



Synthesis of APN Adaptation Activities in the Asia-Pacific Region: Responding to Challenges in Climate Impacts and Adaptation

Major CHALLENGES

- Distribution of vulnerabilities vary across regions and those in the weakest economic positions are the most vulnerable to climate change
- Vulnerability and impact assessments to plan and implement appropriate adaptation strategies are lacking in many areas
- Developing countries lack human and institutional capacity to plan and adopt such strategies
- Mechanisms to mainstream adaptation strategies into national policy and plans need to be established/strengthened and shared among nations and regions



VULNERABLE sectors

Agriculture, Fisheries, Water (floods and drought), Forest, Health and Social Welfare, Transportation, Coastal Zones, Mangroves and Maritime Resources

- Research planning/scoping activities
- Synthesis activities
- Analysis of existing research
- Development of policy products such as integrated assessments, impact and vulnerability assessments, climate models, etc.

The APN, which is a network of 22 member governments in the Asia-Pacific region **supports research and capacity development activities** that respond to the challenges of global environmental change.

Formulation and implementation of adaptation strategies, plans and programmes

data application

data generation

data sharing

Since its launch, the APN has supported around **30 projects** on climate impacts and adaptation...

...and has provided approximately **US\$ 2 million** for research and capacity development activities.

- Awareness raising
- Skills/capacity development
- Symposia/fora
- Dissemination activities: publications, website, etc.

The APN's vision is to enable countries in the region to successfully address global change challenges through science-based response strategies and measures, effective science and policy linkages, and scientific capacity development. It supports research and activities from data generation to data sharing and data application.

Stakeholders



Ministry for the Environment
Research for the Region



The APN relies heavily on the generosity and commitment of all its member countries and whole range of institutions and partner organisations for financial and in-kind support.

Considering the urgent needs of developing countries that are particularly vulnerable to the adverse effects of climate change, the APN, with support from the Ministry of the Environment, Japan, are conducting 7 projects in developing nations in the region under the **Scientific Capacity Development for Climate Impact and Vulnerability Assessments (SCBCIA)** of its Capacity Development Programme, CAPaBLE.

CIA2009-01-SNIDVONGS: Climate Change Vulnerability Assessment and Urban Development Planning for Asian Coastal Cities; **Project Leader:** Dr. Anond SNIDVONGS, anond@start.or.th

CIA2009-02-PULHIN: Capacity Development on Integration of Science and Local Knowledge for Climate Change Impacts and Vulnerability Assessments; **Project Leader:** Dr. Juan PULHIN, jmpulhin@uplb.edu.ph

CIA2009-03-LUN: Climate Change in Eastern Himalayas: Advancing Community-Based Scientific Capacity to Support Climate Change Adaptation; **Project Leader:** Dr. Yin LUN, lun.yin@gmail.com

CIA2009-04-GAOL: Increasing Capacity of Local Scientists for Climate Change Impact and Vulnerability Assessments in Indonesia Archipelagos: Training in In-Situ/Satellite Sea Level Measurements; **Project Leader:** Dr. Jonson Lumban GAOL, jonsonrt@yahoo.com

CIA2009-05-JITPRAPHAI: Building Research Capacity on Assessing Community Livelihood Vulnerability to Climate Change Impacts in Central Viet Nam and the Mekong River Delta; **Project Leader:** Dr. Somrudee JITPRAPHAI, somdeem@yahoo.com

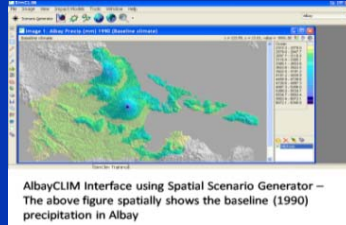
CIA2009-06-DUC: Capacity Development for Adaptation to Climate Change in the Rural Coastal Zone of Viet Nam; **Project Leader:** Dr. Do Minh DUC, ducdm@vnu.edu.vn

CIA2009-07-LOTIA: Capacity Development of the Scientific Community for Assessing the Health Impacts of Climate Change; **Project Leader:** Ms. Hina LOTIA, hlotia@lead.org.pk

These projects focus on scientific capacity development in impact and vulnerability assessments at the scientific, user, policy and community levels.

