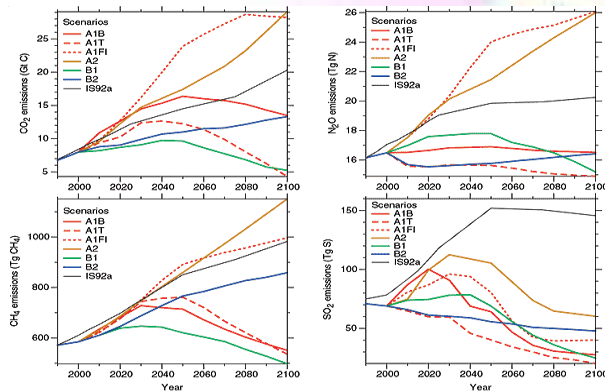
Enhancement of National Capacities in the Application of Simulation Models for the Assessment of Climate Change and its Impacts on Water Resources and Food and Agricultural Production

- Global Change Impact Studies Centre (GCISC), Islamabad, Pakistan

“This project created some good science and this in itself is of importance.”

Key Components:

- Underpinning scientific research
 - > **Regional climate change** in manifestations of temperature & precipitation changes, monsoon variability, floods, droughts and other extreme events; water and food security and melting of glaciers
- Training in regional climate modelling using
 - > **Regional Climate Models:** RegCM3 (Italy); PRECIS (UK); MM5 (USA); WRF (USA)
 - > **Watershed Simulation Models:** DHSVM (USA); UBC (Canada); HEC-HMS (USA); BTOPMC (Japan); HFAM (USA); WatBal (D.N. Yates)
 - > **Crop Simulation Models:** DSSAT (USA) – comprising components: CERES; CROPGRO; CROPSIM
- Engaging in dialogue with and disseminating information to national planners and policy-makers



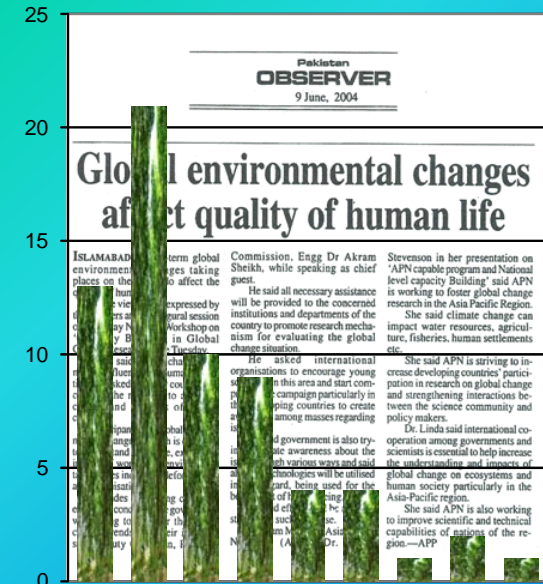
Source: IPCC

David Walland, Australia Bureau of Meteorology and Australia SPG Member said “Projects like this that builds capacity both in developing regional scenarios, but also takes the outputs and analyses the impacts in various key sectors, are very important.”



Key Outcomes:

- Climate change trends in Nepal and Pakistan over the last 3 to 5 decades derived from available meteorological data
- Projections to 2100 for climatological change in Bangladesh, Nepal and Pakistan based on coarse resolution (about 300km X 300km) of 17 GCMs corresponding to IPCC scenarios A2 & A1B
- Dynamic downscaling for IPCC scenario A2 providing high resolution (50km X 50km) scenarios for South Asia
- Impact assessment of projected climate change on crop yields in different agro-climatic zones of Nepal and Pakistan
- Preliminary results from impact assessment on annual and seasonal flows of main rivers in Nepal and Pakistan
- Preliminary findings from work on adaptation measures and coping mechanisms to counter negative impacts in water and agriculture sectors



- Peer Reviewed Papers
- Technical/Research Reports
- Workshop Proceedings
- CD-ROM
- Dissemination Workshops
- Capacity Building Workshops
- Book/Chapter in a Book
- Monographs
- Website Establishment

