Report of the First Phase Strategic Research

Environmental Governance

March 2001

Institute for Global Environmental Strategies

Preface

Prior to the formal establishment and inauguration of the Institute for Global Environmental Strategies (IGES) in April 1998, two international workshops were organized to examine and explore possible themes, areas, objectives and methods of IGES' research activities. Based on discussions at these workshops, environmental governance was identified as one of the main themes for strategic research to be undertaken by IGES, with a particular focus on Asian countries and the region as a whole.

Accordingly, it was decided that a research project on environmental governance (the EG Project) would be launched as one of the five research projects to be implemented by IGES, initially for a period of three years (from April 1998 to March 2001). A research plan was drawn up by the leader of the EG Project, Professor Hisakazu (Kazu) Kato of Nagoya University, setting out the purpose, basic approach and methodology, together with an outline of the annual work schedule and expected outcomes.

According to the research plan endorsed by its Board of Directors and of Trustees, the main purpose of the IGES/EG Project was to address and analyse major issues of environmental governance and to make concrete policy recommendations relevant to the Asian region. Several national and sub-regional environmental governance systems were to be selected and examined in a cross-sectoral and comparative manner.

Thus, a major component of the research project involved case studies of national environmental governance systems in selected countries of Asia - starting with China, India, Thailand and Japan during the first fiscal year from April 1998 to March 1999. Another major component was a comparative analysis of existing or emerging programmes and mechanisms for international environmental cooperation in Asia, particularly at the sub-regional level.

This report has been compiled in an attempt to provide a comprehensive picture of research activities undertaken by the Environmental Governance Project during the three years since its inception, starting with an outline of the design of the project itself, including objectives, targets, expected outcomes, and the annual work programme (Section 2.1). In Section 2.2.1 on Methodology, a brief description is given of the methodologies and frameworks employed in carrying out the planned research activities under each major component of the project. Then, in Section 2.2.2, a summary of findings and analyses of various research activities will be presented. Section 3 comprises the main body of this report, presenting a synthesis of conclusions drawn from all case study reports, working papers, proceedings of workshops, symposia and other meetings organized under the project, including some policy proposals and recommendations. This report concludes with the project leader's own evaluation of the outcomes and overall performance of the project, together with suggestions for further research and for improving the effectiveness of any future research activities IGES may undertake during its second phase.

CONTENTS

Outline of the Project

1. Project Name Environmental Governance Project

2. Project Period April 1998 – March 2001

3. Project Members

Project leader Hisakazu (Kazu) Kato

Research staff

Senior Research Fellow	Glen Paoletto (1998.4-1998.9)
Research Fellow	Yohei Harashima (1998.4-2000.3)
Research Associates	Wakana Takahashi (1998.4-2001.3)
	Shinsuke Koga (1999.5-1999.8)
	Shuzo Katsumoto （1999.5-1999.10）

Collaborators

Country Studies

Chiristine Apikul, Thailand Environmental Institute, Thailand

Phakatip Chungbhivat, Thailand Environmental Institute, Thailand

Kenji Kamino, Nagoya University, Japan

Mineo Kato, Yokohama National University, Japan

James E. Nickum, Hosei University, Japan

Somrudee Nicro, Thailand Environmental Institute, Thailand

Jyoti Parikh, Indira Gandhi Institute of Development Research, India

Kirit Parikh, Indira Gandhi Institute of Development Research, India

Tata L. Rghu Ram, Indira Gandhi Institute of Development Research, India

Miranda A. Schreurs, University of Maryland, U.S.A.

Santosh K. Sharma, Development Alternatives, India

Xin Zhou, Policy Research Center for Environment and Economy of the State Environmental Protection Administration, China

Hoe-Seog Cheong, Ministry of Environment of Korea, Republic of Korea

Wan Portiah Hamzah, Institute of Strategic and International Studies, Malaysia

Hoi-Seong Jeong, Korea Environment Institute, Republic of Korea

Merlin M. Magallona, University of the Philippines College of Law, the Philippines

Khandaker Mainuddin, Bangladesh Centre for Advanced Studies, Bangladesh

Ben S. Malayang III, University of the Philippines, the Philippines

Philip Mathews, Institute of Strategic and International Studies, Malaysia

Norhayati Mustapha, Institute of Strategic and International Studies, Malaysia

Hyronimus Rhiti, Atmajaya University Yogyakarta, Indonesia

F. X. Endro Susilo, Atmajaya Unversity Yogyakarta, Indonesia

Study Group on Business and Environmental Governance

Naoatsu Ishizaki, Mitsubishi Chemical Corporation, Japan

Isao Iwabuchi, Sky Aluminum Co., Ltd., Japan

Michimasa Kadowaki, Japan Federation of Economic Organizations (Keidanren), Japan

Noriyuki Kobayashi, Sumitomo Forestry Co., Ltd., Japan

Tadao Kubota, NEC Corporation, Japan

Takaaki Moroto, Itochu Corporation, Japan

Bunji Ototake, Tokyo Electric Power Company, Japan

Masayuki Sasanouchi, Toyota Motor Corporation, Japan

Shintaro Shida, Tokyo Marine and Fire Insurance Co., Ltd., Japan

Makoto Takasaki, Nippon Steel Corporation, Japan

Brainstorming Forum on Acid Rain in East Asia

Yoichi Ichikawa, Central Research Institute of Electric Power Industry, Japan

Katsunori Suzuki, Japan Environmental Sanitation Center, Japan

Shohei Yonemoto, Mitsubishi-Kasei Institute of Life Science, Japan

Others

Gueye Kamal, Nagoya University, Japan

4. Project Expenses (yen)

Total project cost:	**109,429,786**	
FY1998:	41,075,653	(actual)
FY1999:	44,784,133	(actual)
FY2000:	23,570,000	(budgeted amount)

5. Summary of the Report

The main purpose of the Environmental Governance Project of IGES was to address and analyse major issues of environmental governance and to make concrete policy recommendations relevant to the Asian region. Several national and sub-regional environmental governance systems were to be selected and examined in a cross-sectoral and comparative manner.

Thus, a major component of the research project involved case studies of national environmental governance systems in a number of selected countries of Asia. Another major component was a comparative analysis of existing or emerging programmes and mechanisms for international environmental cooperation in Asia, particularly at the sub-regional level.

Research activities have been carried out in accordance with the objectives, targets, methodologies and a three-year work programme as set out in the research plan endorsed by the IGES Board of Directors and Board of Trustees in June 1998 at the official inauguration of IGES activities. The necessary analytical frameworks for comparative studies were elaborated on by a resource person and by the project leader himself.

In addition, a few other sub-components of the Environmental Governance Project were developed during a mid-course review of the work programme, such as a case study of environmental management policies and practices of Japanese private companies, and another one involving a preliminary literature survey and a case study of Thailand concerning the relationship between the processes of globalization of economy and environmental governance.

Despite some serious problems with staffing and project management that placed very severe constraints on remaining project staff, all research activities made slow but steady progress, eventually producing the outputs originally expected, together with new insights and conclusions in respective fields of research, including a number of policy recommendations.

Given the limited human and financial resources available within IGES, the project achieved its original objectives relatively well and in good time in accordance with the original research programme and work (implementation) plans. Admittedly, the modest results obtained are satisfactory as a product of the first phase of development and application of both the methodologies and tools for analyzing a complex, crosscutting issue like environmental governance, and for elaborating policy guidelines and recommendations.

6. Keywords

Environmental governance, actors and processes, agenda-setting, participatory decision-making and implementation, decentralization, globalization, command-and-control, market-based instruments (of environmental policy), environmental impact assessment (EIA), regional environmental cooperation, environmental security, epistemic community, corporate governance, eco-industry, eco-business, voluntary commitments and action plans, self-governance

1. Introduction

Environmental governance is about how societies deal with environmental problems. It is concerned with the interactions among formal and informal institutions and the actors within society. These interactions influence how environmental problems are identified and addressed.

Environmental governance structures in Asia are rapidly changing. At the domestic level, new environmental laws, programmes and institutions are being established. At the sub-regional and regional levels also, environmental networks and cooperation schemes are beginning to form. These rapidly changing governance structures are greatly influencing greatly how environmental problems are addressed. It is thus critical to examine the nature of environmental governance in the region.

During the early stages of development of national environmental policy, technically oriented policies and measures played a major role in resolving the immediate problems of rampant industrial and urban pollution. As a result, research activities carried out to date have tended to be based primarily on natural sciences and technical approaches. However, it was recognized soon afterwards that “technical fixes” would not suffice in solving today’s global environmental issues. One of the reasons for this is that they ignore the diversity of interests and perspectives among actors in establishing and implementing policies for environmental protection.

The problems of the human environment are not just national concerns. They were placed on the international agenda in 1972 at the United Nations Conference on Human Environment in Stockholm, the first among a host of global issues to be addressed by the world body. The Stockholm Conference gave impetus to the growth of international environmental law and international organizations specifically devoted to promoting environmental governance worldwide, but it failed to bridge the gap between North and South over conflicting views and approaches to issues of environment and development.

Twenty years later, Agenda 21, a global plan of action directed towards the twenty-first century, was adopted at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil. Although the international community agreed at UNCED to strive for the attainment of the ultimate goal of sustainable development, the state of the global environment is worsening today and is expected to continue to deteriorate, potentially leading to a catastrophic situation in the not-too-distant future. The emergence of global environmental issues since the 1980s exerts an added pressure on the already strained resources and structures for environmental governance in developed and developing countries alike, and thus makes it imperative for us to reconsider existing social orders and value systems, and to restructure our economy to reduce the impact of human activities on the environment.

Environmental problem-solving in the Asian region is made complex by differences in economic, political and cultural conditions. A challenge for the region is to develop governance mechanisms that can address both regional and global environmental problems. As a result of decades of rapid economic growth, environmental problems have grown in severity in Asia. Economic activities in this region are having enormous impacts on the state of the environment. Yet, there is little history of environmental cooperation in the region.

With the Cold War coming to an end, the 1990s witnessed the growth of institutions for environmental cooperation at the regional and sub-regional levels. The result has been a re-activation of existing sub-regional environmental programmes and plans, such as the strategic action plans on environment facilitated by the ASEAN (ASEP I~III and the subsequently adopted ASEAN Strategic Plans of Action on the Environment) and the South Asia Cooperative Environment Programme (SACEP), and the emergence of a multitude of new initiatives like the Northeast Asian Sub-regional Programme of Environmental Cooperation (NEASPEC).

However, the activation of regional environmental cooperation does not ensure institutional effectiveness. As a matter of fact, in most cases, regional institutions for environmental cooperation have not yet been fully and satisfactorily developed. There are still gaps between the planning and implementation stages. Insufficient capacity in terms of technical, human and financial resources are among the major obstacles for many developing countries to implement

cooperative environmental programmes and action plans. Also, the effectiveness of linkages between actors within a state and those operating internationally has been strongly affected and constrained by domestic politics (Schreurs, 1997). In many cases, the outlook for accomplishing their tasks is unclear, to say the least.

All these areas need to be investigated to be able to make an overall assessment of the state of environmental governance in the Asian region, and to propose strategies to reinforce efforts toward appropriate and adequate environmental governance at all levels—local and national as well as international, sub-regional, regional and global.

2. Report on the first phase of Project activities

2.1 Objectives and targets

The objectives, targets, and expected outcomes as set out in the initial research plan endorsed by the IGES Board of Directors and of Trustees are summarized below:

a. Objectives

The main objective of the Environmental Governance Project is to address and analyse major issues of environmental governance and to propose concrete policy recommendations relevant to the Asian region. The project will utilize a systematic approach to documenting information and carrying out its activities, and will maintain strong links with the other IGES research areas. Through its research, the Environmental Governance Project will be expected to assist countries in the region in capacity building and promoting a participatory approach to environment and development.

More specifically, the Environmental Governance Project will examine in a systematic way what the relevant processes are and who the actors are that work to promote and support effective environmental governance in the Asian region, as well as how these have changed over time. Several national and sub-regional environmental governance systems will be selected and examined in a cross-sectoral and comparative manner.

Areas to be examined with regard to national and sub-regional governance systems include: how decisions are made; who makes them; how decisions are implemented; what kind of information is available and from what source; how processes are reviewed; how these are influenced by internal and external forces; how systems are evaluated; and if they can be adapted to respond to challenges.

b. Targets

Year One:

(1) In the first three months, networks will be established to assist in implementing the research.
(2) In these first three months, the Environmental Governance (EG) Project will also undertake a survey paper of research initiatives and products within Asian countries and elsewhere. These will provide a basis for future work.
(3) The EG Project will utilize and develop networks to prepare four country papers, applying a systematic research framework. In the first nine months of operation, the first draft of the country papers would be expected.
(4) In undertaking the country papers, a sub-regional study of the processes and actors may be initiated.
(5) A workshop will be held to maintain the focus of the project as well as to better involve the policy makers who are most related to the areas in question.

Year Two:

(1) A series of follow-up working papers to the four country papers will be prepared, which will specifically target the three IGES issue areas - climate change, forest conservation, and urbanization and environment - with a view to coming up with specific recommendations.
(2) Sub-regional studies will be undertaken, both generally and in relation to the three issue areas.
(3) A workshop will be organized to maintain the focus of the project and involve key persons, particularly policy makers.

Year Three:

(1) Publications under the project will be finalized. The publication will be based on a synthesis of the research findings of IGES.
(2) Recommendations for the region will be developed focusing on the issue areas.
(3) An international conference of policy makers will be organized to disseminate the research results and plan for future activities.

c. Expected outcomes

(1) A survey paper of environmental governance research in Asia and elsewhere
(2) Establish and maintain networks for project and result implementation
(3) Country studies
(4) Sub-regional studies
(5) Workshops
(6) An international conference of policy makers
(7) Publications

2.2 Outline of research results

2.2.1 Methodology

The methodologies for conducting research and analysis employed by the respective components of the Environmental Governance Project differ, but only slightly, depending on the specific objectives and circumstances of research activities carried out under that particular component, as summarized below:

a. Comparative study of national environmental governance

Based on an analytical framework developed by Dr. Miranda Schreurs of the University of Maryland in the United States, country studies were conducted in collaboration with competent research institutes and researchers from the countries under study, utilizing a common methodology and protocol for analysis and comparison (Schreurs, 1998).

