

2. Background

2.1. Results and evaluation of the First Phase Strategic Research

The First Phase strategic research, planned for the three years starting April 1998, was implemented in six projects. The objectives, application methodologies, themes, etc., of these research projects are shown in Table 2-1. Achievements, including publications, academic papers, and conferences are shown in the reference materials. Each project is currently summarizing the achievements in the past three years, final results and evaluation of which await the completion of a comprehensive project reports and the review of these reports by the IGES Research Advisory Committee.

For a provisional assessment of the First Phase strategic research, however, for the purposes of drafting the strategic plan for the Second Phase, the achievements were reviewed by the Program Planning Group (PPG), which was set up based on the decision by the Meetings of the Boards in February 2000. What follows is the evaluation by the PPG:

The strategic research projects on Climate Change, Urban Environmental Management and Forest Conservation will be continued in the Second Phase. However, they need to appropriately modify their objectives, methodologies, application plans and/or expected outputs in light of emerging policy needs. It is necessary to be more concrete and specific in terms of research outputs, approaches and methods and more aggressive in releasing outputs to outreach stakeholders with a clear dissemination strategy. The criteria mentioned in 2.3 should be fully taken into account in drafting detailed research plans.

The Environmental Education Project should be more effectively carried out as communication and/or capacity building activities by providing educational media and materials to specific target groups based on the experience and achievements in the First Phase. The Environmental Governance Project and New Development Patterns Project should change to projects focusing more on concrete subjects and urgent policy agenda in the Second Phase. Conversely, other strategic research projects should incorporate components of environmental governance and concepts of new development patterns.

Details of evaluation is attached as “Appendix 1”.

2.2. Drafting process of the Second Phase Strategic Research Plan

The Boards of Directors and Trustees approved, in February 2000, the establishment of a Program Planning Group (PPG), which consists of the Directors and Trustees and others appointed by the Chair of the Board of Directors. (See “Appendix 2: Members of the Program Planning Group” for members) The PPG is mandated to draft the IGES research program for the Second Phase, taking the further internationalization of IGES into full consideration.

On April 11, 2000, the first PPG meeting discussed the document entitled “Items and contents to be included in the draft IGES strategic program for the Second Phase and beyond (tentative name) (IGES/PPG/FY2000/1).” Consequently, the document entitled “IGES Strategic Program for the Second Phase (1st draft) (IGES/PPG/FY2000/1/Rev1)” was prepared. On May 23, 2000, the second PPG meeting discussed and reviewed the document (IGES/PPG/FY2000/1/Rev2), and comments were given by the Directors and Trustees. After being discussed at the Sixth Informal Meeting of Directors and Trustees, the draft plan for the Second Phase was presented at the Eighth Meeting of the Board of Directors, held on June 23, 2000.

At the Eighth Meeting of the Board of Directors, the document “Directions and priority of the IGES strategic program for the Second Phase” (IGES/D/FY2000/2) was approved, and the draft outline of the new strategic research projects for the Second Phase was proposed as well as the provisional evaluation of the First Phase research projects. At the same time, the Chair of the Board of Directors was asked by the Board to formulate a draft of detailed research plans, including plans for the Capacity Building Program and the Communication Program before the end of September 2000, to elicit comments from the Directors and Trustees, and to submit the draft of the detailed research plans to the meeting of the Board of Directors in February 2001.

For drafting the detailed plan, the Chair asked Dr. Ryokichi Hirono and Dr. Peter de Janosi for special assistance, and their comments were reflected. In addition, a committee to support the Chair, consisting mainly of Japanese Directors, was set up as the Advisory Group (Chair: Mr. Ishizaka. See “Appendix 3: Advisory Group Members”). It met five times to discuss the draft of the research plan, prepared by the Secretariat.

This paper was drafted through the process described above, and was prepared for approval at the meeting of the Board of Directors, held in February 2001.

Note: The Strategic Research Program of the Second Phase was approved at the 9th Meeting of the Board of Directors.

2.3. Outline of the Second Phase Strategic Research Plan

(1) Perspective of research

The strategic research of the Second Phase will be conducted following the Second Phase strategic program drafted by the PPG and the Advisory Group, which was approved by the meetings of the Boards of Directors and Trustees. It will be based on the research achievements from the First Phase (April 1998—March 2001).