Key Impacts:

- Attitudes toward climate change and related issues are changing within governments
- Policy-makers are more attune to climate change issues and are seeking further information on impacts and vulnerabilities
- The project has sown seeds for other regional projects, including projects with CGIAR and GECAFS and four APN projects

www.gcisc.org.pk





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

- Indian Institute of Management, India

www.e2models.com

Key Outcomes:

- CAPaBLE CGE-IAM model for analysing climate change policies in developing countries
- Model code and software, national scenarios framework and inventory of knowledge resources
- Comprehensive web-based interactive tool with soft research infrastructure for stakeholder-scientist interaction
- Lasting networks including the newly established regional Asian Energy and Environment Modelling Forum (AEEFM)
- Extensive publications including key citations in IPCC AR4
- Dissemination at policy fora including UNFCCC COP/MOP; UNCCSD; ECO-Asia

Key Impacts:

- Close interface with policy-makers for receiving inputs to prepare national scenarios and to communicate results
- Scenarios and quantitative results used as benchmarks by stakeholders
- Contributed to prominent global research projects and initiatives including UNEP's GEO4; IPCC AR4; IEA's World Energy Outlook WEO; IPCC's new scenarios initiative; the UNEP RISO-initiated Development and Climate project
- Partner scientists are contributing to scenarios development for the 5th IPCC Assessment Report

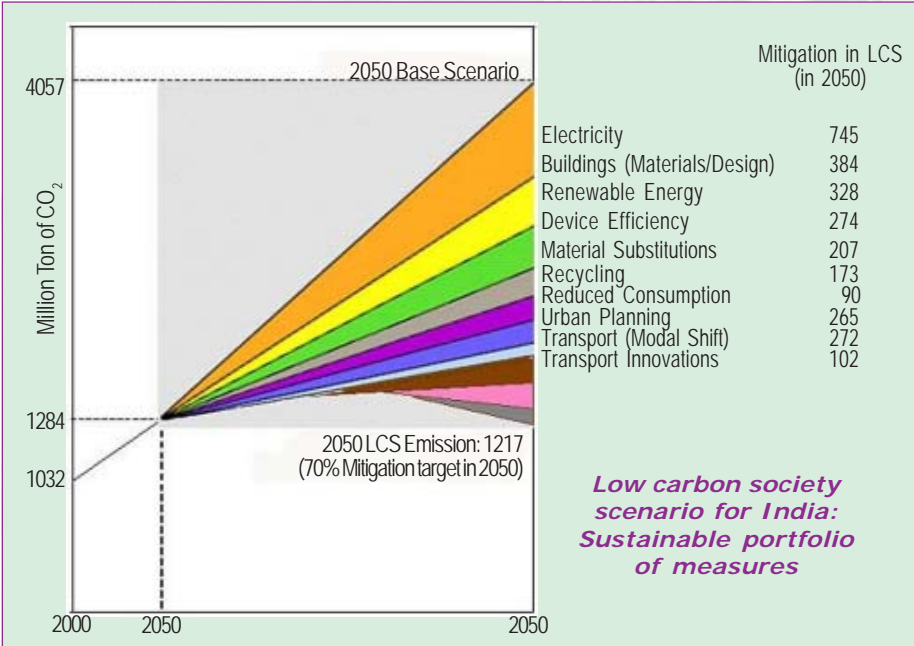


Prof. P.R. Shukla

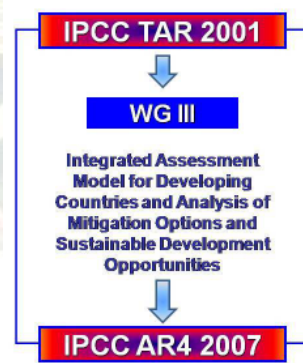
Key Components:

- Generating national GHG mitigation scenarios recognising explicit developing country dynamics
- Collaborating regionally to initiate national modelling exercises and develop national databases
- Generating knowledge to inform climate policy and develop GHG mitigation policies

Dr. Luis M. Tupas, National Programme Leader, US Department of Agriculture and SPG Member for USA said "The outputs and impacts of this project are the result of good planning and effective communication."