There are many important aspects of environmental governance. One aspect focused on in this study is that of agenda-setting and implementation by various actors, including international agencies and institutions. To put it simply, agenda-setting and implementation are both components of the policy process. How they work in a country is heavily dependent upon the structure of the government and the formal and informal institutions that dictate how actors relate to each other.

In order to understand and analyse the processes of agenda-setting and implementation in relation to the three issue areas of marine pollution, air pollution (acid rain and climate change), and deforestation, the following research protocol was adopted and followed: (1) broad introductory overview, (2) contextual overview, (3) current state of environmental governance mechanisms—a broad overview of actors and processes, and (4) case studies.

The case studies focused on agenda-setting and implementation processes as aspects of environmental governance in relationship to marine pollution, air pollution (acid rain and climate change), and deforestation. The following questions were considered separately for both processes of agenda-setting and implementation:

With regard to agenda-setting: Who are the primary actors involved in getting each of the three environmental issues onto the agenda? How has the involvement of these actors in the agenda-setting process changed over time? What are the interests shaping the actors' perceptions of each of these environmental issues? Which policy options have received dominant attention, and why? What are the strengths and weaknesses of the agenda-setting process for each environmental issue?

With regard to implementation: Who are the primary actors involved in implementing government policies? How has the involvement of these actors in implementation changed over time? What are the interests of actors shaping how they perform in implementation? How effective has the implementation of policy been to address the environmental issue areas discussed above?

b. Regional and sub-regional programmes for environmental cooperation

The research into programmes and mechanisms of environmental cooperation was conducted for the three sub-regions of Asia: Southeast Asia, Northeast Asia, and South Asia. The study was to follow the lines of enquiry and analysis

adopted for the comparative study of national governance systems (Schreurs, 1998), with appropriate application of the same approach and methodology to analyzing the roles of various actors and the processes of agenda-setting, policy-making and implementation.

More specifically, the following questions and issues were addressed and analyzed for each of the three major sub-regional environmental programmes (Kato, 1999):

- Legislative history
- Goals and objectives
- Strategies and priority areas of action/cooperation
- Cross-sectoral integration with national policies
- Modality of cooperation
- Institutional structure
- Implementation, monitoring and assessment
- Finance
- Achievements to date
- Evaluation of the overall effectiveness of cooperative programmes
- Conclusion

Various methodologies were employed, including not only literature surveys and research of official records of meetings and other documentation but also field visits and interviews with policy-makers and researchers. Also, research staff attended several subregional conferences/meetings and exchanged views with participants. Those conferences include expert group meetings, intergovernmental meetings of the Acid Deposition Monitoring Network in East Asia (EANET) and the Northeast Asian Conference on Environmental Cooperation (NEAC). The former has been playing an important role as a first step toward collective management of transboundary acid rain problems, and the latter, held annually, has served as a forum for the exchange of information and policy dialogue on various environmental issues among environmental authorities of national and local governments, international organizations and non-governmental organizations (NGOs) in Northeast Asia. Figure 1 shows the linkages among the various components of the Environmental Governance Project, all feeding into a set of conclusions and recommendations at the end.

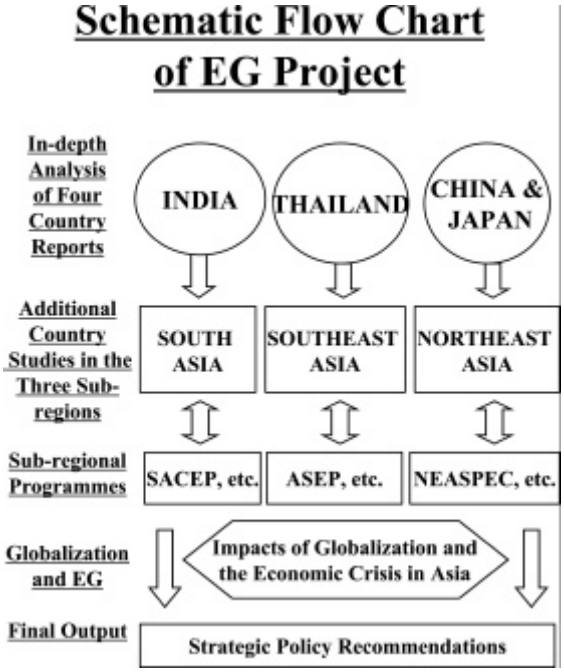


Figure 1. Flow chart of the environmental governance project

c. Business and environmental governance

During the course of a mid-year review of the overall project on environmental governance, the need to focus on an important actor in governance systems was recognized, namely, the private sector. Thus a case study of corporate environmental governance in Japan was launched in September 1998, focusing on the experience of Japanese private enterprises in environmental governance, both within industry itself and for the Japanese society as a whole. A small group, the "Study Group on Business and Environmental Governance" was formed, with its members participating on a voluntary basis from various sectors of business and industry in Japan. The group held regular (twice a month) meetings to discuss each other's experiences and the role of private businesses in Japanese environmental governance. Their report, entitled "Business and Environmental Governance" (in English and Japanese), published in March 1999, was presented at a March 1999 workshop, which was open to the public. Approximately seventy people participated in the workshop, not only from Japan, but also from Asian countries such as China Thailand and India, and the United States.

d. Globalization and environmental governance

A modest start was made in 1999 by undertaking a preliminary survey of literature and a case study of Thailand on the relationship between the processes of globalization of the economy and environmental governance. The results of this preliminary study indicated that this would also be a very fertile and promising field of research for IGES, and they will play an important role in synthesizing the conclusions and policy recommendations of all other studies conducted under the Environmental Governance Project as well as other research projects of IGES during Phase 1. (Kamal, 1999)

e. Brainstorming forum on acid rain in East Asia

Also, during the mid-course review of its work plan, it was felt that there was a need for the Environmental Governance Project to take a more sharply focused approach to addressing the problems of environmental governance in the Asian region. Acid rain in East Asia was selected as a potential area for such investigation. A preliminary survey was conducted of past and on-going research activities, as well as current government policies concerned with acid rain issues in East Asia.

As a result, the following points were confirmed:

(1) It is essential for the further development of regional cooperation on acid rain control to build an international scientific infrastructure, including the Acid Deposition Monitoring Network in East Asia (EANET).

(2) In order to accomplish the task, careful considerations should be made of the historical and geopolitical context of international relations in Asia. For example, international organizations such as UNEP, ADB and UN/ESCAP should be involved in these activities. Also, existing international forums for policy dialogue such as APEC and ASEAN should be utilized to promote further regional cooperation on the issue.

(3) Interdisciplinary and strategic research should be carried out to support these activities in addition to the on-going scientific research on the design of monitoring systems and the development of long-range air pollutant transport models.

(4) Such strategic research should be jointly conducted across national boundaries, and the process of research should be broadly open to the public.

Based on these preliminary findings, the EG Project held a Brainstorming Forum on Acid Rain in East Asia in February 1999. Policy-makers and researchers from various disciplines of natural and social sciences in Japan attended the forum, and discussed how to develop a regional cooperative framework for scientific research and policy dialogue among policy makers on the transboundary acid rain issue. It was also emphasized that there was a need to initiate a joint international and interdisciplinary strategic research project, subject, however, to the availability of funds from external sources, as resources available within IGES, human, technical and financial, were extremely limited.

Subsequently, efforts were made to find a source of funding outside of IGES, including Japanese as well as international funding agencies. Unfortunately, however, these efforts did not bear fruit, and the proposal for a joint international research project on a transboundary acid rain control regime in East Asia had to be abandoned in the end.

2.2.2 Findings and analysis

a. Comparative study of national environmental governance

Recent trends

Many countries of Asia began to put environmental problems on their policy agenda in the late 1960s and early 1970s. During the period, however, most of the environmental problems remained unsolved because environmental laws, policies and institutions, often modeled after or imported straight from the industrialized countries, did not work satisfactorily for these countries with different natural conditions, historical and socio-cultural backgrounds, political and economic systems, and at different stages of economic development. Therefore, later on, it became necessary for most of the Asian governments to review existing environmental policies. Consequently, environmental laws and policies were revised, reformed and strengthened again in the 1990s, and many positive trends have since emerged.

Beginning in the late 1980s to early 1990s, the framework or umbrella laws for environmental policy enacted in the 1970s were revised or replaced by new laws in China, Indonesia, Malaysia, South Korea, and Japan. Their main purpose was to strengthen the implementation and enforcement of environmental laws and policies, to adopt a wide range of new policy measures and instruments, and to respond to newly emerging global environmental issues such as depletion of the ozone layer, climate change, and transboundary movements of hazardous wastes.

On the other hand, the Asian economic crisis since 1997 threw cold water on growing environmental awareness in Asian countries. For example, the Thai government has inevitably cut its budget for environmental infrastructure in the wake of its currency crisis. Public attention in Indonesia focused on how to get out of the severe economic and political crisis. As a result, environmental issues were not addressed vigorously. There are indications, however, that some other economies of Asia were relatively unaffected by, or are already coming out of, the crisis situation. Even for those countries still in critical conditions, it remains to be seen how long-lasting an impact those conditions will have on the generally continuing trend toward heightened awareness among policy makers as well as the public about the importance of environmental issues, and consequently about the need for improved environmental governance and promoting international cooperation at all levels and layers of governance.

It is now generally acknowledged that the mega-trend of globalization will not only continue but accelerate its pace in the twenty-first century, and that it can bring both positive and negative impacts on the world economy as well as on the state of the local, national, regional and global environment. It can potentially lead to technological innovations and breakthroughs, radically improving the efficiency of energy and resource use, minimizing waste and increasing competitiveness of various sectors of the economy. It can also aggravate the widening gap between the developed and developing countries, as well as between the rich and poor - the strong and weak segments within societies.

Ultimately, however, environmental governance belongs to the domain of public policy. The environment, both natural and man-made, is a common good entrusted to the present generation for good keeping, to be passed on to future generations. Globalization of the economy or liberalization of international trade and investment in itself does not guarantee fair competition and may even aggravate the widening gap. The power of the marketplace must be harnessed by public interventions, that is, through environmental policies utilizing not only the conventional command-and-control type of regulatory measures, but also all manner of policy instruments and tools available to public authorities. Social and environmental safety nets can only be provided through public policies and institutions. Environmental policies must become truly public, involving all stakeholders and all segments of society.

Major actors

(1) Central governments

Environmental policies were initiated by the central government in most of the Asian countries studied, except for Japan and India, where traditionally actors other than central governments such as local governments and environmental movements among citizens played a major role in introducing innovative policies and actions. So far, it can be said that central governments have played, and continue to play, a key role in environmental governance in Asian countries. Within the structure of central governments, however, environmental policy still tends to be separate or

isolated from the mainstream policies of economic planning and industrial or agricultural development. In addition to the ministry of environment, many governmental ministries and agencies are responsible for environmental issues under their respective jurisdiction. As a consequence, the overlapping or duplication of policies and efforts can often be found in a number of policy domains related to environmental governance.

(2) Local governments
Functions of local governments are defined within the constitutional system in each country. In the Asian region, local governments in Japan and India have played comparatively greater roles in dealing with environmental problems. After democratization in the Philippines, South Korea and Thailand, the local governments began to pay more attention to environmental problems. It is worth noting here that the governors of major provinces and capital cities are elected by public vote in all of these countries.

(3) Environmental NGOs
A newly emerging environmental actor in Asian countries is the environmental NGO. The definition of environmental NGOs and the relationship between the government and environmental NGOs are different in each country. Once, environmental NGOs were not formally recognized, but rather regarded as strong opponents of government policies. Environmental NGOs themselves acted chiefly as watchdogs for government policies and institutions.

In the 1990s, the national governments of Korea, Thailand and Indonesia gave official status to environmental NGOs in their framework legislation. Under the Aquino administration, the constitution of the Philippines was amended, amongst other changes, to allow representatives of environmental NGOs to be involved in the various processes of governmental policy dialogue and decision-making. In contrast, due to political sensitivities and the low level of public awareness about environmental problems, few environmental NGOs existed in China, and organized civil protest movements against environmental problems have not yet emerged. The mass media in China, however, have begun to play an increasingly positive role in exposing cases of violation of environmental laws and regulations, providing environmental data and information to the public, and reporting on pollution episodes and accidents, thus exerting significant influence on business behavior and governmental decision-making.

(4) Industries
Most industrial enterprises in Asian countries have maintained passive attitudes toward environmental management. Large corporations that are well connected with various governmental sectors have planned and carried out many development projects, but have rarely returned their profits to local communities. Industries, particularly export-oriented industries, in South Korea and Thailand have been aware of the importance of environmental protection largely due to international influence, and initiated voluntary activities for environmental management, such as obtaining the certification of ISO 14000 series of standards for environmental management. Large enterprises in China are required to establish environmental units or to designate executive officers responsible for environmental protection within each corporate structure.