Regarding the “strategic position of IGES,” it was pointed out at PPG meetings that the following criteria should be applied to the formulation of the Second Phase strategic research projects: (The listed order does not necessarily indicate any order of priority.)

- 1) Policy relevance and practicality
- 2) Needs- or demand- driven or problem-oriented
- 3) Sharp focus and clearly identified target groups
- 4) Input from and participation of relevant stakeholders
- 5) Priority given to the Asia-Pacific region, taking into account specific features of different sub-regions in the region
- 6) Importance of international policy development, for instance World Summit for Sustainable Development (so called Rio + 10 Conference)
- 7) Linkage with other international programmes, such as the Intergovernmental Panel on Climate Change (IPCC), International Human Dimensions Programme on Global Environmental Change (IHDP), International Geosphere-Biosphere Program (IGBP), and Asia-Pacific Network for Global Change Research (APN), as well as collaboration with signatory and other research institutes with common interests
- 8) Availability of a full-time project leader or research manager
- 9) Participation of international research talent

According to these criteria, the direction of each project was proposed by the PPG. As new strategic research projects for the Second Phase, a research project focusing on actions taken by the private sector for environmental conservation, and another project on Information Technology (IT) were proposed. There was also a proposal for the establishment of a new project responding to urgent needs in international environmental policy processes or to cross-sectoral and multi-sectoral issues with long-term perspectives. Improvements in the Communication Program and the Capacity Building Program were also pointed out.

The Advisory Group, on the other hand, suggested that the research objectives should be stated more clearly in the draft research plan, and that more consideration should be given to the research outcomes to be actively put into use by policy makers. The Advisory Group also made comments regarding the importance of the project themes of Long-term Perspective and Policy Integration, Greening of ODA, Eco Industry, and the Communication Program, and that the Freshwater Resources Management Project should be conducted through a public announcement. The Directors and Trustees commented that the content of each draft research plan of the Second Phase and how they are linked to the outcomes of the First Phase research need to be clarified. There was also a comment that project management should be strengthened.

Taking these various comments into consideration, the following draft of the detailed research plan was formulated.

(2) Outline of the Second Phase Strategic Research Plan

In the Second Phase, the research contents of the four existing projects (Climate Policy, Urban Environmental Management, Forest Conservation, and Environmental Education) will be reviewed and expanded. The “New Development Patterns Project” and the “Environmental Governance

Project” will be integrated and reorganized into the “Long-Term Perspective and Policy Integration Project.” New projects include the themes of “Business and the Environment,” “Information Technology and the Environment,” “Environmental Industry” and “Freshwater Resources Management in Asia,” making the total number of research projects nine. The “Environmental Industry” and “Information Technology and the Environment,” however, will be sub-projects within the “Long-term Perspective and Policy Integration Project.” The research schedule, scale, and other elements of the “Environmental Industry” and the “Freshwater Resources Management in Asia” will be discussed in the future, taking into consideration the funding situation and other conditions.

In addition, the Capacity Building and Communication (dissemination of information to outside IGES) Programs will be expanded.

The outlines of these projects are shown below. (See Table 2-2. Outline of the Second Phase plan)

A. Climate Policy Project

The project will change its name from Climate Change to Climate Policy, and will focus on policy aspects of climate change issues.

A.1 Designing of effective domestic policy measures for the implementation of the Kyoto Protocol in each country

Research that began in the First Phase for the establishment of systematic frameworks for the implementation of the Kyoto Mechanisms will be continued in the Second Phase. The project will also aim to contribute to the formulating of domestic policies including measures introduced by the Kyoto Mechanisms by governments in order to achieve the targets set by the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC).

Expected results

Contributions to international measures to mitigate global warming; leadership in discussions in Japan about the domestic mitigation measures for global warming; and positive international recognition from studying domestic policies in each country and presenting the results of those studies at conferences such as COP of the UNFCCC.

A.2 Research on roles played and measures taken by the industry and business sectors for climate change mitigation

This project will present visions for promoting long-term technological innovation—as in the Factor 4 and Factor 10 concepts (about the needed increase in efficiency of resource use in economies by a factor of four or ten)—and voluntary measures by industry such as the introduction of greenhouse gas (GHG) emissions accounting, and study other ways to encourage changes in industry.