Low carbon society scenario for India: Sustainable portfolio of measures



The research foci were taken from the recommendations outlined in the IPCC TAR; specifically the recommendations from Working Group III on climate change mitigation.

Results from the project are cited in IPCC AR4

"A new framework for policy modelling and analysis to align sustainable development and climate change policy has been established and this has input to national climate change action plans."

APN Scoping Workshops on Global Earth Observations and the Capacity Building Needs of the Region: Focus Climate

Key Financial Sponsors: MOEJ (JAPAN); NSF/USCCSP (USA)

Key Objectives:

- Identify capacity building needs for research in global earth observations and climate change and its impacts
- Identify the role of the APN in such research
- Underpin systematic observations and create road maps for designing ideas appropriate for capacity building activities



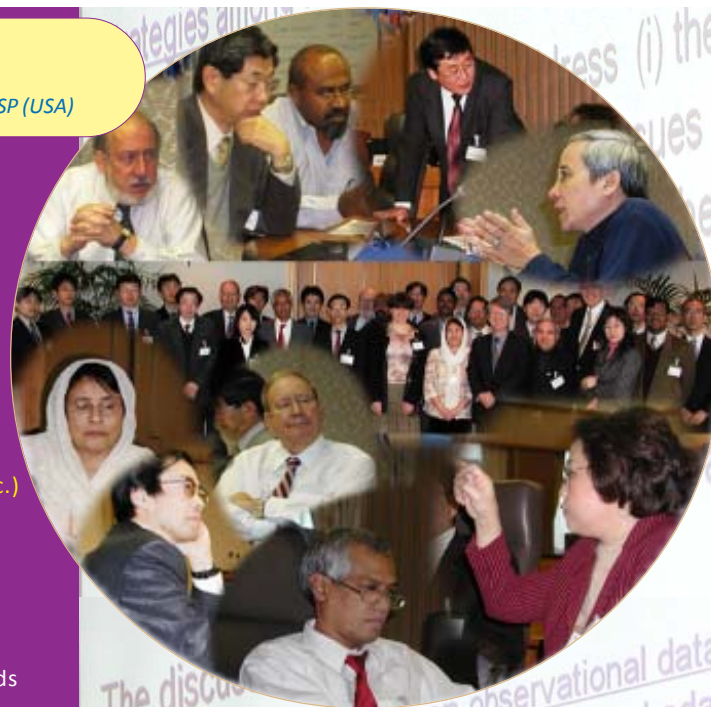
Senior Vice-Minister Shuichi Kato of the MOEJ (EOS II, 2004): *"Japan will continue to work to strengthen its support of capacity building in the area of earth observations through the framework of APN."*

Key Constraints:

- Lack of observational data (meteorological, oceanographic, socio-economic, etc.)
- Inaccessibility to existing data
- Scarcity of experienced scientists and lack of adequate scientific infrastructure
- Lack of familiarity with relevant methods and models

Overarching Capacity Needs:

- Continuous training and capacity development to advance efforts towards comprehensive and sustained understanding of the Earth's processes
- Research on climate modelling and socio-economic impacts and adaptation
- Collection, rescue and analysis of historical data
- Linking earth observations and climate modelling



The discussion (a) Exchange of information on observational data experience and views on climate change and adaptation among the countries in Asia and the Pacific



Vulnerable Sectors:

food and fibre; biodiversity; water resources; coastal ecosystems; human health and settlements; land degradation

Key Outputs and Impacts:

- Scoping workshop outputs published as early achievement in the GEO Publication *First One Hundred Steps to GEOSS*
- APN funding for a number of activities under the *GEOSS Asian Water Cycle Initiative (AWCI)*
- Alignment of GEO and APN goals for the region and strengthened collaboration

SBSTA 24 (2006), Dr. Andrew Matthews, APN SPG Member and nFP for New Zealand noted *"Accessing EO data requires promoting political commitment to data sharing and removing practical barriers by enhancing electronic interconnectivity and accessibility to metadata."*



Training Institute on Climate and Extreme Events in the Pacific

EWC, NIWA, PACE-SD

Key Synopsis:

The successful Climate and Extreme Events Training Institute in the Pacific in Fiji (2004), Samoa (2005), and Kiribati (2006), addressed the need to create a regional network of scientists, decision-makers and institutions skilled in the use of climate information and services to support practical decision-making in key sectors such as agriculture, water resource management, public health and safety, tourism and community planning, and resource development within the Pacific Island Countries Region.