The most serious problem in industrial sectors is the non-compliance with environmental regulations by small and medium-sized enterprises (SMEs). Town and Village Enterprises (TVEs) in China are exempted from environmental monitoring requirements and pollution charges. Although factories and other industrial facilities are required by law to treat their wastes on site in Thailand, the wastes are, in most cases, released directly into water bodies without any treatment. A large number of small-scale industrial facilities, including unorganized and household units, are not adequately addressed in India’s current pollution abatement policy.

b. Regional and sub-regional environmental cooperation

Existing Institutions

(1) Northeast Asia

The Northeast Asian subregion refers to China, Japan, South Korea (ROK), North Korea, Mongolia, the Russian Far East and Chinese Taipei. There was not much cohesion between countries within this subregion until the latter part of the 1980s, and the countries rarely cooperated on environmental issues, except for certain initiatives undertaken by

countries on a bilateral basis. During the latter part of the 1980s, however, efforts began to be made to jointly deal with environmental problems associated with development through expanded programmes of international cooperation. Agenda 21, adopted at the Rio Summit in 1992, triggered the growth of multilateral cooperation on environmental issues, resulting in the establishment of several sub-regional programmes, plans and regular conferences.

Among these initiatives, the Northeast Asian Subregional Programme of Environmental Cooperation (NEASPEC) played a central role as a comprehensive intergovernmental programme. The programme was created at the first meeting of Senior Officials on Environmental Cooperation in Northeast Asia in 1993, hosted by the United Nations Economic and Social Commission for Asia and the Pacific (UN/ESCAP). The motivating force behind NEASPEC was the government of South Korea.

Since 1993, senior officials have held meetings every year or two to decide on programme activities, including project planning and implementation. The three priority areas identified by NEASPEC are energy and air pollution, ecosystem management, and capacity-building. Several projects on energy and air pollution—training workshops, technology demonstration projects, and monitoring/data collection projects—have been identified and implemented with financial assistance from the Asian Development Bank (ADB). Although NEASPEC did not have its own financial mechanism until quite recently, relying exclusively on ad hoc project-based funding, the participating governments agreed in March 2000 to establish a core fund for NEASPEC.

The Northeast Asian Conference on Environmental Cooperation (NEAC), which also covers various environmental issues, is a forum for policy dialogue among officials of environmental ministries and agencies from China, Japan, South Korea, Mongolia and Russia. Researchers, local government officials and representatives of NGOs have also been invited to the conferences. NEAC conferences have been held annually since 1992, and have provided participants with opportunities to exchange information, share experiences and discuss actions to be taken in the future. The conference itself does not create any project or program-oriented activities.

On the economic cooperation front, the Tumen River Area Development Programme (TRADP), which is promoted by the UNDP and aims to promote regional economic cooperation between China, South Korea, North Korea, Mongolia and Russia, developed a Memorandum of Understanding on Environmental Principles governing the TRADP in 1995. The Tumen region has been threatened by severe environmental degradation; namely, inland and coastal water pollution, loss of biodiversity, deforestation and air pollution. In response to the memorandum, a Strategic Action Programme (SAP) was created for the purpose of developing an effective long-term regional strategy for dealing with international water pollution and loss of biodiversity. The Global Environment Facility (GEF) decided to sponsor the SAP with US$5 million over a two-year period, and the programme was launched in May 2000.

Collaboration focusing on a single subject was also started following the Rio Earth Summit in 1992. Problems related to the marine environment of the sub-region are under the purview of the Northwest Pacific Action Plan (NOWPAP). This regional sea action plan was initially advocated by UNEP as the latest addition to its Regional Seas Programme, rather than by the countries of Northeast Asia. The participating countries are China, Japan, South Korea, and Russia. Those countries adopted action plans at the first intergovernmental meeting held in Seoul in 1994 (UNEP, 1997).

Another example of focused collaboration is the creation of the Acid Deposition Monitoring Network in East Asia (EANET). This network was created on the initiative of the Government of Japan. All the operating costs are paid by the Japanese government. Japan also provides financial and technical assistance on monitoring activities to developing member countries through its official development assistance (ODA). The network links ten national governments and their monitoring sites. Using common guidelines and technical manuals, the network has been collecting, compiling and evaluating monitoring data on acid deposition. The network began its preparatory-phase activities in 1998 and its regular activities in 2001. The network center is located in Japan, and the Environment Agency (now the Ministry of the Environment) of Japan administers and coordinates the network's activities as interim secretariat. The second intergovernmental meeting of the network, held in 2000, designated UNEP as the secretariat of EANET after 2002.

To protect migratory waterbirds, the North East Asian Crane Network Center was established in 1997, based on the "Asia-Pacific Migratory Waterbird Protection Strategy" adopted at the seventh meeting of the Conference of the

Contracting Parties to the Convention on Wetlands (the Ramsar Convention). The network links eighteen important sites for the survival of cranes in six Northeast Asian countries, so that those who work at different sites can exchange information and share their experiences. The network also links researchers, conservationists, government officers and others concerned about crane protection, and provides a basis for joint research and conservation activities. The network is managed by the Wetlands International-Asia Pacific. The late 1990s also witnessed the establishment of two more waterbird networks: the East Asian-Australasian Shorebird Site Network, in which twenty-four sites from ten countries participate, and the East Asian Anatidae Site Network.

In addition to the founding of these networks, the late 1990s saw the emergence of collaborative efforts at the ministerial level. Following a proposal by the ROK, the Tripartite Environment Ministers' Meeting (TEMM) between China, Japan and Korea was held in Seoul in January 1999. The three countries recognized the need to cooperate and to improve the level and quality of environmental cooperation in the subregion. The TEMM is to be held on a yearly basis. The second TEMM was held in Beijing in February 2000, and the ministers agreed to develop and work on specific projects, focusing particularly on raising consciousness of the people of the three countries as an environmental community, preventing freshwater pollution and land-based marine pollution, and on promoting eco-industry or eco-businesses. The three countries have already begun to develop project proposals, and steps have been taken toward implementation.

Other initiatives covering a wider geographical area have also been made. Among them is an effort made by the Asia-Pacific Economic Cooperation (APEC) forum. This forum was inaugurated in 1989, and includes eighteen countries and economies. The first Environmental Ministerial Meeting, held in 1994, developed an APEC Environmental Vision Statement. Following this statement and other declarations, APEC developed a three-pronged environmental work programme, namely (1) the integration of environmental and economic considerations into APEC working groups; (2) sustainable cities, clean technologies, and the marine environment; and (3) a long-term focus on food, energy, the environment, economic growth, and population.

On the scientific front, the Asia-Pacific Network for Global Change Research (APN) was established in 1995 for the purpose of strengthening links between the scientific community and policymakers in the Asia-Pacific region. APN is an intergovernmental network which seeks to promote, encourage and support research activities, focusing on long-term global changes in climate, ocean and terrestrial systems, and on related physical, chemical, biological and socio-economic processes.

Finally, the Environment Congress for Asia and Pacific (ECO ASIA) must be mentioned. ECO ASIA was initiated by the Environment Agency of Japan, with the objective of fostering policy dialogue and cooperation on environmental and developmental issues among environmental ministers of participating countries. While ECO ASIA was originally intended as an informal forum for information exchange and discussion between ministers, it has endorsed the ECO ASIA Long-term Perspective Project aimed at identifying options for environmental policies that promote long-term sustainable development of the Asia-Pacific region. This project has identified major environmental issues confronting the region; examined their links with socio-economic issues; and forecasted the future social, economic, and environmental issues that may result from different regional development scenarios.

(2) Southeast Asia (ASEAN)

Southeast Asia, as referred to here, embraces the ten countries of the Association of Southeast Asian Nations (ASEAN). Southeast Asia has a longer history of sub-regional environmental cooperation than the other sub-regions of Asia. Since its establishment in 1967, ASEAN has emphasized "functional cooperation" between member states on science and technology, culture and information, social development, and the environment (ASEAN Secretariat, 1995a).

The beginning of collaborative efforts on the environment can be traced back to 1977, when the ASEAN Sub-regional Environment Programme (ASEP) was developed in collaboration with UNEP. ASEP I designated six priority areas and listed more than one hundred projects and activities. Thereafter, two similar programmes were developed and implemented. In 1993, a new ASEAN Strategic Plan of Action on the Environment was agreed upon, consisting of ten strategic thrusts and twenty-seven supporting actions (ASEAN Secretariat, 1994). In addition, the ASEAN Cooperation Plan on Transboundary Pollution was agreed to in 1995 (ASEAN Secretariat, 1995b). In 2000, an Environmental

Education and Training Action Plan was also developed, in collaboration with UNEP-ROAP (Pradham, 2000).

The organizational structure to support these plans consists of the ASEAN Senior Officials on the Environment (ASOEN) and its subsidiary working groups, the meeting of environmental ministers, and the ASEAN Secretariat. Ministerial meetings are held every three years to ensure the implementation of decisions made by the heads of government and to adopt action plans. ASOEN meets every year to review the implementation of the plans, and to provide operational policy guidance. The ASEAN Secretariat administers all those activities.

In addition to the plans mentioned above, more focused and intensive collaboration also started in the late 1990s. The haze experienced in Southeast Asia in 1997 resulted in the most serious challenge for the sub-region, particularly in Indonesia, Malaysia, Singapore and Brunei Darussalam. Accordingly, a Haze Technical Task Force was set up in 1995, and the Regional Haze Action Plan was adopted by ASOEN meeting in 1997 for the purpose of fighting land and forest fires. Major components of the Plan are to take preventive measures, to establish regional monitoring mechanisms, and to increase fire-fighting capacity. Furthermore, environment ministers from each country agreed to initiate the process of negotiating for an ASEAN Agreement on Transboundary Haze in 2000. ASEAN, in close collaboration with UNEP, has conducted a feasibility study on a comprehensive assessment of legal, institutional and administrative arrangements, and has been drafting the agreement.

In parallel with these initiatives, the Hanoi Plan of Action, the first in a series of comprehensive long-term ideas adopted at the ASEAN Summit in 1998, identified fifteen activities for environmental protection and sustainable development to be undertaken, with emphasis on transboundary haze control (ASEAN Secretariat, 1999).

Aside from those non-binding plans and programmes, ASEAN developed an Agreement on the Conservation of Nature and Natural Resources, which is the only environmental treaty of ASEAN to date. The agreement was concluded and signed by foreign ministers from all six ASEAN countries in 1985. Of the six, Indonesia, the Philippines and Thailand ratified it in 1986, while Brunei Darussalam, Malaysia and Singapore have not. Consequently, the agreement has not entered into force.

(3) South Asia

South Asia refers to seven countries—Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Although a number of bilateral agreements on environmental issues between South Asian countries had been reached, no multilateral initiatives existed until the early 1980s when environmental ministers from eight countries adopted the South Asia Cooperative Environment Programme (SACEP) in 1982. Covering broad priority subject areas, implementation of this programme was poor. This does not, however, negate the significance of SACEP, since it provided a solid basis and justification for member countries and collaborating international agencies to initiate cooperative projects focused on single issue areas identified by SACEP.

SACEP has the characteristics of a modest-sized regional environmental organization, consisting of three major organs: the Governing Council, the Consultative Committee, and the secretariat. SACEP, as an organ, provided secretariat and administrative services for implementing its own programmes, together with other environmental initiatives such as the Malé Declaration on air pollution endorsed by UNEP Environmental Assessment Programme for Asia and the Pacific (UNEP/EAP-AP) (Shihab, 1997).

The South Asian Association for Regional Cooperation (SAARC), which seeks to accelerate the economic and social development of its seven member states, has also pursued regional cooperation on the environment. SAARC has been particularly concerned with transboundary and global environmental issues such as natural disasters, climate change and transboundary movement of hazardous wastes, and has developed an action plan.

In addition to these two major comprehensive initiatives, several plans focusing on single issues have been developed in South Asia. The launch of the Regional Seas Program was called for by SACEP member states at UNEP's Governing Council in 1982, resulting in the "designation of the region as a part of UNEP's Programme" in 1983 (Abeyegunawardene, 1997). The program involves the five marine states of South Asia—Bangladesh, India, the Maldives, Pakistan, and Sri Lanka. These countries adopted a South Asian Seas Action Plan at a meeting of

plenipotentiaries, held in New Delhi in 1995. The Action Plan came into force in 1998. The SACEP secretariat has been designated as the secretariat for implementing the plan.

With regard to air pollution, the Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia was agreed upon during the 7th SACEP Governing Council meeting in Maldives in April 1998. The declaration was signed by Bangladesh, Bhutan India, Iran, Maldives, Nepal, Pakistan and Sri Lanka. The implementation plan for the Declaration consists of three phases, and Phase One—network establishment, baseline studies and development of action plans at national and regional levels—was carried out between May 1998 and March 2000. An institutional arrangement to support the implementation of Phase One consists of UNEP/EAP-AP, the Stockholm Environment Institute (SEI) and SACEP. UNEP/EAP-AP has administered the implementation of the Declaration in collaboration with SACEP, and SEI has provided substantial technical support. SEI's contribution was a part of its Regional Air Pollution in Developing Countries Program funded by the Swedish International Development Authority (SIDA).

An Environmental Education and Training Action Plan was also developed in 2000 by SACEP, in collaboration with UNEP-ROAP (Pradham, 2000). The action plan presents "an overall regional framework to educate and train people to deal with major environmental problems ... and to sensitize people on the need to eliminate the root causes of environmental degradation such as poverty, population pressures, overpopulation, wasteful production, human greed and underdevelopment" (SACEP & UNEP, 2000).

Figure 2 indicates the areas and countries covered by various sub-regional environmental programmes.