Expected results

Encouragement for industry to participate in efforts to prevent global warming, and to promote greater

efforts inside and outside Japan to prevent global warming, through international research cooperation with organizations such as World Resources Institute (WRI).

A.3 Research on effective mechanisms for enhancing international cooperation among developed and developing countries (technology transfer/ funding)

The project will conduct research on establishing multilateral funding mechanisms, including the methods for promoting and evaluating technology transfer.

Expected results

IGES is expected to contribute to the promotion of transfers of environmental technology to Asian countries by governments of industrialized countries such as Japan, through proposals of not only Clean Development Mechanisms (CDM) but also of new funding/ technology transfer mechanisms.

A.4 Development of GHG emissions/sinks inventory methods

The project will conduct integrating studies on accurate estimation systems of GHG emissions/sinks of countries in the Asian region.

Expected results

Contributions to the work involving GHG inventories conducted by the Technical Support Unit of the Inventory Task Force of IPCC, which IGES hosts. In addition, promotion of global warming mitigation measures in developing countries in the Asia-Pacific region.

A.5 Research on vulnerability assessments and adaptation to climate change in the Asian region (support of developing countries to join the UNFCCC implementation)

The project will establish methods for climate change vulnerability assessments in the Asian region, and design proposals of criteria for selection of adaptation measures.

Expected results

Research institutes of developing countries are expected to join in formulation processes of concrete policy proposals from an early stage, which will make the IGES research results more effective. At the same time, IGES will encourage other countries to reflect the content of the proposals in actual policies through various channels such as international conferences and workshops, e.g. the Environmental Congress for Asia and the Pacific (ECO ASIA).

B. Urban Environmental Management Project (Analysis of the dynamic transformation process of cities and modeling of urban environmental management)

- ◆ Taking into account the analytical results from the First Phase and the rapid economic developments in Asian cities, case studies such as these will be conducted: industrial transformation, environmentally sound transportation, ecologically efficient use of energy and water resources, and improvement of environmental management systems. Through these studies, integrated strategies will be developed based on the analysis of the transformation

process of the environment in cities, and results of comparative study of different Asian cities. There will also be a follow up of the Kitakyushu Initiative for a Clean Environment, adopted at the Fourth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED4) of the UN Economic and Social Commission for Asia and the Pacific (ESCAP) held in Kitakyushu in September 2000.

◆ Specific areas of research are as follows:

- 1) Study of the dynamic transformation process of Asian Cities and urban environmental changes
- 2) Study of the control of energy demand and greenhouse gas emissions in mega-cities
- 3) Support for the implementation of the Kitakyushu Initiative Network

Expected results

The outcome of research will be compiled into policy reports and general analysis reports. These reports will be distributed to international organizations, national and local governments, private companies, the public, and NGOs through open symposia and workshops. At the same time, IGES will persuade national governments and other bodies to employ the proposals in their policies or business strategies, using the network for Kitakyushu Initiative or at conferences such as ECO ASIA.

C. Forest Conservation Project

◆ In the First Phase, the project identified principles or elements for effective participation of stakeholders in forest management and forest conservation. In the Second Phase, therefore, the direct purpose of the project will be to develop guidelines in order to realize this participatory forest management.

◆ Indonesia, Laos P.D.R., and Russia are selected as target countries. The three objectives for the Second Phase are shown below.

- 1) To develop “IGES local guidelines” for participation in forest management at the local level. These local guidelines will be compiled through the “local approach,” where the viewpoint moves from the local to the national and international levels.
- 2) To develop “IGES policy recommendations” to ensure the effective application of international treaties on local participation in forest management at national level. This activity is called “international approach” where the viewpoint shifts from international level to national and local level.
- 3) To develop “IGES national guidelines” for participation in forest management. These guidelines will represent an integration of the local and international approaches.

Expected results

The IGES local guidelines, national guidelines, and policy recommendations are expected to have impacts at both local and national levels:

(1) Local level

◆ The activities of local forest management and local policy making processes will be improved by applying the IGES local guidelines.

- ◆ The IGES local guidelines will be presented at international conferences. This effort will provide opportunities to elicit support for local activities from the international community.

(2) National level

- ◆ It is expected that the IGES national guidelines will be applied at the implementation stage of national policies.
- ◆ The IGES policy recommendations will be applied in policy reform processes.