Project Highlights

Sample SimCLIM runs



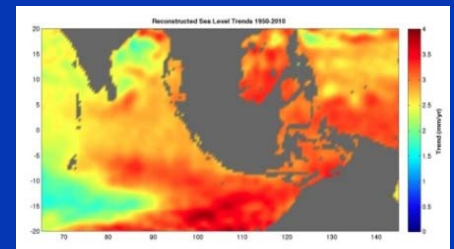
Hands-on training on the use of SimCLIM for government officials and scientists



Participants working on the computer to process sea level data and Coastal Vulnerability Index



Focus group discussions in the community in the Mekong River Delta as part of assessment on key climate concerns and climate change awareness



Reconstructed sea level trends using tide gauges and satellite altimetry in Indonesia

Key concerns of climate change and threat in Mekong River Delta in 2030s



Ongoing and Future Activities

- Short course on “Reduction of Risks due to Climate Change in the Coastal Zone” for local coastal zone managers in Viet Nam
- International Workshop on “Climate Change Vulnerability Assessment and Urban Development Planning for Asian Coastal Cities” 23 Aug-1 Sept 2010 in Thailand
- Discussions to use SimCLIM modeling system to conduct climate change impacts and vulnerability assessment across the Philippines. If successful, Philippines would be the first in Southeast Asia to use SimCLIM in such assessment.
- Capacity building for local government and scientists to conduct data collection and vulnerability assessment with indigenous people in Eastern Himalayas
- Conference to present research results and provide an open forum for ideas, input and new methodology about indigenous knowledge and mainstream science into climate change processes
- Case studies increasing capacity of local scientists for climate change impact and vulnerability assessment in Indonesia Archipelagos: Training in In-Situ/Satellite Sea Level Measurements
- Initial training and scoping workshop engaging researchers on climate change impact and risk, vulnerability and adaptation assessments in Mekong River Delta and Central Region of Viet Nam
- Training course on “Coastal Engineering and Vulnerability Assessment” for experts and practitioners to share and disseminate experiences of Japanese and Vietnamese experts in Viet Nam
- Capacity building for analysing and evaluating the corresponding impacts of climate change on human health, Islamabad, Pakistan

Selected Projects under the ARCP and CAPaBLE Programmes on Climate Impacts and Adaptation

ONGOING

Enhancing Adaptation to Climate Change by Integrating Climate Risk into Long-Term Development Plans and Disaster Management; Project Leader: Prof. Anand PATWARDHAN

Community Based Forestry and Livelihoods in the Context of Climate Change Adaptation; Project Leader: Dr. Dharam Raj UPRETY

Scientific Capacity Development of Trainers and Policy-Makers for Climate Change Adaptation Planning in Asia and the Pacific; Project Leader: Dr. Maheswar RUPAKHETI

Capacity Building for Research and Monitoring of Marine Protected Areas: An Adaptive Mechanism for Climate Change in the Asia-Pacific Region; Project Leader: Dr. Asuncion DE GUZMAN

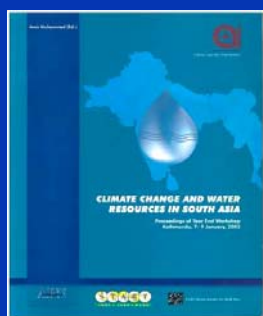
Vulnerability Mapping as Policy Tool in Developing Countries; Project Leader: Dr. Eberhard WEBER

Strengthening Capacity for Policy Research on Mainstreaming Adaptation to Climate Change in Agriculture and Water Sectors; Project Leader: Dr. Joy Jacqueline PEREIRA

Climate Change in Southeast Asia and Assessment on Impact, Vulnerability and Adaptation on Rice Production and Water Balance; Project Leader: Dr. Attachai JINTRAWET



COMPLETED

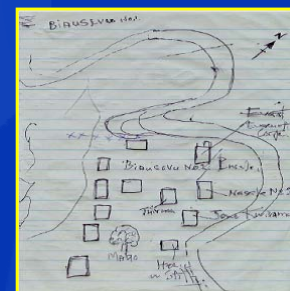


Water Resources in South Asia: An Assessment of Climate Change-Associated Vulnerabilities and Coping Mechanisms; Project Leader: Dr. Amir MUHAMMED