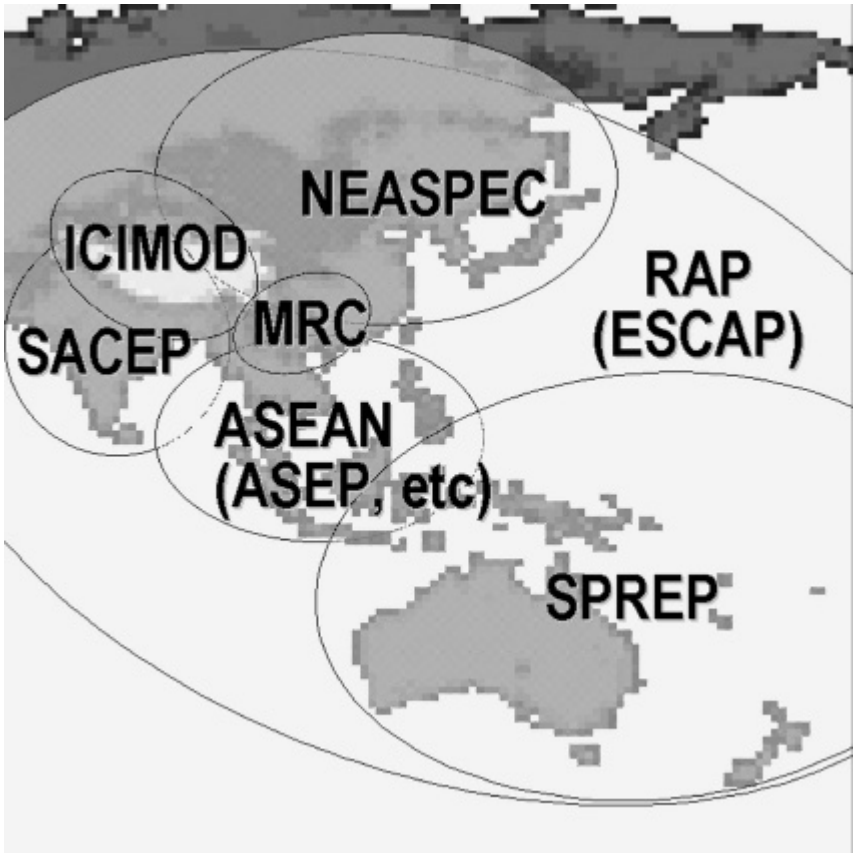


Figure 2. Major sub-regional initiatives

Actors in the regional environmental cooperation arena

(1) Regional organizations

As in the case of Europe, regional organizations have played significant roles in addressing, identifying, coordinating and implementing joint environmental activities. This is demonstrated by a number of EC/EU efforts to unify environmental standards in connection with economic activities such as trade and manufacturing. In the case of long-range transboundary air pollution control, the Convention itself was facilitated and coordinated by the United Nations Economic Commission for Europe (UN/ECE). It is worth pointing out that EC/EU financial and technology transfer mechanisms have official and unofficial links with the LRTAP Convention. This apparently made it easier for member states to comply with the LRTAP Convention and its protocols (Nordberg, 2000).

Because it does not have a strong central bureaucracy, as does the EC/EU, the ASEAN has provided minimal, largely administrative support to member states through the ASEAN Secretariat (Tay, 2000). It has drafted many regional environmental action plans, three ASEAN environmental programs (1978-1992), two strategic action plans (1994-), and transboundary pollution action plans (1995-) (ASEAN Secretariat, 1994, 1995).

The institution supporting those plans and programs is well structured, consisting of summits, ministerial meetings of both foreign affairs and environment, senior officials meetings, working groups and the ASEAN secretariat. Consequently, ASEAN has managed to develop a comprehensive and strategic framework for environmental cooperation with few redundancies.

In South Asia, both SACEP and SAARC have played similar roles as ASEAN. SACEP was established for environmental protection, whereas SAARC aims for broad collaboration on economic and social development. Institutional arrangements of the latter include: summits, the Council of Ministers, the Standing Committee, technical committees for respective fields, and the SAARC secretariat, while the structure of the former consists of the environment and forestry ministers meeting, senior officials meeting—the Consultative Committee—and the secretariat, but without summits. With no formal link between the two major institutions for cooperation, SACEP and SAARC, the SACEP has had limited success in mobilizing resources and implementing regional activities (Chatterjee, Mehra and Banerjee, 2000).

SACEP has apparently placed priority on broad areas of activity, including local and national environmental issues and training. SAARC, on the other hand, has given more attention to global and international issues, such as climate change and transboundary movement of hazardous wastes, and has attempted to establish a common position for SAARC countries in global negotiations. There has been, nevertheless, redundancy between the activities of the two institutions.

Northeast Asia is characterized by the fact that no comprehensive regional organization equivalent to EC/EU, ASEAN, SAARC or SACEP exists, resulting in the emergence of several independent initiatives on environmental cooperation. The functions and activities of each subregional program, plan, and forum may overlap. In fact, redundancies seem inevitable in Northeast Asia.

The absence of a regional organization also affects the institutional and financial arrangements of each program and its plans. For example, the location of the secretariat ranges from UN/ESCAP, to UNEP, to China, and to Japan, or on a rotating basis. Accordingly, the status of participating states differs from one initiative to another, depending on diplomatic relations between countries within the region, and the international membership of the host organizations.

(2) International organizations

UN organizations have conducted various activities underlining their catalytic and coordinating role in promoting regional and subregional cooperation in environmental fields. The most notable contribution of UNEP in promoting subregional cooperation lies in its role in coordinating and initiating the Regional Seas Programme, which includes the Northwest Pacific Action Plan, East Asian Seas (EAS) Action Plan and South Asian Sea Action Plan.

Attaching high priority to sub-regional approaches, UNEP has also provided substantial support to drafting various

action plans in most sub-regions, together with technical and financial assistance for a number of projects developed under the respective subregional environmental programmes (Natori, 2000).

UNDP, which helps developing countries adopt integrated approaches to natural resource management to improve the lives of people living in poverty, has also provided financial and technical assistance to subregional environmental initiatives in the developing world. The GEF has provided technical assistance grants to proposed biodiversity and climate change projects in Asia, including an emergency response project to prevent haze in Southeast Asia by fighting forest fires in Indonesia, and a project to prepare a Strategic Action Programme for the Tumen River Area Development Program.

International banks such as the Asian Development Bank and the World Bank have provided large amounts of financial assistance to environmental activities in the region. In particular, ADB's regional technical assistance grants have played a significant role in facilitating collaboration between countries. This is particularly true in the case of transboundary haze mitigation projects in Southeast Asia. It appears that the grant led to a good start toward ASEAN's implementation of the Regional Haze Action Plan (Pippinyo and Prasiddha, 1999).

UN/ESCAP, which holds ministerial meetings on environment and development every five years, develops regional action programmes for sustainable development with five-year time frames, as a follow-up to UNCED. To ensure effective implementation of the programmes, ESCAP conducts consultations on a subregional basis. In keeping with this purpose, subregional efforts, including several action plans endorsed by ASEAN, NEASPEC, and SACEP were examined at the 4th ESCAP ministerial meeting held in 2000 in Japan (Ichimura, 2000). ESCAP has devoted itself to maintaining and facilitating subregional meetings, particularly in the case of Northeast Asia. Upon request from countries of the subregion, UN/ESCAP has acted as the interim secretariat of NEASPEC since 1997, and has coordinated its activities. Furthermore, ESCAP held a senior officials meeting in Central Asia, where no regional organizations for environmental cooperation exist, and initiated the process of formulating subregional environmental programmes in the late 1990s (Karim, 1999).

There is, however, a limit to the role of international organizations. Due to their lack of financial resources, South Asia and Southeast Asia have mostly relied on external financial support from international organizations, together with bilateral donors, to implement their environmental activities. Funding has mainly been provided on a project-by-project basis. This has resulted in a large number of project proposals which did not attract donors' attention, and were simply not carried out.

Except for bilateral financial and technical assistance to China and other developing countries, Northeast Asia receives less funding from international organizations, since the region contains two developed countries, Japan and South Korea. Instead, international organizations have given more attention and resources to supplement the poor political relations in this region (Shrestha, 2000). This is true for the Northwest Pacific Action Plan and NEASPEC. The former is administered by UNEP, whereas the latter has been managed by UN/ESCAP. The Acid Deposition Monitoring Network will be a new addition to this list, since its secretariat will be located at UNEP/EAP-AP after 2002. Although countries in the subregion want UN/ESCAP to continue to take responsibility, UN/ESCAP wants to give up the position.

(3) National governments

National governments are the most important actors among those involved in the process of environmental cooperation. Regional cooperation should be based on spontaneous initiatives between countries. Transboundary pollution, or even global environmental problems, are rooted in human activities taking place at the local and national levels, and are therefore best dealt with at the level closest to the source (Kato, 2001). Without the commitment of national governments, regional cooperation cannot be successful.

Most national governments state that they attach great importance to environmental protection and sustainable development. There are, however, gaps between words and action. When negotiating concrete commitments, different viewpoints are often expressed, which has hindered progress on regional cooperation.

The legacy of ASEAN has been to avoid such critical situations, applying the norm of the so-called "ASEAN way"—non-interference and aversion to a strong central bureaucracy. The primary emphasis of any action plan adopted by ASEAN is to develop national plans without binding commitment. Implementation of plans is left to the capabilities of each country.

The long-lasting and recurrent episodes of transboundary haze pollution provided a testing ground for the ASEAN way. Against the norm of the ASEAN way, several member countries criticized Indonesia by name for causing suffering in neighboring countries and not taking immediate stringent countermeasures. To this end, ASEAN ministerial meetings have repeatedly stressed that each government should consider the inclusion of presumptive provisions in their national laws to discourage landowners from allowing open burning to take place on their land.

Yet, the stringency of existing command-and-control measures varies, as does enforcement of, and compliance with, national laws and policies. In the case of Indonesia, it is unlikely that strict, zero-burning legislation will be introduced in the near future. Even if such legislation were to be introduced, compliance would be hindered by political uncertainties in Indonesia.

In the case of Northeast Asia, countries of the subregion have not reached the point of negotiating concrete commitments. Because of the great diversity in terms of their level of economic development and political systems, countries in Northeast Asia have expressed different views and approaches to environmental cooperation, especially China, Japan and South Korea.

China, suffering from devastating environmental deterioration including heavy industrial pollution, desertification, and inland water and coastal marine pollution, believes that subregional cooperation should be focused on these issues. China also believes that developed countries in the subregion should offer substantial financial support for the establishment and operation of environmental programmes, as well as technical assistance for projects in their priority areas. China is quite sensitive to the use of the term "transboundary," as it does not wish to be seen by other countries as causing pollution that threatens environmental conditions in territories outside its borders.

Japan believes that it has long worked to satisfy China's demands through official development aid on a bilateral basis. Japan also appears wary of multilateral initiatives, out of concern that such an initiative could become another channel for development assistance. Japan prefers to focus on monitoring the state of the environment and transboundary pollution. Multilateral initiatives undertaken or endorsed by Japan target the wider region of East Asia, or the entire Asia-Pacific region, rather than focusing on the subregion of Northeast Asia. Japan has also suggested that countries participating in a cooperative programme should share the burden, to the extent possible under their present circumstances.

South Korea is keener to promote multilateral environmental cooperation focusing on Northeast Asia. It apparently believes that multilateral initiatives should include both technical projects as preferred by China and monitoring-type environmental management projects as preferred by Japan (Valencia, 1998). South Korea has tried to reconcile the approaches of both China and Japan by proposing that priority projects of NEASPEC be focused on energy and air pollution. It seems that South Korea prefers the presence of international organizations in such multilateral initiatives. It has suggested that coordinating mechanisms for environmental cooperation channel financial and technical assistance from international organizations including UNDP, UN/ESCAP and ADB.

International relations within Northeast Asia have been dominated by strong bilateral cooperation with the United States, rather than multilateral cooperation between countries of the subregion. This is particularly true for Japan. Recent evidence shows that China has begun to show its interest in multilateral approaches. It is an opportune time to enhance multilateral environmental cooperation in Northeast Asia. With the absence of regional organizations, and different and sometimes competing perspectives of national governments, and having had little expertise in multilateral diplomacy, countries of Northeast Asia are facing new ground.

Bilateral relations with the predominant power, India, have also dominated international relations within South Asia. As a result, transboundary environmental issues, as seen in the case of Northern watersheds on the Indian subcontinent

being devastated by inappropriate cultivation, deforestation and water contamination, have been dealt with mostly on a bilateral basis.

It can be safely said that the countries of South Asia, except for India, would choose multilateral collaboration. However, their multilateral initiatives have not been very strong. It was only during the late 1980s that the countries have shown concern for environmental issues at SAARC, mostly due to the need to create a common position in global environmental negotiations. This progress was suspended by political tension caused by the nuclear tests in India and Pakistan. An early resumption of ministerial meetings on the environment is unlikely, since India maintains support for furthering SAARC at the technical level only.

In spite of these unfortunate developments, environmental cooperation based on SACEP has become more active. Since it does not involve any meetings at the summit level, SACEP has been enjoying the freedom to make its own decisions. The evidence shows that implementation of the Malé Declaration is making progress in a positive and speedy manner, with the participation of both India and Pakistan.

Furthermore, an attempt has been made to promote the sharing of water quality data in South Asia, involving scientists and researchers from Bangladesh, India, Nepal, Pakistan, and Sri Lanka. This project was proposed by a research institute funded by the United States government, which hopes that "cooperative monitoring projects among neighboring countries in South Asia could build regional confidence, and, through gradual improvements in relations, reduce the threat of war and the proliferation of weapons of mass destruction." (Rajen, 1999).

(4) NGOs, citizens and academics

International NGOs and NGO networks are among the newly emerging actors in environmental governance in Asia. Although most of them target single countries on single issues, several NGOs or their networks have taken regional approaches to environmental protection.

Some NGOs are linked to regional institutions endorsed by international and regional organizations and national governments. One encouraging example is an IUCN regional aquatic ecosystems programme in Asia. IUCN has maintained strong ties with the Mekong River Commission, and has conducted environmental assessments of developments in the lower river basin to create protected wetlands areas, support national agencies, increase institutional capacity, assist governments with the implementation of the Ramsar Convention, disseminate information and promote communication between various actors (IUCN, 2000).

