

Session 8: How to increase future collaborative IAM research in the Asia-Pacific Region

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Research Network in the Asia-Pacific

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RESEARCH NETWORK OF INTEGRATED ASSESSMENT MODELS FOR THE ASIA-PACIFIC

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Abstract

Research networks in the Asia-Pacific region can play a vital role in increasing regional collaboration in relation to global change issues. The combination of the Asia-Pacific nations' economic strength and cultural heritage, means they share a unique opportunity to encourage developing countries to exchange their opinions and experiences. By encouraging regional collaboration, such a network can contribute to strengthening international understanding of the priorities and cultural traits that influence the vital Asian region.

There already exist many important networked international collaborative projects, relating to Asia-Pacific regional environmental issues. Several of these initiatives either directly involve, or may facilitate an expansion in the use of, Integrated Assessment Models [IAMs], both in terms of direct research and in terms of analysis of policy initiatives for the dynamic and diverse Asia-Pacific nations. For example, Activities Implemented Jointly are well suited to the use of IAMs.

By encouraging developing countries to adopt and adapt IAMs, and offering financial and training support to further this aim, it is possible to facilitate the dissemination of a common policy analysis tool throughout the region, in turn furthering communication at the levels of administration, research, and policy determination. By facilitating the dissemination of IAMs as a common tool for analysis, it is possible to increase the understanding of the priorities and concerns amongst both developing and developed nations.

Existing initiatives furthering international and regional environmental collaboration

There are many kinds of important initiatives, relating to environmental collaboration, carried out in the Asia-Pacific region. Such projects play an invaluable role for a number of reasons; firstly, they facilitate the exchange of information and contacts, often on an informal basis, thus laying the groundwork for greater mutual understanding in the future; secondly, they facilitate the dissemination of methodologies and techniques; and thirdly, they give an opportunity for reports on country specific, and comparative, studies, to an attentive audience who can then disseminate the information further.

(1) Eco-Asia Project (incorporating Asia-Pacific Environment Information Network)

Eco-Asia is the annual congress of environment ministers in the Asia-Pacific region. An integral element of this initiative is the Eco-Asia Long Term Perspective project, involving thirteen countries, and five international organizations. This project aims to identify policy options to promote sustainable development; examine the links of such policies to socioeconomic issues; forecast likely future scenarios; enhance the human and institutional resource base to meet these scenarios; and establish viable working plans for regional action.

The Eco-Asia project has held five Environmental Congress for Asia and the Pacific, the last being in Gumma Prefecture, Japan, in May of 1996. At this Congress the Environment Agency of Japan proposed to establish an International Institute for Strategic Study on the Global Environment, and to promote an "Environment Information Network for Asia and the Pacific".

Participants at the Congress decided to develop the basic concept of "Asia-Pacific Eco-Consciousness", focusing on three specific sub-divisions ("Eco-Partnership", "Eco-technology and Eco-investment", and "Eco-Policy"). All of these concepts are of direct relevance to the issues surrounding climate change impacts and assessment.

(2) Asia-Pacific Network (APN)

The Asia-Pacific Network for Global Change is a collaborative regional research network implemented at the scientific level under the International Geosphere-Biosphere Programme (IGBP). This regional body has links to two similar networks in Europe and the Americas, to the START network, and also with the HDP Programme. These links, along with other Programmes such as UNEP/GEO regional reporting, allow vital information on the Asia-Pacific region to be disseminated to a global audience.

The APN also acts as a forum for communication between governments in the region, by supporting:

- collaborative global change research
- data collaboration and standardization
- mechanisms for the transfer of technology and environmental management strategies
- the dissemination of information to policy-makers and the general public

(3) UNEP / GEO (Global Environment Outlook) initiative

The Governing Council of UNEP, recently launched a new project aiming to transform its activities to a more policy orientated focus. The GEO initiative aimed to produce a report presenting information on the state of the global environment, whilst also placing a high priority on reflecting regional perceptions and realities.

The first version of the GEO report, GEO1, was presented to the Governing Council of UNEP in January 1997. The Council accepted this report, and resolved to make the GEO initiative more focused on regional policy issues, utilising an integrated approach. For GEO activities, UNEP organised a network of 20 collaborating centres around the world.