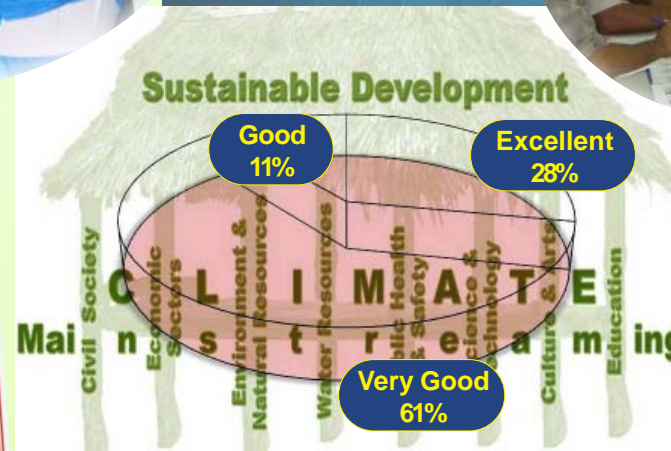


How well did the Training Institute perform?



Key Impacts:

- Anecdotal evidence that trained personnel are using their skills in professional activities for mainstreaming climate to support policy formulation
- Trained personnel able to contribute substantially to:
 - > National local awareness building and climate planning and adaptation activities as part of NAPAs
 - > Regional climate projects such as Pacific Adaptation to Climate Change (PACC)
 - > General sustainable development initiatives



Sustainable Development Strategy:

> Meeting the needs of present generations without compromising the ability of future generations to meet their own needs

> Agenda 21 sits at the root of national sustainable development plans

Statements from International Experts:

"This project has established a modus operandi for dealing with climate change and its impacts across the Pacific island region that has the potential to be applied widely by both the team in this project and by others as well in ways that could have very substantial benefits for the Island States of this region."

"The project has raised the level of knowledge and understanding in the Pacific Island Region and possibly more importantly, the level of discussion and collaboration between the individuals at the country level, directly related to climate variability and change."

The Hon. Natan Teewe, Minister of Finance and Economic Development, Kiribati: *...The Kiribati Training Institute will provide local participants with tools to review and evaluate existing practices on climate change, and develop and formulate informed policies and strategies to achieve changes to existing practices. For this to happen successfully, contributions from every government and non-government sector are required.*



Key Messages and Testimonials

CAPaBLE is Building Capacity

Creating Climate Knowledge Networks through Strategic Global Linkages

Dr. Holger Meinke said "We have taken a significant step towards better understanding of climate-related risk reduction measures in rural regions of Asia."



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

Chief of Climate Change Office, Ministry for the Environment, Cambodia said "The APN CAPaBLE Greenhouse Gas Inventory Project will help Cambodia improve its National Greenhouse Gas Inventories by focusing on the key factors."



National Capacity Building Workshops on Global Change Research

Deputy Chairman, Planning Commission, Government of Pakistan said "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."



CAPaBLE is Policy-Relevant

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

IISD Report Vol. 12 No. 232 (May 2004) on the APN/UNFCCC workshop: "The workshop discussions resulted in agreement on a series of recommendations on non-annex I national communications."