Another example is migratory waterbird protection. The late 1990s witnessed the emergence of several waterbird networks, which are administratively managed by Wetlands International-Asia Pacific. The networks link a number of important sites for the survival of waterbird from several East and Northeast Asian countries. The networks also link researchers, conservationists, governmental officers and other parties concerned about waterbird protection, and provide a basis for joint research and conservation activities in an open manner.

Nevertheless, NGO participation in multilateral environmental cooperation has thus far been limited in every subregion in Asia. A number of critics have suggested that regional initiatives to address environmental issues are often top-down, with little involvement of civil society, local governments and NGOs, especially at the decision-making level (Nicro, 1999). Appropriate mechanisms for bringing the public and NGOs into play do not currently exist.

University and research institute academics, as well as individual technical and scientific specialists, are newly emerging actors in the field of regional environmental cooperation in Asia. Academics play significant roles in identifying environmental threats, drafting action plans and agreements, and monitoring the implementation of the agreements in cooperation with officials of international organizations and national governments. In fact, the decision-making processes of several action plans and agreements of ASEAN and SACEP/SAARC have involved a number of lawyers and scientific specialists from several academic institutes, such as the Asia-Pacific Center for Environmental Law (Singapore), Institute of Southeast Asian Studies (Singapore), the Asian Institute for Technology (located in Thailand), Thailand Environment Institute, and Tata Energy Research Institute (India).

Although collaboration has been mostly on a single-project basis, some research institutes have started to deal with more comprehensive tasks, such as creating regional plans and institutions, and following up on their implementation. This is particularly true for the Stockholm Environmental Institute. Taking advantage of its well-developed expertise in regional approaches to long-range transboundary air pollution control, the Institute assisted UNEP/EAP-AP and SACEP in drawing up the Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia. The Institute has also assisted UNEP/EAP-AP, SACEP and its member states with developing common monitoring guidelines, provided technical and financial assistance, and has reviewed the implementation processes.

International joint research among academics has also been expanding since the 1990s. The creation of mechanisms to support such research efforts, such as APN and GEF-funded research projects, has accelerated the trend.

This is not to say that such efforts are sufficiently advanced to create transnational "epistemic communities," or communities of experts sharing common values and approaches to policy problems (Haas, 1990). Haas attributes the success of regional efforts to control marine pollution in the Mediterranean Sea to "the involvement of ecologists and marine scientists who set the international agenda and directed their own states' support to international efforts and toward the introduction of strong pollution control measures at home." It seems the time has not yet come for the emergence of such a community in Asia.

On the contrary, the evidence shows that most links between international and governmental organizations and academics, or between academics and other academics are on an *ad hoc* basis. These insufficient links sometimes cause friction between scientists, and also between scientists and policymakers. In several cases, some have criticized the fact that scientists from only a single country consulted with decision-makers on regional initiatives, and took over the decision-making process.

c. Business and environmental governance

During the early stages of development of environmental policies, especially during the 1960s and 1970s, Japanese industries were merely responding to government regulations and to mounting public pressure. Their efforts were further reinforced by energy price hikes triggered by the oil crises of the 1970s. With the advent of global environmental problems such as depletion of the ozone layer and the threat of global warming during the latter half of the 1980s, they became increasingly aware of corporate responsibilities as an important player in global environmental governance. Japanese big businesses, especially those with global markets, began to take more proactive stances toward environmental issues. Now there is an observable trend toward attempts and initiatives to deal with environmental issues through voluntary commitments and self-governance, including acceptance of pollution prevention agreements, adoption of company environmental charters, submitting themselves to environmental audits, certification and observance of ISO14000 series of environmental management standards, implementation of voluntary action plans, and the Responsible Care programme of the chemical industry, etc., rather than simply complying with government regulations.

3. Conclusions

3.1 Conclusions

a. National environmental governance

Processes

(1) Agenda-setting

Agenda-setting for environmental policies in Asian countries has depended largely on the central governments' initiatives. At first, the most influential factor in environmental agenda-setting was the pressure to raise awareness from the international community rather than domestic environmental movements or pollution damages. In fact, the 1972 UN Conference on the Human Environment (UNCHE) became a watershed for the governments of China, India and the ASEAN member countries to develop their environmental policies. Afterwards, when each country went through a period of rapid economic growth, pollution incidents and degradation of the natural environment led to new policy responses.

The civil society actors such as environmental NGOs and business corporations in Asian countries have partly gained opportunities to participate in the policy-making process in the field of the environment. In the Philippines, South Korea and Thailand, national councils or forums for building consensus on environmental policies have been organized, which are comprised of representatives from both public and private sectors.

(2) Policy instruments

Many Asian governments have introduced policy instruments such as environmental impact assessment (EIA) procedures and market-based instruments (MBIs), which had been adopted earlier in Western countries and worked effectively there. But rarely have Asian countries made innovative modifications or adjustments to the policy instruments introduced from other countries. These policy instruments have, in many cases, been transferred to Asian countries through international development assistance programmes and projects with environmental components. However, it needs to be carefully examined whether the more advanced policy responses transferred from Western countries work in the same way under existing conditions in Asian countries. In Bangladesh, for example, EIA procedures are now being practiced in large-scale projects carried out by foreign companies, but are yet to be applied widely to domestic projects.

(3) Policy implementation

Even though the tempo of institutional development of environmental policies in Asian countries has been faster than that of their economic growth when compared to the past records of Western nations, the ineffectiveness of environmental policies and institutions has become a serious problem. Strong initiatives of the central governments are often not accompanied by adequate reflections on the ground-level realities of policy implementation and have failed to address the root causes of priority environmental problems of a specific locality. In other words, the policy-making process in these cases does not provide for adequate channels of communication between governmental and private sectors. Therefore, business enterprises have had few incentives to respond to such environmental policies, and the public is not motivated to play an active part in the process of policy implementation.

Recently, some of the Asian governments began to plan and implement environmental programmes jointly with various social actors; viz. Water Pollution Control in the Huaihe River Basin in China, Samut Prakarn Water Waste Management Project in Thailand, and the PROKASIH (clean river) programme in Indonesia. These new types of environmental programmes are expected to be implemented successfully.

Policy recommendations

Taking into consideration the summary of findings and conclusions of the country studies described above, the Environmental Governance Project suggests the following preliminary ideas for improving the environmental governance systems in Asian countries:

- Establish a network of regional and sub-regional institutions to monitor and review the status of environmental policy development and implementation in Asian countries. Widely disseminate the information and data obtained through various channels, including mass media and the Internet.

- Undertake a comprehensive review of existing laws, policies and institutions related to environmental management in both public and private sectors with a view to identifying and removing any gaps or inconsistencies among them. Further integrate environmental considerations into economic and other sectoral development policies and processes, and thus consolidate the ground for an overall policy framework for building a sustainable society.

- Promote decentralization and devolution of powers to local governments in environmental policy-making and implementation, in particular by delegating more authority as well as resources and responsibilities for environmental protection to relatively larger units of local government.

- Expand the membership and participation of environmental NGOs and other civil society organizations in national and local legislative or other policy-making bodies, and involve representatives of affected local communities in the process of planning and implementation of regional/local development programmes and projects.

- Explore the possibilities for applying the concept of strategic environmental assessment (SEA) and management (SEM) in the field, while ensuring that the existing procedures for environmental impact assessment (EIA) are actually followed and opportunities for public participation in EIA processes are enhanced and utilized.

- Give special consideration to bringing small firms and factories into compliance with environmental regulations, without imposing severe costs on them.

b. Regional and sub-regional environmental cooperation

Northeast Asia

The characteristic features of existing programmes and mechanisms for environmental cooperation in the subregion are summarized below (Table 1).

Parallel institutions: Several institutions for environmental cooperation were established through different channels, including environmental ministries, official diplomatic channels, officers of environmental ministries and agencies, NGOs, and academics, but with little coordination between the various channels. Consequently, some initiatives contain material that is redundant.

Table 1. Major environmental cooperation initiatives in Northeast Asia

Issue / Channel	Comprehensive	Sectoral
Ministerial	TEMM	
Diplomatic	NEASPEC	NOWPAP EANET
Environmental Ministries	NEAC	
Citizens/ NGOs	NAPEP	

Multi-layer structure: Geographical coverage of environmental cooperation initiatives ranges from global, wider-than-regional to sub-regional. Some multilateral initiatives target Northeast Asia, while some others target the whole region of East Asia or, even more broadly Asia and the Pacific. The evidence shows that South Korea tends to favor a focus on Northeast Asia, whereas Japan focuses on the broader region (East Asia) or the entire Asia-Pacific region.

Different membership: The status of participating countries differs from one initiative to another, depending on diplomatic relations between countries and on the international membership of the host organization.

Weak institutional/financial structure: Since most of the regional environmental initiatives have little organizational structure and weak financial foundations, cooperation has made only slow progress. In the absence of regional organizations that can administer regional environmental plans and programmes, each initiative must start negotiations from scratch. Some initiatives have stagnated in terms of institutional and financial development.

The evidence shows that weaknesses and inadequacies in environmental cooperation schemes in Northeast and East Asia have hindered the progress of regional cooperation on single issues such as acid rain and marine pollution control. The question to be answered is whether and how the region can get out of this stagnation.

In the case of acid rain control, the first regional step taken in Europe was to gather scientific facts on acid deposition, the emissions of pollutants, and reaction, transport and diffusion mechanisms. The second step was to develop efficient strategies for acid rain control. In this process, several protocols were adopted. The third step was to implement pollution abatement and prevention processes, mostly at domestic and local levels. Considering the fact that the Acid Deposition Monitoring Network has just become operational on a regular basis, this East Asian region is currently at the first step: that of the mid-1970s in Europe. One of the biggest differences between Europe and East Asia is that the third step has already started to take shape. That is, countries in the region are paying more attention to, and strengthening national laws and regulations on controlling air pollution and acid rain. A large amount of environmental investment has been given to China through both official development assistance and private foreign investment. The creation of a "China Council," which consists of China as well as its donor countries, and coordinates international assistance to China, is also a step in the right direction.

Considering these facts, it might safely be said that a significant degree of collaboration has already taken place on the issue of acid rain in Northeast Asia. Much of this collaboration is, unfortunately, undertaken in a fragmented manner. Therefore, the region needs to form links between individual initiatives and financial mechanisms, between bilateral and multilateral aid programmes, between donor agencies, and between regional cooperation initiatives and financial aid mechanisms.

Northeast Asia needs to create a mechanism for systematic coordination between all the initiatives, in particular between initiatives addressed at similar or related issue areas. To make it easier, the first step to be taken would be to set up a system that maintains transparency and full disclosure. Recently, some regional and subregional initiatives set up their own web pages on the Internet. (These include the EANET, TEMM, TRDAP and the Crane Network. Collaborative activities of NEASPEC are also introduced in UN/ESCAP homepage.) This trend should grow and be further enhanced.

In the long-term, a comprehensive and strategic environmental action plan should be developed for medium and long-term objectives. Such action plans have already succeeded in other regions and sub-regions such as the EU, the Baltic Sea region and ASEAN.

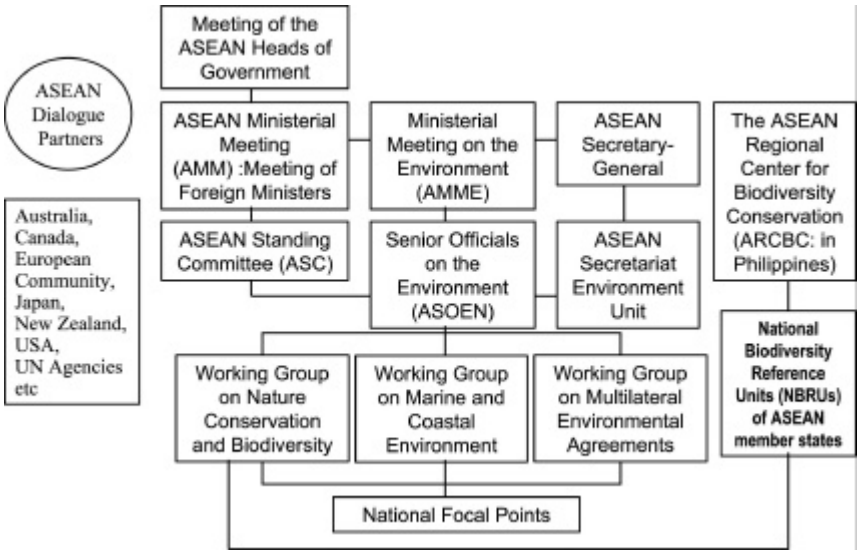
One long-term objective for Northeast Asia would be to create a framework in which all parties in the sub-region can participate. Because of the political sensitivities and security situation in the sub-region, this objective will not be easily achieved. Therefore, international organizations and NGOs must act as intermediaries for the countries in the sub-region.

In addition, countries of this region need to improve their diplomatic relations and skills to handle the complex and difficult challenges of different political systems and perspectives. This is particularly true for Japan and South Korea. Although the two countries have much in common with each other in that they are willing to promote and lead various environmental initiatives, they are working in different directions, resulting in parallel institutions and, consequently, stagnation. Both countries need to develop strategies for regional cooperation that incorporate their own, as well as other's interests and the common interests of the sub-region.

Southeast Asia (ASEAN)

The characteristic features of existing programmes and mechanisms for environmental cooperation in the subregion may be summarized as follows:

Well-established institutional structure: A number of environmental action plans and programs have been initiated by ASEAN, which has developed the expertise necessary for administering regional cooperation in various fields. ASEAN's well-designed organizational structure has been applied to the environmental field, resulting in ministerial meetings on issues related to environment and development, senior officials meetings, working groups on single issues and an environmental unit in the ASEAN secretariat. There are strong affiliations between each component of the organizational structure. Accordingly, there has been little redundancy between environmental cooperation activities within ASEAN.



