

GLOBAL CHANGE

Capacity Building
and Sustainable
Development:

The SEAMEO BIOTROP
Experience

It has been widely misconceived that global change is climate change. This wrong conception has led to various implications not only in policy communities, but in scientific communities, as well.

There are other elements of global change like land-use and land-cover change, and the increase of greenhouse gases in the atmosphere. Although there is a growing concern that these changes lead to climate change, attention should also be given to another component - land-use change, which occurs everyday in a massive scale and alarming rate.

Collaborative efforts between SEAMEO BIOTROP, Global Change and Terrestrial Ecosystems (GCTE) of the International Geosphere-Biosphere Programme (IGBP) and Australian Commonwealth Scientific and Industrial Research Organisation Division of Wildlife and Ecology (CSIRO/DWE) has resulted to the establishment of the Global Change

Impacts Centre for Southeast Asia (IC-SEA). With a three-and-a-half year funding support from the Australian Agency for International Development (AusAID), IC-SEA started its operations at SEAMEO BIOTROP, Bogor, Indonesia in 1995.

The hosting of the Impacts Centre at SEAMEO BIOTROP is in line with its thrust on Tropical Ecosystems and Environmental Impacts. IC-SEA is the first regional centre in the developing regions established to assess the impacts of global change and their implications for the sustainable management of terrestrial ecosystems. Its objective is two-fold: (i) to assist scientists in Southeast Asia to build their own capacity in assessing the impacts of global change on terrestrial ecosystems, including agriculture, production forestry and nature reserve systems; and (ii) to promote planning for sustainable development and biodiversity conservation in a rapidly changing global environment.

Regional Network and Capacity Building

In developing its roles in capacity building, research coordination and policy support, IC-SEA has undertaken a set of integrated activities to produce a regional network of competent research teams composed of seven SEAMEO Member Countries: Indonesia, Malaysia, Cambodia, Thailand, Lao PDR, Viet Nam, and the Philippines. In collaboration with these teams, IC-SEA is now conducting a state-of-science analyses of the impacts of global environmental change on terrestrial ecosystems.

IC-SEA uses integrated activities to achieve its objectives: training courses on aspects of impacts assessment, drawing on the expertise of GCTE scientists from around the world; visits by the Centre staff and affiliates to individual research groups in the region to give technical advice on data management, analysis and modelling; fellowship and equipment grants programs to support the development of the national teams; and the development of electronic information systems to share data, models and discuss policy issues across the region.

In the past three years, the Impacts Centre has launched sets of activities around four themes. The first three dealt with global change impacts on specific ecosystems, namely: tropical forest dynamics and production, rice production, and complex agroecosystems. The fourth considered the integration of these with the conservation of biodiversity at the landscape scale. In 1998, these were further extended with cross-cutting workshops on soil environment, and pest and diseases.

Training Workshops

Six training workshops have been conducted over three years with 152 participants from the seven countries. Training workshops were designed to provide teams with an overview of the analytical and modelling tools available to conduct impacts assessments. Trainers were chosen to represent a wide range of approaches and schools of thought. The course leaders and staff at the Impacts Centre work with the teams of participants from each country to help them match tools to their specific problems. Draft of country proposals are usually developed by the participants, dealing with global change problems in their respective countries and possible solutions through knowledge and tools explored during the workshop. The key output of training workshops is a set of proposals for further study.