UNFCCC/SBI20/June 2004:

- 27. The SBI acknowledged the funding support provided bythe Asia-Pacific Network for Global Change Research for the UNFCCC workshop on the preparation of national communications from non-annex I parties. (FCCC/SBI/2004/INFO.6)
- 28. The SBI took note of the needs and concerns of non-annex I Parties relating to capacity building and training on the use and application of tools, methods and models for greenhouse gas inventories, vulnerability and adaptation assessments and mitigation assessments, as identified at the workshop on the preparation of national communications from non-annex I Parties, held in Manila, Philippines. (FCCC/SBI/2004/INFO.6)

Asia-Pacific Regional Workshop on Article 6 (Education and Outreach) of the Convention, September 2005: "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 Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries (CAPaBLE) of the APN."

Gleneagles G8 Summit, July 2005: "Japan aims for the promotion of global change research and capacity building of developing country experts through the APN, with the participation of 21 countries in the Asia-Pacific."

Report of the 24th Session of SBSTA (FCCC/SBSTA/2006/5*): "Recognising 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."



CAPaBLE is Promoting Sustainable Societies

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

- > Promoting concepts of ecologically-sound technology useful for developing countries in areas of energy, water and sanitation
- > Useful in contributing to sustainable societies, particularly for sustainable measures and climate change mitigation in developing countries



CAPaBLE is Training Young Scientists

“The workshop sponsored by the APN’s CAPaBLE programme provided new insights to explore policy and institutional options for mitigating climate change”

“The APN/IHDP workshop allowed me to consider the holistic linkage of human dimensions to global climate change”

“As a trainee, I realise that a crucial question is that the efforts we have invested in scientific research would be unfruitful unless they are used by policy-makers”

“Thanks to the funding from APN, I was able to meet and interact with young and advanced researchers on issues of poverty, vulnerability and climate change”

“Without funding from APN, it might have been impossible for me to participate and share my research findings with renowned social scientists of developed and transition nations”

“We believe that cooperation between scientists of China and other countries has been enhanced and the funding from APN has made a positive contribution to environmental change research in China”

“Those who make policy and decisions for our society need better tools to help them face the challenge of global environmental change”



In its first 3 years CAPaBLE:

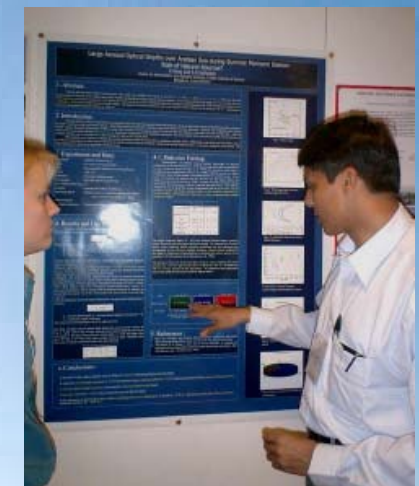
- Trained over 300 scientists

- Raised the awareness of more than 4000 people on climate and global change issues

- Published over 50 peer-reviewed papers



Dr. Amir Muhammed, APN SPG Member for Pakistan said *“The approach has tremendous potential of environmentally sustainable development for underdeveloped communities. The technologies identified from local communities could lead to reduction in GHGs and thus sustainable development in the context of prevalent trends in global climate change.”*



CAPaBLE is Creating Partnerships

APN believes that working in partnership with organisations involved in global and climate change research, capacity building and policy development is essential to deliver the best results for the benefit of the region. This approach also maximises available resources.

In APN's partnership approach to capacity development, key partners are

- Earth System Science Partnership **ESSP**
- International Geosphere-Biosphere Programme **IGBP**
- International Human Dimensions Programme on Global Environmental Change **IHDP**
- International Programme of Biodiversity Science **DIVERSITAS**
- World Climate Research Programme **WCRP**
- global change SysTEM for Analysis Research and Training **START**
- Inter-American Institute for Global Change Research **IAI**
- Group on Earth Observations **GEO**

APN's partners are crucial to the implementation of the CAPaBLE Programme.



The APN liaises closely with the global change programmes and other key organisations and continuously explores ways to strengthen collaboration for achieving shared goals.