(4) APEC Asia Pacific Energy Research Centre [APEREC]

As a result of decisions made at the 1995 APEC (Asia Pacific Economic Cooperation) meeting in Osaka, it was decided to establish an Asia Pacific Energy Research Centre. This centre, an affiliate of the Japan Institute of Energy Economics (IEEJ), will be engaged in many valuable and detailed studies, and should compliment the work of the UNEP International Environmental Technology Centre. The APERC aims to increase understanding among APEC members of future energy supply and demand trends, and their implications for energy policy. Joint studies will try to develop an Asia/Pacific perspective, and the centre will also be involved in training of experts from developing countries and the construction of an energy data network.

(5) Asia-Pacific Climate Change Seminar Series

The Climate Change seminar series is an initiative organized by the Environment Agency of Japan, with the support of several international organizations (such as the United Nations Economic and Social Commission for Asia and the Pacific, and the Asian Development Bank). The forum has been held six times, most recently in Suva, Fiji, in October 1996. The forum provides an opportunity for the exchange of information at the national level, as well as encouraging regional cooperation.

(6) Country-specific studies

Specific country studies, looking at aspects of environmental monitoring and management, have been carried out throughout the Asia-Pacific region. Many of these studies have involved Japanese researchers and Japanese institutions. For example, the Environment Agency's Global Warming Programme recently undertook a project considering 'Feedback of Global Warming, Siberian Permafrost area'. Other projects have included assessment of climate change impacts and adaptation (as in the specific case of coastal vulnerability and resilience in Fiji) and a data book considering mechanisms and projection of global warming and sea-level rise, across a number of countries and at a number of theoretical levels. Other Japanese government agencies also have initiated several programmes, such as the Ministry of International Trade and Industry's (MITI) ongoing technology exchange programmes, and the "New Earth" initiative, aimed at assessing and alleviating climate change.

(7) Joint implementation projects

Joint Implementation (JI) was initially recommended as a means of addressing global warming by combining the available technologies, know-how, and financial capacity of different countries in such a way that greenhouse gases can be reduced in a cost-effective manner. JI projects are thus a vital and cost-effective means of addressing the problems of greenhouse emissions. Such projects form an important part of the existing collaborative structure.

National governments can utilize JI projects to strengthen regional ties, and facilitate the formation of an Asia-Pacific research network. As an illustrative example, the Japanese government has started promoting Activities Implemented Jointly (AIJ), receiving applications for participation from NGOs, local government, and the private sector, in April 1996. The Japan Programme for AIJ aims:

- to facilitate the formation of an international framework for AIJ.
- to establish a methodology for measuring the effects of JI.
- to encourage the private sector to participate in future JI projects, and transfer technology and expertise to developing nations.

(8) International collaboration programmes

International collaboration programmes have allowed valuable regional contacts to be initiated and developed, and have facilitated cooperative climate change research with developed countries.

National governments can also encourage such collaborative programmes. For example, the Environment Agency's Global Environmental Research Programme has two specific classifications which are of direct relevance to international collaboration:

- Cooperative Research with Developing Countries:
studies involving joint research, assessing an entire region
- International Exchange Research (Eco-Frontier Fellowship):
studies wherein leading researchers are invited from overseas to conduct joint research in a host institute in Japan

(9) Other related networks

Other collaborative projects, related to climate change, can also influence environmental strategies. Future policies examples include the START network (an IGBP initiative - global change SysTem for Analysis, Research and Training -which involved setting up regional research networks), and the East Asia Acid Deposition Monitoring Network (set up at the fifth Eco Asia Congress). These networks often prove highly beneficial forums for the discussion of global environmental change, including greenhouse gas emissions. An excellent example is the recent APN/START/SASCOM/GCTE Workshop on Human Dimension Issues, associated with Global Environmental Change, held in New Delhi, 20-23 January 1997.

Links between these existing initiatives and the potential of IAM models

Consideration of these important international initiatives clearly illustrates the potential of IAMs as a bilateral and multilateral collaborative tool.