Source: Koh Kheng Lian, 1 January 2000

Figure 3. Organizational chart of ASEAN environmental cooperation

Weak financial structure: ASEAN is not strong financially, and has mostly relied on external financial support, provided mostly on a project-by-project basis, for implementing its environmental activities. This has led to failure in executing several project proposals that did not attract donors' attention.

In order to deal with these deficiencies, ASEAN needs to enhance the capacity of the ASEAN secretariat as well as member governments to raise the necessary funds for the implementation of environmental plans, and focus more on priority areas of action. The evidence shows that ASEAN has already moved in that direction. At the ASOEN meeting chaired by Singapore in 1998, a decision was made to "restructure and streamline the ASEAN working groups to be more responsive to emerging regional and international environmental issues." As a result, only three working groups were maintained on Nature Conservation and Biodiversity (chaired by the Philippines), Coastal and Marine

Environment (chaired by Thailand), and Multilateral Environmental Agreements (chaired by Malaysia) (Sunchindah, 1998).

In addition to the points stated above, some critics have suggested that the modes of ASEAN cooperation—the "spirit of ASEAN" or the "ASEAN way"—might be inappropriate for dealing with environmental challenges (Hamzah, 2000; Tay, 2000). The "ASEAN way" emphasizes "the norm of non-interference in other states' affairs." To this end, controlling transboundary air pollution including haze episodes would provide a real measure of effectiveness of the " ASEAN way."

This trend, however, is likely to change. ASEAN environmental officials have officially denounced Indonesia's forestry and land use policies, even though such issues are matters of sovereign territorial rights. ASEAN is in the process of developing and negotiating the ASEAN Agreement on Transboundary Haze. The development of a legally binding treaty is, however, not the only solution. It is more important to create mechanisms for bringing countries to comply with international commitments. To this end, regional policymakers will need to coordinate their activities with technical and financial assistance mechanisms.

South Asia

Parallel institutions: The establishment of SACEP was a milestone for multilateral environmental cooperation in South Asia. A number of action plans and programmes have been identified and implemented under SACEP. A parallel regional organization, established three years after the creation of SACEP, has also pursued regional cooperation on environmental issues. With no formal link between the two major institutions, there are certain redundancies between their activities. Some point out that this limits the ability of SACEP to mobilize resources and implement its own plans and programmes.

Weak financial structure: Facing several critical problems such as expanding populations, poverty and an unsustainable use of natural resources, South Asia has problems in mobilizing sufficient financial resources for environmental protection. Funding comes from international organizations and bilateral donors, but only according to the donors' preferences. The amount of funding from within South Asia and other sources is insufficient to carry out all the planned environmental activities.

Since there are no formal ties between the two major regional institutions, SACEP and SAARC, the organizations need to strengthen regional environmental cooperation by working together on projects and activities.

However, there are no signs of such a working relationship developing to date. Political tension caused by the nuclear tests in India and Pakistan has led to a suspension of any collaborative activities by SAARC. In spite of these unfortunate developments, environmental cooperation based on the SACEP has become more active. SACEP therefore needs to advance the strategic goals of regional environmental cooperation, which will benefit both sustainable development and the fostering of mutual trust and peace in the region. To this end, a workshop on South Asia Water Resources to promote water quality data sharing in South Asia, organized by a research institute funded by the United States government, is a step in the right direction. It is likely that such collaborative efforts will be of assistance in "build[ing] regional confidence, and, through gradual improvements in relations, reduc[ing] the threat of war and the proliferation of weapons of mass destruction" (Rajen, 1999).

c. Business and environmental governance

The March 1999 workshop held a panel discussion on the topic of "applicability and transferability of [the] Japanese business sector's experiences to other countries of Asia." Some speakers emphasized the significance of drawing lessons from failure rather than success, indicating several examples. Also, it was pointed out that, in order to examine the applicability and transferability, there is a need to consider not only policy instruments but also the complex background of particular social, economic and other factors and systems within an integrated framework. Furthermore, with respect to pollution control investment, it was suggested that developing countries should make use of "late-comers' advantages."

3.2 Remaining issues for future research

Included among the findings of country studies are some policy recommendations such as strengthening institutions and/or legal provisions and the introduction of new policy instruments for improving the effectiveness of environmental governance, but most of these proposals require further in-depth analyses to determine their level of specificity, appropriateness and feasibility under the prevailing conditions of each country or the region as a whole. As a consequence, the Environmental Governance Project has not yet reached a stage where it can make such comprehensive assessments and specific policy recommendations with a reasonable degree of confidence. By pursuing further in-depth studies, it should lead to concrete and practical policy proposals suited to the specific needs and circumstances of each country or region.

The relationship between national capacities for environmental governance and the processes of globalization in general, and trade and investment in particular, political democratization, decentralization, and the ongoing revolution in information technology and biotechnology need to be studied further. (However, it should be noted here that a modest start was already made by the EG Project through a study of the relationship between the processes of globalization and environmental governance. See Section 2.2.1 on Methodology, Sub-section d. “Globalization and environmental governance.”)

Financing and institutional (particularly secretariat) arrangements for the further development and strengthening of regional and sub-regional programmes and mechanisms for environmental cooperation need to be pursued.

4. Evaluation and achievements

4.1 Assessments of major outputs

a. Originality of the Project research

National governance systems

While a number of studies have been conducted on environmental policies of national or local governments in Asia by individual researchers as well as international agencies (notably by the World Bank, ADB, OECD, and ESCAP), few of them are comprehensive enough to cover the various roles and functions performed by private businesses, NGOs and civil society in environmental governance. The Environmental Governance Project is a rather rare, if not unique, example of strategic research whereby an entire range of processes, actors and institutions involved in environmental governance is treated as a system and policy proposals have been developed to improve the design and operation of that system.

Regional environmental cooperation

In view of the fact that there was little precedent of similar studies before the project team undertook the comparative analysis, the findings and conclusions of the research project will be of assistance to policy-makers in understanding the whole picture of regional/sub-regional environmental cooperation, and in considering future steps to be taken to strengthen such cooperative programmes, mechanisms and institutions.

b. Advancement from existing research level

In each of the Asian countries studied under this project, the most up-to-date information was collected and analysed, factors significantly affecting the effectiveness of environmental governance were identified, and suggestions and recommendations were made to improve the effectiveness of national environmental governance systems and structures, albeit on a highly generalized level at this stage.

In the case of the comparative study of regional and sub-regional programmes for environmental cooperation in Asia, the main features distinguishing each of the programmes were identified and analyzed from the perspective of international regime formation and theories of governance, applying various models and hypotheses based on the experience of European countries, and some proposals were made to strengthen and enhance the effectiveness of such cooperative mechanisms.

c. Influences on policy-making process

Environmental governance is precisely about influencing the processes of policy-making and implementation in both governmental (public) and non-governmental (private) sectors. Through its research, and by coming up with policy recommendations (albeit on a highly generalized level at this stage), the research findings of the Environmental Governance Project will contribute to identifying some of the key factors and instruments in designing and building systems of environmental governance which are more transparent, fair and just, and more effective by allowing all major stakeholders to participate and by assisting countries in Asia to mobilize resources and instruments in the process of policy-making and implementation.

A summary report synthesizing the findings of nine country studies, as well as conclusions of the two international workshops and accompanying panel discussions, was prepared in time for the meeting of environmental ministers of the governments of the Asia-Pacific region at the ECO-ASIA 2000 Congress and the UN/ESCAP Ministerial Conference on Environment and Development, both of which were held in Kitakyushu, Japan in August 2000.

With regard to the comparative study of regional and sub-regional environmental programmes, a set of working papers have been developed and disseminated through several channels. A paper was presented at the International Workshop on the Long-term Prospective Project of ECO ASIA, held in February 2000, in which environmental experts and

representatives of international agencies from the Asia-Pacific region participated. (Part of the presentation was used as a background information document for the ESCAP Ministerial Conference on Environment and Development, 2000) Another paper focusing on Northeast Asia was presented at a sub-regional forum for policy dialogue, the Northeast Asian Conference on Environmental Cooperation (NEAC), held in Ulaanbaatar, Mongolia in late July 2000. A paper synthesizing the results of these studies was presented at the International Workshop on the Long-term Prospective Project of ECO ASIA on 27-28 February 2001. In addition, a summary of research findings was presented at a committee on international environmental cooperation organized under the aegis of the Environmental Agency (now the Ministry of Environment) of the Government of Japan. Furthermore, the working papers were compiled and published as a report, and will be distributed to policy-makers in national governments and regional/international organizations.

d. Appropriateness and timeliness to stakeholders' needs

In Asian countries in general, while there is growing concern about environmental degradation brought about by rapid economic growth or the progressive penetration of the market economy combined with the accelerating pace of globalization, there is a simultaneous move toward democratization, decentralization, liberalization of trade and investment, and participation of women in politics, economy and other spheres, accompanied by a deepening awareness of the society at large about the importance of environmental protection to achieve sustainable development.

Structures and processes of environmental governance must also change accordingly, and policy recommendations in this regard would come at a very opportune moment, particularly those aimed at enhancing opportunities for the effective participation of many diverse stakeholders in environmental governance at national, local or community levels, including environment and development NGOs and other civil society organizations.

At the same time, however, it must be acknowledged that many, if not most, countries of Asia are particularly sensitive to outside criticisms, or what they regard as "interference," of their domestic (national) policies and systems of governance, including environmental governance. The Environmental Governance Project would therefore have to strike a delicate balance between making too specific and sweeping a pronouncement on a country's environmental governance system to avoid provoking negative reactions from policy makers and other stakeholders in the country concerned, and drawing too unspecific and general a conclusion to be useful or meaningful to them. Therein lies the greatest difficulty, and a challenging task for IGES, of conducting strategic research activities in this complex but critically important subject area.

e. Outreach

Efforts have been made to disseminate the results of research activities and to get feedback from as wide an audience as possible, for example by organizing international workshops open to the public, publishing reports, and making presentations at international conferences and academic societies.

With regard to the comparative study of national environmental governance systems in Asia, the findings and outcomes of the four country studies (on China, India, Japan and Thailand) were disseminated and discussed at an international workshop organized by IGES in March 1999. Later in the same year, country reports were prepared for five more countries of Asia, namely, Bangladesh, Indonesia, Malaysia, the Philippines, and the Republic of Korea (South Korea). The results of these additional country studies, along with presentations made on some cross-sectoral issues such as "trade and environment" and "environmental security," were discussed at an international symposium organized jointly by IGES and Sophia University in March 2000, in which more than 300 people participated, representing a wide cross-section of public as well as private sector organizations and individuals.

A summary report synthesizing the findings of the nine country studies, as well as conclusions of the two international workshops and accompanying panel discussions, was prepared for the meeting of environmental ministers of the governments of the Asia-Pacific region at the ECO-ASIA 2000 Congress and the UN/ESCAP Ministerial Conference on Environment and Development, both held in Kitakyushu, Japan in August 2000. Currently, negotiations are under way with an international publisher for commercial publication (in English) of all research findings and policy

recommendations derived from the comparative study of national environmental governance systems in Asia.

With regard to the comparative study of regional and sub-regional environmental programmes, a set of working papers have been developed and disseminated through several channels. A paper was presented at the International Workshop on the Long-term Prospective Project of ECO ASIA, held in February 2000, in which environmental experts and representatives of international agencies from the Asia-Pacific region participated. (Part of the presentation was used as a background information document for the ESCAP Ministerial Conference on Environment and Development, 2000.) Another paper focusing on Northeast Asia was presented at a sub-regional forum for policy-dialogue, the Northeast Asian Conference on Environmental Cooperation (NEAC) held in Ulaanbaatar, Mongolia in late July 2000. A paper synthesizing the results of these studies was presented at the International Workshop on the Long-term Prospective Project of ECO ASIA on February 27-28, 2001. In addition, a summary of research findings was presented at a committee on international environmental cooperation organized under the aegis of the Environmental Agency (now the Ministry of Environment) of the Government of Japan. Furthermore, the papers were compiled and published as a report, and will be distributed to policy-makers in both national governments and regional/international organizations together, as well as to researchers in environmental fields in Asia.

The report of the Study Group on “Business and Environmental Governance: A Case Study of Japan” was presented at an international workshop in March 1999, which also discussed the ways and means of transferring their experiences, lessons learned and skills acquired in the process to other countries of Asia, and was highly appreciated by some 70 participants. The report came under heavy demand from various sources, and was re-edited for commercial publication (in Japanese) and published in 2000.

Furthermore, almost all of these reports and working papers, except for the individual country reports written by collaborating researchers, have now been posted on the IGES web site on the Internet.

However, it cannot be claimed that the Environmental Governance Project’s accomplishments in this regard have been completely satisfactory. One of the reasons for this difficulty, the most obvious and oft-repeated one, is Asia’s great diversity in all aspects of the word: political, economic, socio-cultural and ecological. In addition, there simply are too many policy makers and stakeholders dispersed in many different countries and sectors, with multiple layers of decision-making and implementation, all of which affect the process and structure of national environmental governance differently.

4.2 Evaluation of the performance of the Project

Despite some serious problems of staffing and project management (and consequently very severe constraints placed on the remaining project staff), all research activities carried out under the project made slow but steady progress and eventually managed to produce all of the originally expected outputs, together with some new insights and conclusions in respective fields of research, in some cases together with a number of policy recommendations, albeit on a highly generalized level at this stage.

Given the limited resources available within IGES, both human and financial, the project may be said to have achieved its original aims and objectives relatively well and in good time according to its original research programme and subsequent work (implementation) plans. Admittedly modest results obtained are satisfactory as a product of the very first phase of development and application of both methodologies and tools necessary for an analysis of a very complex and cross-cutting issue like that of environmental governance, and for elaborating policy guidelines and recommendations.