D. Environmental Education Project

- ◆ Environment education is considered effective for raising environmental awareness, developing technology for solving environmental issues, and improving quality of life and the environment. Effective knowledge will be compiled through practical application of environmental education in the Second Phase, based on the evaluation and analysis of the state of environmental education in the region conducted in the First Phase.
- ◆ Aiming to serve as the center of excellence of environmental education in the Asia-Pacific in the future, IGES will expand the environmental education network of the region.
- ◆ For these purposes, activities and research for the Second Phase are as follows:
 - 1) Development of the environmental education materials
 - 2) Human resource development
 - 3) Development of an innovative eco-tourism education model

Expected results

The research findings will be compiled into policy reports, and materials for environmental education will be developed and proposed. Through activities that take into account both practice and research, IGES will produce effective policy proposals for environment education in the Asia-Pacific region, and distribute education materials on various occasions.

E. Business and the Environment Project

(New project, which will be based in the IGES Kansai Research Center)

Voluntary initiatives by businesses are essential in order to shift socio-economic systems toward more sustainable ones. Examples include the use of environmental management systems and environmental accounting, and these should be used in coordination with regulatory and economic instruments. This project will present proposals designed to promote voluntary corporate activities that are environmentally sound and conservation-oriented, based on analyses and evaluation of best environmental practices in corporations.

- ◆ Specific areas of research are as follows:
 - 1) studies on integrating environmental management tools into corporate management systems,
 - 2) studies on developing instruments and systems of corporate environmental information disclosure, and
 - 3) studies on establishing socio-economic systems to promote voluntary corporate activities for environmental conservation

Expected results

This project will make proposals at conferences such as ECO ASIA, in order to foster the expansion and development of voluntary environmental initiatives by the private sector in the Asian region, which expects to see large economic development. The result will be to supplement the relatively slower governmental responses in the region and eventually decrease the burden of industry on the environment.

F. Long-term Perspective and Policy Integration Project (Reconstructed from the New Development Patterns Project and the Environmental Governance Project)

- ◆ Research and policy proposals for solving regional and global environmental issues in the twenty-first century will be conducted by long-term and policy integration approaches through co-ordination with other IGES research projects. In the future, reports of situations and perspectives of the environment in the Asia-Pacific region will be issued periodically, such as the “Environmental White Paper for Sustainable Development in the Asia-Pacific Region” (tentative name) .
- ◆ Specific areas of research based on the compiling process and achievements of this report are as follows:
 - 1) contribution to ECO ASIA in 2001 and “Rio+10” conference in 2002 as an input from the Asia-Pacific region under the theme of “Environmental challenges and concerns of Asia,”
 - 2) proposal of innovative policies to the “Eminent Persons Forum of Asia and the Pacific for Environment and Development”, or research on environmental innovation strategies in the Asia-Pacific region for the twenty-first century,
 - 3) research on the “greening” of ODA and other development assistance,
 - 4) research on corporate information disclosure systems, and
 - 5) review of research reports and other materials in response to urgent needs in international environmental policy processes or requests from policy-makers.

The two projects that follows: “Information Technology (IT) and the Environment Project” and “Environmental Industry Project”, will probably become sub-projects of the Long-Term Perspective Project.

Expected results

Contribution to the solving of international environmental problems by carrying out long-term and crosscutting research, and also by timely presentation of research results for promoting policies for global environmental conservation, at international conferences, such as ECO ASIA and the “Rio+10” conference.

G. Information Technology Revolution and the Environment Project (New Sub Project)

- ◆ The acceleration of the IT revolution in recent years has the potential to drastically change the economic and social systems of today. Under this project, the positive and negative impacts of IT

on the environment will be examined, and policies that make the best use of IT for achieving sustainable development will be presented.

◆ Specific areas of research are as follows:

- 1) study of present state and impacts of IT,
- 2) studies about the IT industry and ways to reduce the burden on the environment by using IT, and
- 3) policy proposals about sustainable development and IT.

Expected results

- ◆ Contribution to global environmental conservation in the twenty-first century, by assessing the impacts of the IT revolution on the environment, and making presentations at international conferences, such as ECO ASIA, of policy proposals to take advantage of the IT revolution for sustainable development.