(1) Eco-Asia

We have considered the example of the Eco-Asia Long Term Perspective project. Obviously IAMs have great potential in terms of meeting the diverse aims of this project. They can help predict future scenarios, consider the policies that can address these scenarios, and the socioeconomic impacts of such policies. By acting as a common tool they can facilitate regional action. They provide a common thread by which assessment of eco-technology choices and eco-investment options can be integrated into Eco-Policy plans, promoting a true regional Eco-partnership. The AIM project is one example of how Integrated Assessment Models can be of value in meeting these objectives.

(2) APN

In some regional networks, such as the APN, recent policy initiatives have acknowledged the value of IAMs. For example, at the recent APN/START/SASCOM/GCTE Workshop on Human Dimension Issues, in January 1997, the "Policy Support Working Group" emphasized the need for strong support for the proposed START capacity building programme covering training in IAMs.

This groups also emphasized two other key points: the need for existing models to be adapted to take into account geographical and economical variations in developing countries; and the need for research networks structured so as to ensure the development of a common data base across nations.

(3) UNEP / GEO

In GEO1, the Integrated Assessment Model developed by RIVM played an important role in forecasting the future environment on a global scale. However many developing countries wish to have information specific to their own regional and local aspects. To meet this requirement, IAMs should be improved to have a greater local and regional applicability for the developing nations, and to have a greater operational capacity for proposing regional policy options. This workshop has discussed these gaps, and indicated how, by taking measures to address them, researchers can adapt IAMs to become vital regional assessment tools.

(4) Country-specific studies supported by Japan

Whilst, as a general rule, IAM studies have not been widely applied to country specific studies, they are likely to be very useful in the future. They provide a means whereby country specific studies can use one tool to consider a wide range of impacts and options. Moreover, if similar IAMs are used in different country studies, this sets up an automatic means for cross country comparison.

(5) Asia-Pacific Climate Change Seminar Series

Again, IAMs, acting as a common policy tool for analysis and collaboration, have the potential to facilitate the exchange of opinions and information, thus meeting the primary objectives of events such as the Asia-Pacific Climate Change Seminar Series.

(6) IEA APEC Energy Research Centre

At this time, the centre is aiming to collate statistics for energy demand and supply across the Asian region. Whilst there are no immediate plans to forecast energy requirements, IAMs could function as a common tool, allowing direct comparison on a number of energy-related issues.

(7) International collaboration programmes

International collaboration programmes are ideally suited to the use and dissemination of IAMs. For example, in the case of Japan, several international collaboration programmes, including the National Institute for Environmental Studies' AIM model, are supported by the Environment Agency's Global Environment Fund. The Eco Frontier Fellowship [EFF] scheme provides

opportunities for training and support related to the use of IAMs. This EFF programme is only in its second year, and the number of fellows is expanding. Interest has been shown by developing nations in setting up training programmes for IAMs. Joint collaborative research has already been carried out with Korea, China, Indonesia, and India, through the Japanese AIM project.

(8) Joint Implementation projects

Perhaps one of the areas where IAMs are most applicable is the case of Joint Implementation projects. The AIJ Japan Programme manual notes that "proper measures need to be taken in developing the international framework of AIJ". A Japanese government study "on promoting measures of activities implemented jointly to cope with global warming" (May 1996) also highlighted the importance of a capacity building programme regarding the "evaluation, monitoring and formation of AIJ projects".

IAMs have the potential to be a pivotal element of both these objectives, for all the countries involved in regional environmental activities.

IAMs can firstly act, as a common assessment tool, facilitating exchange of technology and management strategies, intrinsic elements in the structure of JI. Moreover, the use of common IAMs creates an instant link between the many stakeholders involved in JI.

IAMs are also invaluable in assessing potential JI projects, both in terms of their potential effects on greenhouse gas emissions, and in terms of their other direct and indirect impacts. The flexibility and multidimensional character of IAMs make them an ideal assessment tool to consider the many dimensions of proposed JI projects. IAMs can help decide which projects should go ahead, and how research budgets should be allocated.