4.3 Evaluation of management of the Project

Due in part to the health problems of the project leader, but due largely to the absence of a full-time project manager or senior-level research staff who would be responsible for overseeing the project staff members working as a team, the Environmental Governance Project has been hampered from its very start by a lack of effective planning and day-to-day management and of human resources to carry out the planned research activities.

However, through the dedicated efforts of the remaining research staff (very few indeed, being reduced to only two, including the part-time project leader himself, during the last year of the three-year period), the project was able to make considerable progress toward its original objectives and targets, and was actually quite successful in producing its expected outputs, particularly in terms of building a network of research institutes and researchers within and outside of Asia working in the area of environmental governance. (For a list of project research staff members, see the Outline of the Project.)

On the other hand, as a result of this state of affairs in the project team, most of the research activities had to rely on outside resources, and the project was not able to achieve much in terms of conducting for itself the necessary analyses and assessments, and of generating information concerning the various environmental governance systems and institutions in Asia, and to come up with its own conclusions and specific policy proposals to address the most critical issues of environmental governance thus identified.

4.4 Economic efficiency of Project management

Given the limited resources available within IGES, both human and financial, it may be said that the project was successful in achieving its objectives and targets in an economically efficient manner, though perhaps at the expense of some personal sacrifices that had to be made to deliver the expected outputs on time.

4.5 Suggestions for improving the Project in the second phase

Although the Environmental Governance Project will not be continued as such in the second phase, different dimensions of environmental governance need, and must, be built into the design of every research project of IGES for the second phase. It would therefore be desirable to have at least one research staff in every project who is familiar with and would be responsible for looking after this aspect of any particular environmental issues at hand, or to establish a separate unit within IGES to ensure coordination, cohesion and consistency among different fields of research activity undertaken from the perspective of overall policy integration and effective governance.

Furthermore, our humble experience in the Environmental Governance Project suggests that it would be essential for all research projects of IGES to have a full-time project manager in-house who would be responsible for day-to-day management of project activities and give guidance to and supervise the work of individual researchers in the project team.

5. References

Abeyegunawardene, P. D. 1997. South Asian Regional Seas Programme. In *Harmonising Environment and Development in South Asia*, edited by K.H.J Wijayadasa. Colombo: SACEP.

ASEAN Secretariat. 1994. *ASEAN Strategic Plan of Action on the Environment*. Jakarta: ASEAN Secretariat.

———. 1995a. *ASEAN Overview. Jakarta*: ASEAN Secretariat.

———. 1995b. *ASEAN Cooperation Plan on Transboundary Pollution*. Jakarta: ASEAN Secretariat.

———. 1999. *ASEAN into the Next Millennium: ASEAN Vision 2020. Hanoi Plan of Action*. Jakarta: ASEAN Secretariat.

Chatterjee, R., M. Mehra and S. Banerjee. 2000. *Environmental Security in South Asia*. India: Tata Energy Research Institute (TERI). (http://www.teriin.org/energy/envsec.htm)

Haas, P. M. 1990. *Saving the Mediterranean: The Politics of International Environmental Cooperation*. New York: Columbia University Press.

———. 1998. *Prospects for Effective Marine Governance in the Northwest Pacific Region*. Presented at the ESENA Workshop: Energy-Related Marine Issues in the Sea of Japan, 11-12 July 1998, Tokyo.

Hamzah, W. P. 2000. Environmental Governance in Malaysia. In *Environmental Governance in Asia*. Shonan, Japan: IGES Environmental Governance Project.

Ichimura, M. 2000. Environment and Natural Resources Department Division, UN/ESCAP. Interview by Wakana Takahashi. Thailand, 20 November.

IGES and Sophia University Institute for Global Environmental Studies, eds. 2001. *Environmental Governance in Asia*. Proceedings of the International Symposium on Environmental Governance in Asia, March 2000, Tokyo.

IGES, ed. 1999. *Environmental Governance in Four Asian Countries*. Shonan, Japan: IGES Environmental Governance Project.

Interim Secretariat [of EANET] and Interim Network Center [of EANET] 2000. *Summary of the Second Intergovernmental Meeting on the Acid Deposition monitoring Network in East Asia (EANET)*. 25-26 October 2000, Niigata, Japan.

IUCN. 2000. *IUCN in Asia. Moving Forwards from Kota Kinabalu*. Pakistan: IUCN-World Conservation Union.

Jeong, H.S. and H.S. Cheong. 2000. Environmental Governance in Korea. In *Environmental Governance in Asia*. Shonan, Japan: IGES Environmental Governance Project.

Kamal, G. 1999. A Theoretical Framework for Analysis of the Relationship between Processes of Globalization on Environmental Governance. Hayama: IGES.

———. 1999. Globalization and Environmental Governance: A Case Study of Thailand. Hayama: IGES.

Karim, R. 1999. Chief, Environment and Natural Resources Development Division, UN/ESCAP. Interview by Wakana Takahashi, Thailand, 6 October.

Kato, K. 2001. An Analytical Framework for a Comparative Study of Sub-regional Environmental Programmes in Asia. In *Regional/Subregional Environmental Cooperation in Asia and the Pacific*. Shonan, Japan: IGES Environmental Governance Project.

———. 1998. IGES Project Documents on Environmental Governance. Shonan, Japan: IGES.

Kato, M. 1999. Environmental Governance in Japan. In Environmental Governance in Four Asian Countries. Shonan, Japan: IGES Environmental Governance Project.

Keohane, R.K., P.M. Haas and M.A. Levy. 1994. The Effectiveness of International Environmental Institutions. In *Institutions for the Earth: Sources of Effective International Environmental Protection*, edited by R.K. Keohane, P.M. Haas and M.A. Levy. Second edition. Massachusetts: MIT Press.

Magallona, M.M. and B. S. Malayang III. 2000. Environmental Governance in the Philippines. In *Environmental Governance in Asia*. Shonan: IGES Environmental Governance Project.

Mainuddin, K. 2000. Environmental Governance in Bangladesh. In *Environmental Governance in Asia*. Shonan: IGES Environmental Governance Project.

Murase, S. 2000. Trade and Environment: Legal Perspectives. In *Environmental Governance in Asia*. Shonan: IGES Environmental Governance Project.

Natori, Y. 2000. Deputy Regional Director, UNEP Regional Office for Asia and the Pacific. Interview by Wakana Takahashi, Thailand. November 20.

Nicro, S. and C. Apikul. 1999. Environmental Governance in Thailand. In *Environmental Governance in Four Asian Countries*: 89-134. Shonan: IGES.

Nordberg, L. 2000. Deputy Director, Environment and Human Settlements Division, UN Economic Commission for Europe. Interview by Wakana Takahashi, Stockholm, Swedish EPA, March 17.

Pandey, V. L. and J. Parikh. 2000. Environmental Governance in India: Land and Forest Regeneration. In *Environmental Governance in Asia*.

Shonan: IGES Environmental Governance Project.

Parikh, J., R. Raghu, L Tata and K. Parikh. 1999. Environmental Governance in India with Special Reference to Freshwater Demand and Quality Management Strategies. In *Environmental Governance in Four Asian Countries*. Shonan: IGES Environmental Governance Project.

Pippinyo, S. 1999. Senior Officer (Chief), Haze Coordination Support Unit, ASEAN Secretariat. Interview by Wakana Takahashi, 5 October.

Pradham, M. 2000. Programme Officer, UNEP/ROAP. Interview by Wakana Takahashi, 22-23 February.

Prasiddha, R. R. 1999. Researcher, Haze Coordination Support Unit, ASEAN Secretariat. Interview by Wakana Takahashi, 4 October.

Rajen, G. 1999. Cooperative Environmental Monitoring in the Coastal Regions of India and Pakistan Cooperative Monitoring Center Occasional Paper/11, SAND 98-0505/11. Sandia National Laboratories. (http://www.cmc.sandia.gov/issues/papers/coastal/)

SACEP/UNEP. 2000. *Learning to Live in Harmony with Nature and Development: South Asian Environmental Education and Training Action Plan 2000-2005. Colombo: SACEP*.

Schreurs, M. A. 1999. An Analytic Framework for a Comparative Study of Environmental Governance in Asia in IGES Environmental Governance. Country Reports on Environmental Governance in Four Asian Countries. Shonan, Japan: IGES.

———. 1999. Environmental Security and the Asian Region. In *Environmental Governance in Asia*. Shonan: IGES Environmental Governance Project.

——— and E. C. Economy. 1997. The Internationalization of Environmental Protection. In *The Internationalization of Environmental Protection*, edited by in M.A. Schreurs and EC Economy. Cambridge: Kembridge UP.

Shihab, H. 1997. South Asia Co-operative Environment Programme in Wijayadasa K.H.J. ed. 1997. *Harmonising Environment and Development in South Asia*. Colombo: SACEP.

Shrestha, S. 2000. Regional Coordinator. UNEP/EAP-AP, Interview by Wakana Takahashi, at Asian Institute of Technology, Bangkok. 11 November.

Sunchindah, A. 1998. *The ASEAN Approach to Regional Environmental Management*. A paper presented at Regional Conference on Environmental Management: Policy Options—Regional vs. State and Society. Kuala Lumpur. Malaysia. 20-21 October.

Susilo, F.X.E. and H. Rhiti. 2000. Environmental Governance in Indonesia. In *Environmental Governance in Asia*. Shonan: IGES Environmental Governance Project.

Takahashi, W. 2000a. Formation of an East Asian regime for acid rain control. *International Review for Environmental Strategies* 1: 97-117.

———. 2000b. *Review and Future of Northeast Asian Environmental Cooperation: From an institutional viewpoint.* Paper presented at the 9th Northeast Asian Conference on Environmental Cooperation, Ulaanbaatar, Mongolia, 26-28 July.

———. 2001a. Environmental Cooperation in Southeast Asia. In *Regional/Subregional Environmental Cooperation in Asia and the Pacific*. Shonan: IGES Environmental Governance Project.

———. 2001b. Environmental Cooperation in South Asia. In *Regional/Subregional Environmental Cooperation in Asia and the Pacific*. Shonan: IGES Environmental Governance Project.

Takahashi, W. and J. Asuka. 2000. *The Politics of Regional Cooperation on Acid Rain Control in East Asia*. Presented at Acid Rain 2000: 6th International Conference on Acidic Deposition. Tsukuba, Japan, 10-16 December.

Tay, S. 2000. *The South East Asian Fires and Haze: Challenges to Regional Cooperation in ASEAN and the Asia-Pacific*. Presented at Asia Pacific Agenda Project: Okinawa Forum, 25-26 March.

UNEP. 1997. *Regional Seas: Action Plan for the protection, management and development of the marine and coastal environment of the Northwest Pacific region*. NOWPAP Publication No. 1.

Valencia, M. 1998. *Ocean Management Regimes in the Sea of Japan: Present and Future*. Presented at ESNA Workshop: Energy-Related Marine Issues in the Sea of Japan. Tokyo, 11-12 July.

Xiaofei, P. 2000. Environmental Governance in China. . In *Environmental Governance in Asia*. Shonan: IGES Environmental Governance Project.

Zhou, X. 1999. Environmental Governance in China. In *Environmental Governance in Four Asian Countries*. Shonan: IGES Environmental Governance Project.

List of Achievements

1. Commercial Publications

None

2. Books Published by IGES

FY1998

IGES Environmental Governance Project (1999) "*Brainstorming Forum on Acid Rain in East Asia*" Summary Record of Discussions, Hayama, IGES, 30pp.

Study Group on Business and Environmental Governance (1999) "*Business and Environmental Governance*" (in Japanese/English)Hayama, IGES, 100pp.

FY1999

IGES Environmental Governance Project (ed.) (1999) "*Environmental Governance in Four Asian Countries*", 179pp.

FY2000

IGES Environmental Governance Project (2001) "*Environmental Governance in Asia: Synthesis Report on Country Studies*" (in English/Japanese), 596pp.

IGES Environmental Governance Project (2001) "*Regional/Subregional Environmental Cooperation in Asia*" (in English/Japanese), 145pp.

IGES, Sophia University (2001) "*Environmental Governance in Asia: The Proceedings of the International Symposium on Environmental Governance in Asia*" 265pp.