H. Environmental Industries in Developing Countries Project (New Sub Project)

◆ Fostering of industries concerning the environment such as the collection and analysis of environmental information, environmental education, and environmental technologies, are essential for the sustainable development of developing countries. This project will be set up to evaluate present conditions of environmental industries, and to discuss and propose measures for promoting these industries.

◆ Specific research areas are as follows:

- 1) current conditions and future prospects of the environment and the environmental measures in developing countries,
- 2) current situation and future prospects of the environmental industries, and
- 3) major factors limiting the development of environmental industries, and how the industries should be supported by industrialized countries and international organizations regarding the issue.

Expected results

Contribution to sustainable development of developing countries through policy proposals about ways to foster environmental industries. Also, IGES will develop stronger ties with international organizations.

I. Freshwater Resources Management Project (New Project)

◆ In Asia, it is essential that research be conducted for the implementation of Integrated Water Resources Management (IWRM), which plans and manages the freshwater resources and land use of the region, while taking into account the social, economic, and environmental factors. Concrete objectives and strategies for its realization need to be identified. Moreover, appropriate indicators to measure its progress must be developed. This project aims to set guidelines for these purposes. In addition, considering that more funding is needed for the sustainable development of developing countries, the project will study ways to provide effective assistance for the promotion of IWRM, and approaches to make use of private funds such as the application of the concept of “full cost pricing” (by which water users bear the proper costs for water).

A discussion group will be set up concerning this project to discuss and decide concrete themes and recruitment conditions.

Expected results

- ◆ Research achievements will be presented at the Third World Water Forum to be held in Japan in 2003, the United Nations Commission for Sustainable Development (CSD), ECO ASIA, and ESCAP conferences. By doing so, IGES will contribute to discussions regarding the practice of integrated water management and future proposals for the “Freshwater Resources Convention.”

J. Capacity Building and Communications Programs

- ◆ The Capacity Building Program will focus on promotion of Web-based learning (eLearning), in addition to existing training courses. This will be done in cooperation with the Environmental Education Project.
- ◆ The Communication Program will focus on timely dissemination and distribution of IGES research results through the Internet.

2.4. Other issues

Further efforts are needed to strengthen the international nature of IGES. The following points, identified by the PPG, need to be considered in the Second Phase:

- ◆ establishment of international strategic partnerships with other research institutes (e.g. with IGES signatory organizations), through joint-research, etc.,
- ◆ exploration of ways to raise more funds from outside organizations, including UN and other international funding organizations, and
- ◆ recruitment of more international research staff.

Table 2-1. Outline of the IGES First Phase Strategic Research Projects

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
Climate Change	<p>Promotion of research to develop international mitigation measures of global warming</p> <ol style="list-style-type: none"> 1. Policy proposals for designing systems for international cooperative mechanisms to ensure the effective implementation of the UNFCCC and the Kyoto Protocol 2. Proposal of action plan for establishing a cooperative organizational framework in the Asia-Pacific region 	<ol style="list-style-type: none"> 1. Participation in meetings relevant to the UNFCCC including IPCC, and proposal of ideas for developing CDM, etc. 2. Construction of an energy model of Northeast Asia for an analysis of the effectiveness of international cooperation structures 3. Proposal of effective means for funding, considering the capital investment of developing countries 4. Establishment of researchers network in Asia for collection, comparison, and analysis of the Inventory 	<ol style="list-style-type: none"> 1. Review for implementation of Kyoto Mechanism 2. Technology transfer to and funding for developing countries 3. Assisting of developing countries (e.g. integration of how climate change policy and other policies are prioritized in developing countries) 	<ol style="list-style-type: none"> 1. Research and proposal of concrete methods for the implementation the flexible measures in the Kyoto Protocol <ul style="list-style-type: none"> • Seeking of consistency between international and domestic frameworks for designing emissions trading of GHG • Possibility of governmental funding support to encourage private sector investment in the CDM. • Presentation of research findings at international conferences e.g. COP4, 5, and 6 and SBSTA 2. Measures for promoting measures in Japan <ul style="list-style-type: none"> • Hosting of brainstorming sessions on flexible measures • Hosting of analytical seminars before and after the COP conferences • Hosting of a series of “Open Forums to Address Global Warming” for summarizing discussions within Japan • Hosting of international workshops for analysis of themes such as designs for CDM mechanisms • Examination of the Eastern- Asia region by models for evaluating the effect of the CDM • Co-organizing of a workshop on GHG inventories with the Technical Support Unit for the IPCC/TSU • Presentation of research results to ECO ASIA 2000 and the ministerial conference of ESCAP 	<p>PL: 1 Senior Researcher: 1 Research Fellow: 2 Research Associate: 3 Visiting Research Fellow: 2 Project Secretary: 1</p>	<p>FY1998 74,590,833 FY1999 133,049,408 FY2000 (budget) 103,710,000 Total 311,350,241</p>