- Brought together a diverse group of scientists to work collectively on the impacts of climate change on water resources in South Asia
- Demonstrated strong leadership of the project proponents as well as the active support of host institutions
- Showed and facilitated good interactions between the scientists and other stakeholders on the issues related to climate change and water resources
- Published book and other technical articles, and also established a research center on global change studies

Community Relocation as an Option for Adaptation to the Effects of Climate Change and Climate Variability in Pacific Island Countries; Project Leader: Dr. John CAMPBELL

- Results indicated that community relocation is common in the Pacific region although in many cases the distances moved are relatively short
- Established a four-fold classification of relocation based on distance
- Developed a series of steps useful in relocation decision-making and drew on lessons learned from a community that has relocated several times in the past century



Linking Climate Change Adaptation to Sustainable Development in Southeast Asia; Project Leader: Dr. Rodel LASCO

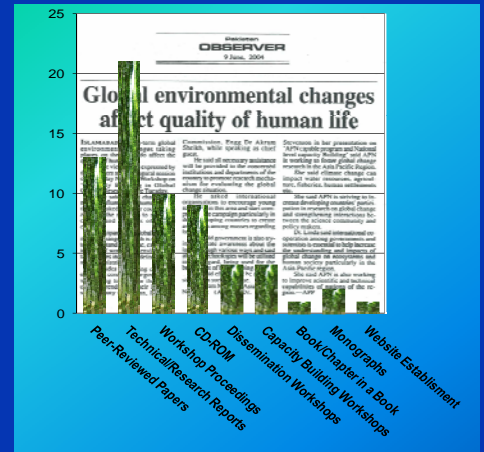
- Helped clarify the links between climate change adaptation and sustainable development
- By engaging the policy-maker community and other relevant stakeholders, contributed to mainstreaming climate change adaptation into the sustainable development agenda of Southeast Asian countries

Assessing the Mitigation and Adaptation Options for Tropical Peatlands to Reduce GHG Emissions and Increase Resilience to Climate Change; Project Leader: Dr. Faizal PARISH

- Peatland issues should be better incorporated into international and regional policy processes
- Policy and management frameworks often fail to recognise the special eco-hydrological characteristics of peatlands that are so important for their sustainable management
- Strict protection of intact peatlands and better water management and fire control in drained peatlands are critical for the conservation of biodiversity and will maintain their carbon storage and sequestration capacity and other associated ecosystem functions
- Enhancing awareness and capacity, addressing poverty and inequity, and removing perverse incentives are important to tackle the root causes of peatland degradation
- The emerging carbon market provides new opportunities for peat swamp forest conservation and restoration and can generate income for local communities

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; Project Leader: Dr. Arshad Muhammad KHAN

- 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 300 km X 300 km) of 17 GCMs corresponding to IPCC scenarios A2 and A1B
- Dynamic downscaling for IPCC scenario A2 providing high resolution (50 km X 50 km) 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
- Move towards attitudinal changes in government and bureaucracy on climate change issues
- Governments are now much more attune to the issues of climate change and are seeking further information as to its impacts and clarifying their vulnerabilities
- Has sown seeds for projects with regional partners, including CGIAR and GECAFS and four new projects funded by APN



Increasing Adaptive Capacity of Farmers to Extreme Climate Change through Policy-Science-Community Networking; Project Leader: Dr. Rizaldi BOER

The project developed and enhanced the capacity of local scientists from five nodes in Indonesia in developing and using climate forecasting techniques, assessing climate-related problems and developing climate information application technologies to manage climate risk as well as to facilitate in establishing a *Policy-Science-Community Network*.

Climate Change and Variability Implications on Biodiversity - Youth Scenario Simulations and Adaptations; Project Leader: Prof. Bill AALBERSBERG

- Built regional, national and local capacity in climate change and variability implications on biodiversity and sustainable development
- Raised awareness of policy-makers and civil society
- Pilot adaptation options in Locally-Managed Marine Areas Network (LMMAN) resource management projects as a basis for scoping climatic implications on Pacific biodiversity



Enhancing the Climate Change Adaptation Capacity of Local Government Units (LGUs) and Scientists in the Philippines; Project Leader: Dr. Linda PEÑALBA

- Created awareness and developed the capacity of LGUs, communities and regional universities to effectively respond to climate change for sustainable development
- Enhanced LGU-scientists partnership for science-policy interfacing and ensuring sustainability of adaptation plan implementation

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