CAPaBLE is Raising Awareness in Local Language

BAHASA MALAYSIA: Program ini meningkatkan kapasiti saintifik negara-negara membangun bagi memperbaiki proses membuat keputusan dalam bidang berkaitan perubahan global dan pembangunan mapan. Penekanan telah diberi kepada: Pembangunan kapasiti saintifik untuk pembangunan mapan; hubungan sains dengan polisi, aktiviti meningkatkan kesedaran dan penyebaran maklumat. **CHINESE:** CAPaBLE项目增强了发展中国家提高全球变化和可持续发展决策制定的科学能力。该项目着眼于可持续发展的科学能力建设、科学-政策的衔接、公众意识的提高以及其他宣传活动。 **FILIPINO:** Ang programang CAPaBLE ay nagbibigay tulong sa siyentipikong kapasidad ng mga bansang umuunlad pa lamang para mapag-ibayo ang kanilang paggawa ng mga desisyon ukol sa pandaigdigang pagbabago at sustenableng pagsulong. Binibigyan ng halaga ang mga: pag-angat ng siyentipikong kapasidad at sustenableng pagsulong; pag-uugnay ng siyensya sa polisiya; pagpapalawak ng kamalayan at pamamahagi ng mga nakalap na kaalaman. **JAPANESE:** CAPaBLEプログラム：持続可能な開発に向けた開発途上国の研究能力開発・向上プログラムは、地球変動や持続可能な開発に関し、途上国の政策決定に役立つ科学的能力の向上を目的としています。重点は、持続可能な開発のための科学的な能力開発、科学と政策の連携、啓発活動及び情報普及活動等です。 **RUSSIAN:** Программа ПНП и СУР расширяет потенциал развивающихся стран региона для улучшения процессов принятия решений по вопросам глобальных изменений и устойчивого развития. Упор делается на: развитие научного потенциала для устойчивого развития, организацию диалога между наукой и политикой, повышение уровня осведомленности и распространение знаний



Activities of interest under CAPaBLE

- scientific capacity building and enhancement for sustainable development
- science-policy interfacing
- awareness-raising activities
- dissemination activities



CAPaBLE is Key for the Region

Key recommendations:

- Conduct on-ground evaluation of CAPaBLE activities after five years
- Establish ongoing monitoring system of enhanced capacity building
- Ensure follow-up of activities for sustainability and devise a strategy to do this successfully
- Encourage joint (regional-based) authorships across national borders
- Identify centres of excellence for the APN agendas: science, policy and institutional
- Consider establishing a "virtual" research institute on climate change research
- Conduct an impact assessment 3-5 years after project completion to assess long-term impacts
- Consider developing internet-based training courses to reach remote areas of the region



For the modest funding available there is consensus that, in its first three years, CAPaBLE has been instrumental in developing the capacity of the least-developed nations in Asia and the Pacific. The activities conducted were not only commendable but considered highly relevant for the region.

Future:

- CAPaBLE continues as an integral part of APN's activities next to its ARCP research programme
- CAPaBLE annual call for proposals continues for capacity building projects
- Phase two research activities for capacity enhancement continue for climate change and water & food security
- Phase three research activities for capacity enhancement begin May 2009 for climate change impacts, adaptation and vulnerability

"Smart solutions are not necessarily expensive or high-tech. They are often about being prepared to learn from our mistakes in the past and being prepared to change."

"Those with the least resources have the least capacity to adapt and are most vulnerable."

www.apn-gcr.org/en/capable.html

The APN Secretariat
 5th Floor, IHD Centre Building
 1-5-1 Wakinohama Kaigan Dori
 Chuo-ku, Kobe 651-0073, JAPAN
 Tel: +81-78-230-8017
 Fax: +81-78-230-8018
 Email: info@apn-gcr.org
 Website: www.apn-gcr.org

Main Goals of the APN

Supporting regional collaboration in global change research on issues particularly relevant to the region

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

Improving the scientific and technical capabilities of nations in the region

Cooperating with other global change networks and organisations

Facilitating the development of research infrastructure and the transfer of know-how and technology




 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


 US Climate Change
 Science Program
www.climate-science.gov

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