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
Urban Environmental Management	<ol style="list-style-type: none"> 1. Presentation of innovative ideas and models for guiding urban environmental management policies in the 21st Century 2. Analysis of possibilities of applying Japan's models for other cities in Asia, through analysis of Japanese experience in urban environmental management 	<ol style="list-style-type: none"> 1. Collection, organization, and comparative analysis of experience and data about urban environmental management in each city 2. Proposal of policy measures and funding mechanisms etc. necessary for urban environmental management 3. Analysis of efficacy and limitation of experience of Japanese cities, and seeking of possibilities for applying and transferring Japan's models to other Asian cities 	<ol style="list-style-type: none"> 1. Comparative study of urbanization and environmental problems of cities in Asia 2. Analysis and evaluation of Japanese experience concerning urban environmental management 3. Strategic research for improving urban infrastructure 4. Strategic research for improving governance in urban environmental management 	<ol style="list-style-type: none"> 1. Establishment of common method for analyzing case studies conducted in 8 cities in 4 countries in Asia, and investigation of resources management, transportation in cities, waste management, etc. 2. Hosting of brain storming workshops on urban environmental management policies in China 3. Hosting of pre-symposiums etc. for the Kitakyushu Initiative for urban environmental management, issued at the MCED/ESCAP, and its adoption 	PL: 1 Research Fellow: 2 Research Associate: 3 Project Secretary: 1	FY1998 79,266,571 FY1999 83,327,657 FY2000 (budget) 85,589,000 Total 248,183,228

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
Forest Conservation	<p>Formulation of strategies for sustainable management and conservation of forests in the Asia-Pacific region, and identification of basic principles to be the bases of international forest conservation strategies</p> <p>1. Research on structural causes of forest destruction, obstacles in realizing sustainable forest management, research of ideal legal and support measures etc.</p> <p>2. Determination of fundamental elements, etc., to be included in national level forest conservation strategies in the Asia-Pacific region, and extraction of legal principles to be included in forest conservation strategies of the region</p>	<p>1. Collection and analysis of information collected through field research in international, regional and local levels, conducted in four sub-themes: structural analysis, participatory forest management, timber trade, and legal and administrative support measures</p> <p>2. Discussion and analysis in workshops, etc., of elements to be included in national level forest conservation strategies, and contribution to international discussions of regional forest conservation strategies, UN/IFF etc.</p> <p>3. By presenting results of analysis and discussions at international conferences, contribute to sustainable management, establishment of policy measures, and promotion of implementation of forest conservation at various levels</p>	<p>1. Structural analysis of underlying causes of deforestation and deterioration</p> <p>2. Participatory forest management</p> <p>3. Timber trade (proving strategic methods through elucidation of relationship between forest resources and timber trade)</p> <p>4. Legal and administrative support measures</p>	<p>1. Field research of timber trade and participatory forest management conducted in China, Russia, Lao P.D.R. and Indonesia, and discussion of findings in workshops</p> <p>2. Examination of actual status and problems of forest conservation in the area, procedures for formulating strategies, and points to be included in the strategies at the IGES International Workshops on Forest Conservation Strategies for the Asia-Pacific Region.</p> <p>3. Proposals for formulating strategies at ESCAP/MCED.</p> <p>4. Drafting and presentation of strategy principles for forest conservation at international workshops</p>	<p>PL: 1 Research Fellow: 3 Research Associate: 2 Project Secretary: 1</p>	<p>FY1998 74,338,156 FY1999 74,618,657 FY2000 (budget) 69,011,000 Total 217,967,813</p>