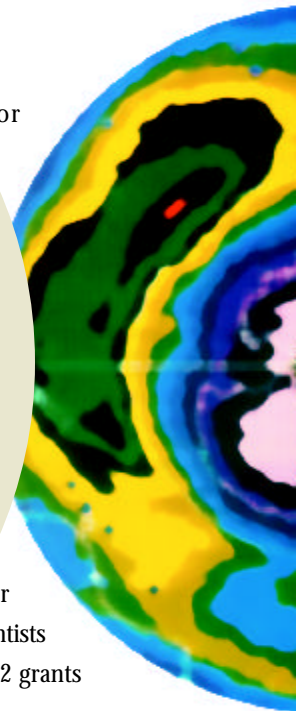
Fellowships

The fellowship programme is for scientists from Southeast Asia to conduct work relevant to the analysis of the impacts of global environmental change on terrestrial ecosystems. This includes support for participation in conferences and workshops as well as short to medium term study visits to global change laboratories around the world including the Impacts Centre's internship sub-programme. Many fellowships have been granted to scientists who have participated in the training workshops or scientists who are part of the network of scientists making up the national teams. A total of 32 grants have been awarded.

Equipment Grants

Priority of the equipment grants programme has been given to supporting modelling and analytical studies, and complimenting, wherever possible, existing resources. The grants have, therefore, been largely for the purchase of computer hardware and software. The most typical configuration has been a quality desktop with a printer and software for statistical analysis, mathematical modelling and simulation, and geographical information systems.

Calls for proposals have been issued annually. Recipients' teams have typically included individuals who have previously participated in modelling workshops or the fellowship programme. The equipment is largely being used to carry out



further advanced study and developing the impacts assessment proposals which arose out of the training workshops. The programme has been an essential component in the first phase of the Impacts Centre project, helping to provide some of the basic tools for teams in the region.

Policy Support

An important goal of the Impacts Centre is to ensure that its work is policy-relevant. It is essential that policymakers not only benefit but are also closely involved with the design and implementation of the Centre's activities.

Living with Global Change

External funds were sought and successfully obtained from the Global Change System for Analysis, Research and Training (START) to hold the first Science Policy Results Transfer workshop. In August 1996 the Impacts Centre hosted a highly successful workshop on Living with Global Change: Improving the Links between Science and Policy in Southeast Asia. The workshop was instrumental in underlining the true complexities of the policy process for the scientific community. It also promoted testing of the strategy of continuous involvement of members of the policy community throughout the application development cycle to ensure that realistic needs were met.

The outcome of this workshop was the creation of the Southeast Asian Science Policy Advisory Network in Global Environmental Change (SEA-SPAN). In May 1997, a discussion list (SEA-SPAN-L) and a web page hosted by IC-SEA were launched to support the network. The main role of SEA-SPAN-L to date has been to distribute information about current news, events and information sources of relevance to policy and large-scale environmental change in the region.

Transboundary Haze

In response to the 1997 transboundary haze and fires which affected human health, transportation and tourism in Indonesia, Singapore, Malaysia, Thailand and the Philippines, IC-SEA launched a series of activities to promote on-going collaboration between the scientific, resource management and policy communities in Southeast Asia entitled *Land Use Planning and Management* to reduce the impacts of transboundary pollution resulting from fires in Southeast Asia.

The activities begun with a set of commissioned reviews, studies and scoping meetings, and proceeded through a series of small working group synthesis and satellite meetings, an electronic workshop for wider participation, and will end with a forum to be held in collaboration with the ASEAN Secretariat. The expected output is an on-going network with ASEAN involvement to tackle this and other large-scale environmental problems and promote better strategies for sustainable development of the Southeast Asian region.

Collaborative Research

The Impacts Centre, through workshops and follow-up activities, has generated numerous proposals and plans for further studies, some of which are now being incorporated into the research and development activities of participating institutions. Some of the ongoing collaborative researches are as follows: 1) assessing the impacts of climate variability on rice production in rain-fed areas of Northeast Thailand; 2) understanding the role of soil characteristics and land management practice in emitting or sequestering greenhouse gas; and 3) carbon stock in plantation forest.

Looking Forward

Collaborative research support and coordination will dominate the activities for the next phase. However, capacity-building and policy support activities will still be carried out as they play an important role in achieving the region's sustainable development under global change.

For more information on IC-SEA, visit its website at <http://www.icsea.or.id>.