3. Workshop and Seminars organized by IGES

FY1998

Date	Title of workshop	Lecturers and participants	Place
Nov. 2, 1998	IGES Seminar for Affiliate Members: Introduction top International Research Programs on Global Environmental Change	Oran R. YOUNG(Institute on International Environmental Governance , Dartmouth College), Yoshiki YAMAGATA(National Institute for Environmental Studies), Yohei HARASHIMA	Shonan Village Center/Hayama
Feb. 12, 1999	Brainstorming Forum on Acid Rain in East Asia	Katsunori SUZUKI(Acid Deposition and Oxidant Research Center/ Japan Environmental Sanitation Center), Yoichi ICHIKAWA(Central Research Institute of Electric Power Industry), Shohei YONEMOTO(Mitsubishi Kasei Institute of Life Science)	Shonan Village Center/Hayama
Mar. 18, 1999	International Workshop on Environmental Governance in Asia	Jyoti PARIKH(Indira Gandhi Institute of Development Research), Miranda A. SCHREURS(Univ. of Maryland), Xin ZHOU(Policy Research Center for Environment and Economy of SEPA), Mineo KATO(Yokohama National Univ.), Phakatip CHUNGBHIVAT(Thailand Environment Institute), Kenji KAMINO(Nagoya Univ.), James E. NICKUM(Univ. of Tokyo), Akio MORISHIMA, Kazu KATO, Bishnu BHANDARI, Kimihiko HYAKUMURA, Yohei HARASHIMA	Shonan Village Center/Hayama
Mar. 19, 1999	International Workshop on Business and Environmental Governance	Isao IWABUCHI(Sky Aluminum Co.,Ltd.), Makoto TAKASAKI(Nippon Steel Corporation), Tadao KUBOTA(NEC Corporation), Bunji OTOTAKE(Tokyo Electric Power Company), Shintaro SHIDA(The Tokio Marine and Fire Insurance Co.,Ltd.), Naoatsu ISHIZAKI(Mitsubishi Chemical Corporation), Michimasa KADOWAKI(Japan Federation of Economic Organization), Noriyuki KOBAYASHI(Sumitomo Forestry Co.,Ltd.), Masayuki SASANOUCHI(Toyota Motor Corporation), Takaaki MOROTO(Itochu Corporation), James E. NICKUM(Univ. of Tokyo), Akio MORISHIMA, Kazu KATO, Yong REN, Wakana TOGO (TAKAHASHI)	Yokohama Symposia/ Yokohama

FY1999

Date	Title of the workshop	Lecturers and participants	Place
Jul. 23, 1999	Informal Lecture : Project Proposal on Trans-Pacific Air Pollution and its Policy Implications for the United States and Japan	Kenneth W. WILKENING (The Nautilus Institute)	Shonan Village Center/ Hayama
Mar. 9, 2000	International Symposium on Environmental Governance in Asia	FX Endro SUSILO (Atmajaya University Yogyakarta), Wan Portiah HAMAZAH (Institute of Strategic and International Studies (ISIS)), Ben S. MALAYANG III (University of the Philippines), Somrudee NICRO (Thailand Environment Institute (TEI)), Keiko IMAI (Sophia University), Khandaker MAINNUDDIN (Bangladesh Centre for Advanced Studies (BCAB)), Vijay Laxmi PANDEY (Indira Gandhi Institute of Development Research (IGIDR)), Kazushi UEMURA (Sophia University), Takiyoshi OWADA (Sophia University), Hoi-Seong JEONG (Korea Environment Institute(KEI)), Pei XIAOFEI (Policy Research Center for Environment and Economy of the State Environmental Protection Administration (PRCEE/SEPA)), James E. NICKUM (Hosei University), Makoto KOJO (Sophia University), Shinya MURASE (Sophia University), Miranda A. SCHREURS (University of Maryland), Kazu KATO (Nagoya University/ IGES), Bishnu BHANDARI, Tae Yong JUNG, Yohei HARASHIMA	Sophia University/Tokyo

4. Academic Papers

(i) Papers compiled and published by IGES

FY1998

TOGO(TAKAHASHI), Wakana (1998) "A Review of the Concepts of Governance" (Version 1.0)
KATO, Kazu (1998) "Problems and Prospects for Environmental NGOs in Japan"

FY1999

IGES Environmental Governance Project (1999) "Proceedings of International Workshop on Business and Environmental Governance", 29pp.
HARASHIMA, Yohei (2000) "Growth and Environmental Governance", Paper Presented at the International Symposium on Environmental Governance in Asia, March 9, Sophia University, Japan
KATO, Kazu and TAKAHASHI, Wakana (2000), "Regional Cooperation on Environment in Asia and the Pacific" *ECO ASIA/Long Term Perspective Project / Workshop7 Draft Policy Paper (6) EG.*

FY2000

HARASHIMA, Yohei (2000) "Environmental Governance in Selected Asian Developing Countries" *International Review for Environmental Strategies*, Vol.1, No.1, p.193-207
KATO, Kazu (2001) "An Analytical Framework for a Comparative Study of Sub-Regional Environmental Programmes in Asia" (in English/Japanese), *Regional/Subregional Environmental Cooperation in Asia*, p.1-6
KATO, Kazu and TAKAHASHI, Wakana (2001) "Improving Environmental Governance in Asia: Institutes for Regional/Subregional Environmental Cooperation" (in English/Japanese), *Regional/Subregional Environmental Cooperation in Asia*, p.65-78
KATO, Kazu and HARASHIMA, Yohei(2001) "Improving Environmental Governance in Asia: A Synthesis of Nine Country Studies" (in English/Japanese), *Environmental Governance in Asia : Synthesis Report on Country Studies*, p.565-588
TAKAHASHI, Wakana (2000) "Formation of an East Asian Regime for Acid Rain Control: The Perspective of Comparative Regionalism" *International Review for Environmental Strategies*, Vol.1, No.1, p.97-118
TAKAHASHI, Wakana (2001) "Environmental Cooperation in Northeast Asia" (in English/Japanese), *Regional/Subregional Environmental Cooperation in Asia*, p.7-30
TAKAHASHI, Wakana (2001) "Environmental Cooperation in South Asia" *Regional/Subregional Environmental Cooperation in Asia*, p.51-64
TAKAHASHI, Wakana (2001) "Environmental Cooperation in Southeast Asia" *Regional/Subregional Environmental Cooperation in Asia*, p.31-50

(ii) Contributions to journal outside of IGES

FY1999

HARASHIMA, Yohei (1999) "Environmental Governance in Asia" *Environmental Research Quarterly* No.113, p.23-27
HARASHIMA, Yohei (1999) "Environmental Governance in Asia" *Environment* Vol. 24 No. 5, p.17-18
HARASHIMA, Yohei (1999) "Environmental Security from Asian Perspectives" *A Report of the Study Group on Environmental Security*, commissioned by the Japanese Environment Agency of Japan, Nomura Research Institute, p.126-130
HARASHIMA, Yohei (1999) "Environmental Policy Development" *Environmental Culture in Asia*, edited by Taizo YAKUSHIJI, p.181-206, Keio University Press

FY2000

KATANO, Yohei and HARASHIMA, Yohei (2000) "International Symposium on Environmental Governance in Asia" *Ajia Keizai (Asian Economy)*, Vol.41. No.9, p.58-66
TAKAHASHI, Wakana (2000) "Acid Rain and Environmental Governance" *Journal of Resources and Environment*, Vol.36, No.10, p.20-28
TAKAHASHI, Wakana (2000) "Multilateral Environmental Cooperation in East Asia" *Collection of Papers for the 19th Meeting of Japan Society of Energy and Resources*, p.267-272

5. Lectures at Workshop and Seminars

FY1998

Date	Titles	Lecturers	Place
Sep. 27, 1998	"Cross-National Comparison of Environmental Policy in East Asia" Society for Environmental Economics and Policy Studies, Annual Meeting 1998 (Society for Environmental Economics and Policy Studies)	Yohei HARASHIMA	Keio University/Tokyo
Oct. 2, 1998	"Environmental Governance in Asian Region" Society of Environmental Science, Annual Meeting 1998 (Society of Environmental Science)	Yohei HARASHIMA	Tsukuba Center, Agency for Industrial Science and Technology/Tsukuba
Nov. 27, 1998	"Problems and Prospective for Environmental NGOs in Japan" The Fourth Asia-Pacific NGO Environmental Conference	Kazu KATO	National University of Singapore/Singapore
Dec. 9, 1998	"Environmental Policy and Economic Growth in Northeast Asia" International Workshop on Capacity Building in Environmental Governance for Sustainable Development (Indira Gandhi Institute of Development Research, UNDP)	Yohei HARASHIMA	Indira Gandhi Institute of Development Research/Mumbai/India

FY1999

Date	Titles	Lecturers	Place
May 23, 1999	"Environmental Problems and Policy in East Asia" Japanese Society for Environmental Education Annual Meeting 1999 (Japanese Society for Environmental Education)	Yohei HARASHIMA	Tokyo Gakugei University/Tokyo
Jun. 24, 1999	"Comparative Study of the Environmental Policies in East Asian Countries" The 1999 Open Meeting of the Human Dimensions of Global Environmental Change Research Community	Yohei HARASHIMA	Shonan Village Center/ Hayama
Jul. 5, 1999	"Environmental Security from Asian Perspectives" The 3rd Meeting of the Study Group on Environmental Security (Environment Agency of Japan)	Yohei HARASHIMA	Hoso Kaikan/Tokyo
Sep. 14, 1999	"The Development Trajectory of the Environmental Industry in Japan: Some Lessons for the Asian Neighbors" International Symposium on Environmental Issues of Northeast Asia and the Role of Local Government in the 21st Century	Wakana TAKAHASHI	Seoul/Korea
Sep. 25, 1999	"An Analysis of Environmental Governance in Asian Countries" the Society for Environmental Economics and Policy Studies Annual Meeting 1999 (the Society for Environmental Economics and Policy Studies)	Yohei HARASHIMA	Ritsumeikan University/ Kyoto
Sep. 26, 1999	"Will a Regime for Transboundary Air Pollution Control be formed in East Asia?" the Society for Environmental Economics and Policy Studies Annual Meeting 1999 (the Society for Environmental Economics and Policy Studies)	Wakana TAKAHASHI	Ritsumeikan University/ Kyoto
Nov. 10, 1999	"An Analysis of Sub-regional Environmental Cooperation in the Northeast Asia" the Society for Environmental Science Annual Meeting 1999 (the Society for Environmental Science)	Yohei HARASHIMA	Hotel Nikko Toyohashi/ Toyohashi
Feb. 22-23, 2000	"Regional Cooperation on Environment in Asia and the Pacific" The 7th International Workshop on ECO ASIA Long- Term Perspective Project	Wakana TAKAHASHI	Lofos Shonan/Hayama
Mar. 9, 2000	"Growth and Environmental Governance" International Symposium on Environmental Governance in Asia (IGES, Sophia University)	Yohei HARASHIMA	Sophia University/Tokyo

FY2000

Date	Titles	Lecturers	Place
Apr. 24, 2000	"International Cooperation Contributing Climate Change Mitigation by International Organizations and Developed Countries" Committee for International Economic Cooperation Contributing to Climate Change Mitigation (Ministry of Foreign Affairs)	Wakana TAKAHASHI	Ministry of Foreign Affairs/Tokyo
Jun. 16, 2000	"Current Status and Prospectus of Multilateral Environmental Cooperation in East Asia" The 19th Annual Meeting, the Society for Energy and Resources)	Wakana TAKAHASHI	Osaka International Convention Center/ Osaka
Jul. 26-28, 2000	"Review and Future of Environmental Cooperation in Northeast Asia Whither NEAC?" The 9th Northeast Asian Conference on Environmental Cooperation(NEAC) (Ministry of Environment, Mongolia)	Kazu KATO and Wakana TAKAHASHI	Ulaanbaatar/Mongolia
Sep. 30, 2000	"Cross-National Comparison of Environmental Governance in Asian Countries" The 2000 Annual Meeting, the Society for Environmental Economics and Policy Studies (the Society for Environmental Economics and Policy Studies)	Yohei HARASHIMA	Tsukuba International Congress Center/ Tsukuba
Sep. 30, 2000	"The Policies of Regional Cooperation in Northeast Asia" The 2001 Annual Meeting, the Society for Environmental Economics and Policy Studies (the Society for Environmental Economics and Policy Studies)	Wakana TAKAHASHI	Tsukuba International Congress Center/ Tsukuba
Oct. 24, 2000	"Environmental Taxes in Selected Asia Countries : A Comparative Analysis" International Symposium on Green Tax Reform in Asian Countries (Korea Environmental Institute(KEI), IGES)	Yohei HARASHIMA	The Sejong Center for the Performing Arts/ Seoul/Korea
Dec. 10-16, 2000	"The Politics of Regional Cooperation on Acid Rain Control in East Asia" 6th International Conference on Acidic Deposition 2000 (Acid Rain 2000)	Wakana TAKAHASHI	Tsukuba International Congress Center/ Tsukuba
Jan. 24, 2001	"Framework for Regional Environmental Cooperation in Asia" Committee for Effective International Environmental Cooperation (Ministry of Environment)	Wakana TAKAHASHI	IGES Tokyo Office/Tokyo

6. Participation in Committees outside of IGES

FY1999

Hosting organization	Name of the committee	Participant from IGES	Term of office
International Development Center of Japan	Committee for International Economic Cooperation, Commissioned by Ministry of Foreign Affairs	Wakana TAKAHASHI	Jan. 2000-Mar. 2000

FY2000

Hosting organization	Name of committee	Participant from IGES	Term of office
Commercial Law Center, Inc.	Committee for World Environmental Policies Contributing to Climate Change Mitigation	Wakana TAKAHASHI	Jun. 2000-Mar. 2001
Ministry of Environment	Committee for Effective International Environmental Cooperation, commissioned by Ministry of Environment	Wakana TAKAHASHI	Jan.-Mar. 2001

7. Field studies

FY1999

Date	Purpose	Place	Participants from IGES
Oct. 3-9, 1999	Research on Subregional Environmental Cooperative Programmes In Asia	Asean Secretariat, UNEP ROAP, UN ESCAP/Bangkok/ Thailand	Wakana TAKAHASHI
Mar. 12-24, 2000	Research on Regional Cooperative Scheme on Energy-environment In Europe	EU/Brussels/Belgium UN ECE, SWAPP/ Switzerland Swedish EPA, MOE of Sweden, Swedish National Energy Administration/ Sweden MOE of Finland/Finland Baltic Environment Forum, MOE of Estonia, SEI/ Estonia	Wakana TAKAHASHI

FY2000

Date	Purpose	Place	Participants from IGES
Nov. 19-25, 2000	Research on Subregional Environmental Cooperative Programme in Asia	UNEP, UN ESCAP, AIT, Ministry of Science,Technology and Environment in Thailand/ Thailand. APCEL, MOE of Singapore/Singapore	Wakana TAKAHASHI

Report of the First Phase Strategic Research

<Environmental Governance Project>

Published by Institute for Global Environmental Strategies, March 2001
Editor: Shinichi Arai
Editorial Staff: Michio Takaku / Megumi Yajima / Maki Fujiwara / Akie Narita

Institute for Global Environmental Strategies
1560-39, Kamiyamaguchi, Hayama, Kanagawa, Japan 240-0198
Phone: +81-468-55-3700 / Facsimile: +81-468-55-3709
E-mail: iges@iges.or.jp
URL: http://www.iges.or.jp