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
Environmental Education	To develop an environmental education strategy in the Asia-Pacific region to improve the quality of the environment, and to establish an international implementation system	<ol style="list-style-type: none"> 1. Research of environmental education situation in the region, case studies 2. Identification of four research areas (business and industry, NGOs, media and schools) for development of principles and guidelines 3. Designing, intensive discussion, and revision of draft regional strategy on environmental education in the region 4. Publication and proposal of the strategy 	<ol style="list-style-type: none"> 1. Develop and propose proven means for encouraging all countries throughout the region to implement appropriate environmental education programs 2. Design and support networks that provide generic assistance to countries and NGOs in the region 3. Establish collaborative projects with other countries in the region to promote the improvement of environmental education 	<ol style="list-style-type: none"> 1. Editing of reports about status, direction, etc., of regional environmental education in 36 countries in the region (to be published in the future) 2. Evaluation of status of environmental education at Workshop on Environmental Education in the Asia-Pacific Region 3. Field research and training of NGOs in Indonesia 4. Preparation of a report on the evaluation of the Japan-US Common Agenda Roundtable Environmental Education Project in Indonesia 5. Summarizing of directions of environmental education in the tertiary education in the region 6. Analysis of current environmental education status by the media research team 7. Expansion of network among environmental education groups through hosting of international conferences etc. 8. Completion of the "Regional Strategy on Environmental Education in the Asia-Pacific Region", and completion of action plans for the implementation of environmental education 	PL: 1 Research Fellow: 1 Research Associate: 3 Project Secretary: 1	FY1998 67,107,144 FY1999 67,761,815 FY2000 (budget) 75,440,000 Total 210,308,959

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
Environmental Governance	Policy proposal for improving the capacity of the countries in the Asia-Pacific to deal with problems of environment and development	Comparative study of actors and processes of environmental governance through country studies, targeting countries in Asia including Japan	Research of following areas with regard to national and sub-regional governance systems: <ul style="list-style-type: none"> • how decisions are made; who makes them; how decisions are implemented • what kind of information is available and from what sources • how processes are reviewed; how these processes are influenced by internal and external forces • how governance systems are evaluated; and whether or not they can be adapted to respond to challenges 	<ol style="list-style-type: none"> 1. Summarizing and presentation of research findings through country studies conducted in nine countries including India and Thailand, and in an international workshop hosted by the project 2. Comparative study and compiling of reports of Sub-regional Co-operative Programmes on the environment in North-East Asia 3. Establishment of Study Group on Business and Environmental Governance; compilation and presentation of the report of the study group at an international symposium, and the publication of the report 4. Compilation of country studies in the form of strategic policy proposals for each country or sub-region; Compilation of a report of the Dialogue on sub-regional environmental cooperation, and its distribution at sub-regional conferences, e.g., the North-East Asian Conference on Environmental Co-operation 	PL: 1 Research Fellow: 1 Research Associate: 3 Project Secretary: 1	FY1998 41,075,653 FY1999 44,784,133 FY2000 (budget) 21,438,000 Total 107,297,786

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
New Development Patterns	Exploration of new development patterns toward environmental sustainability, resource recycling-oriented societies, by re-evaluating conventional economic development patterns based on mass-production and mass-consumption, and which create large amounts of waste.	<ol style="list-style-type: none"> 1. Review by experts to identify key elements relevant to the theme of the project 2. Review of discussions, and summarization of future issues and directions of responses, concerning international global issues for ECO ASIA, ESCAP, G8 Environment Ministers Meeting etc. 	<ol style="list-style-type: none"> 1. Review of important issues pertaining to new development patterns, e.g. poverty and the environment 2. Examination of methods of technical development and transfer to support developing countries 3. Execution of Long-term Perspective Project of ECO ASIA, and summarizing of policy proposals for the realization of new development patterns as well as economic and social trends and environmental issues of the region to be presented at such international conferences 	<ol style="list-style-type: none"> 1. Compiling and publication of reports by experts about the environment and the new developing patterns in the 21st Century 2. Discussion of globalization and the environment in the "Japan-US Forum on Environmental Issues" 3. Presentation of a keynote speech at ECO ASIA 99, and submitting of a discussion paper at the international workshop of the ECO ASIA Long-Term Perspective Project 4. Review and reports for the preparation of the G8 Environment Ministers Meeting, ESCAP/MCED, etc. 	PL: 1 Research Associate: 1 Project Secretary: 1	FY1998 23,056,885 FY1999 42,823,241 FY2000 (budget) 70,068,000 Total 135,948,126