Finally IAMs can also be used to assess ongoing projects, allowing feedback between participating stakeholders and, when specific parameters change, modification of ongoing strategies to ensure policy objectives are met.

(9) Other related networks

There are also many other regional collaborative projects which, whilst not specifically focused on IAMs, are complimentary, and therefore may represent areas wherein IAMs can be utilized in the future. In some cases, as has been noted for the APN, the potential integrative and analytical value of IAMs has been explicitly acknowledged.

Importance of an Asia-Pacific Research Network in furthering regional and international collaboration

In meeting the challenge of today's environmental problems, an Asia-Pacific Research Network has the potential to act as a bridge between the experiences of developed and developing nations, and between Asian and non-Asian countries.

Since the mid-1980s Japan has increasingly moved to meet its international obligations in the field of the environment. Financial support has been given in several areas, such as ODA, and the Japanese government has offered to hold several conferences relating to the environment.

Of particular importance is the regional context. By supporting the development of an Asia-Pacific Research Network, Japan can help disseminate information on policy and technology initiatives to the developing Asian economies; encourage the provision of administrative and

financial support to emerging nations; and also help developing countries in their efforts to maintain distinctive cultural traditions.

Another key area is for an Asia-Pacific network to facilitate the 'training of trainers'. Developing country experts, who have often benefited from training in developed nations, have increasingly been training more experts within their own countries, and within other developing nations. By facilitating this process for IAMs, an Asia-Pacific network can help developing nations ensure their circumstances and requirements are adequately investigated and disseminated.

The IPCC has already noted the need for greater collaborative research, and integration of different research perspectives. The various speakers throughout this conference have supported these conclusions, and highlighted the problems and potential of IAMs.

By providing training and support to facilitate the adaptation and transfer of IAMs, and the development of regional research networks, the Asia-Pacific Research Network can encourage regional collaboration and the goal of binding international agreements.

Recommendations and conclusions- how IAMs can and should stimulate collaborative research in the Asia-Pacific region

Considering the issues relevant to the use of IAMs, in the establishment of an Asia-Pacific Research network, suggests the following conclusions and recommendations.

(1) Current IAMs must be adapted, with input from researchers in developing countries, to recognize eclectic regional geographic, economic, cultural and social variations. It is vital that IAMs should be then transferred as a common tool to developing countries. This will facilitate collaborative research, and therefore the ultimate objective of policy recommendations, based on mutually acceptable criteria - criteria which are economically viable and politically implementable - from the perspective of *both* developed and developing nations. To facilitate the transfer of IAMs, it is necessary to recognize the importance of continuing to promote collaborative programmes, and of initiating more training schemes.

It is vital that IAMs are collaboratively adapted, and then transferred to Developing Countries, as a common analysis tool for research and policy.

(2) IAMs themselves should be used to plan and support the agenda and structure of collaborative programmes. This will ensure that priority areas for research are identified, research objectives are coordinated, policy recommendations are complimentary (or at least based around the same guiding principles), and that research funds are allocated in an efficient and effective manner. This last point is very important in today's efficiency oriented administrative climate, and will facilitate the acceptance and support of IAM oriented research by national governments.

It is vital that in planning research, an INTEGRATED approach is taken, utilizing the characteristics of IAMs themselves, to ensure efficient and cost-effective management.

(3) By transferring IAMs, it should be possible to establish a common language for considering the issues and policy options facing the Asia-Pacific region. Developing and developed countries

can discuss the same policy options. Incorporating the views of Developing countries, via their use of IAMs, will thus not only increase the capacity for greater understanding at the international level, but also allow us to identify the unique elements of developing cultures which are not fully incorporated in current models. IAMs can be used to facilitate the development of Eco-Linkages.

The very act of transferring IAM creates a common research agenda and language, that in turn should increase the capacity to reach agreement at the international level, and also identify characteristics unique to specific regions and nations.

Having heard the discussion today, and through the rest of the conference, it is obvious to me that we must greatly adapt our utilization and criteria for IAMs, allowing more transparency and accountable policy making at the regional and international level. However it is also obvious that if we take steps to increase our mutual understanding, such adaptation of IAMs is possible, and has great potential for our region.