Title	Objectives	Methods	Theme	Results and Expected Results	Number of Staff Members (As of April 1999)	Financial Resources
Capacity Building	Training for specialists in global environmental issues	1. Co-hosting of workshops with the United Nations University, Asia Development Bank etc. 2. Development and publicizing of on-line education system (eLearning) Acceptance of LEAD interns	—	1. Hosting of capacity building workshops, jointly with organizations including UNITAR (UN Institute for Training and Research) and ADBI (Asian Development Bank Institute) 2. Development of eLearning System 3. Acceptance of interns recommended by LEAD (Leadership for Environment and Development) International	Senior Researcher: 1 Web Management Officer: 1 Project Secretary: 1	FY1998 - FY1999 33,115,661 FY2000 (budget) 45,146,000 Total 78,261,661

Table 2-2. Outline of the IGES Second Phase Strategic Research Projects

Title	Objectives	Theme	Expected Results	Number of Staff Members (One member of each project also serves as Project Manager)	Financial Resources
Climate Policy	<p>The name is changed from “Climate Change” to “Climate Policy”</p> <p>The research will be carried out mainly to contribute to the design of the international policy measures for climate change mitigation. It aims at providing concrete proposals of innovative mitigation measures of climate change to policy makers.</p>	<ol style="list-style-type: none"> 1. Designing of effective domestic policy measures for the implementation of the Kyoto Protocol in each country 2. Research on roles played and measures taken by the industry and business sectors for climate change mitigation 3. Research on effective mechanisms for enhancing international cooperation among developed and developing countries 4. Development of GHG emissions/sinks inventory methods 5. Research on assessment of vulnerability and adaptation to climate change in the Asian region 	<ol style="list-style-type: none"> 1. Contribution to the promotion of international mitigation measures of global warming, based on the Kyoto Protocol 2. Promotion of the industry and business sectors to join climate change mitigation 3. Contribution for enhancing international cooperation among developed and developing countries through proposing establishment of multilateral funding mechanisms 4. Promotion of climate change mitigation in developing countries in the Asia-Pacific region, through studies of accurate estimation systems of GHG inventories and other adaptable measures 	<p>PL: 1 Senior Research Fellow: 2 Research Fellow: 2 (one of which is also a Research Associate in another project) Research Associate: 4 Visiting Researchers and Interns: a few Project Secretary: 1</p>	To be decided

Title	Objectives	Theme	Expected Results	Number of Staff Members (One member of each project also serves as Project Manager)	Financial Resources
Urban Environmental Management	Taking into account the achievements from the first phase and the results of rapid economic development in Asian cities, integrated strategies will be developed through case studies based on analysis of the transformation process of the environment in cities, and results of comparative study of different Asian cities.	<ol style="list-style-type: none"> 1. Study on the Process Dynamics of Urban Environmental Evolution 2. Urban policy integration of energy related environmental issues in selected Asian mega-cities 3. Support for the implementation of Kitakyushu Initiative Network 	<ol style="list-style-type: none"> 1. Compilation of the outcome of research into policy reports, and distribution to concerned parties at open symposiums etc. 2. Promotion to realize these policies, using the Kitakyushu Initiative Network, ECO ASIA, etc. 	PL : 1 Senior Research Fellow: 1 Research Fellow: 1 Research Associate: 4 (1 of which will be stationed in Kitakyushu) Visiting Researchers and Interns: a few Project Secretary: 1	To be decided
Forest Conservation	Proposal of practical strategies to promote local participation in forest management. <ol style="list-style-type: none"> 1. Development of “IGES local guidelines” 2. Development of “IGES policy recommendations” 3. Development of “IGES national guidelines” 	<ol style="list-style-type: none"> 1. “Local approach”: approach through policy research based on field studies, result of which will be compiled into “IGES Local Guidelines” 2. “International approach”: approach through policy research focusing on legal, political, and economic aspects, result of which will be compiled into “IGES policy recommendations” 3. 1 and 2 will be integrated into “IGES national guidelines” 	<ol style="list-style-type: none"> 1. Influence at local level <ul style="list-style-type: none"> • By applying “IGES local guidelines”, local forest management and local policy making process will be improved • By presenting “IGES local guidelines” at international conferences, local activities may be supported by international societies 2. Influence at national level <ul style="list-style-type: none"> • “IGES national guidelines” will be applied for the stage of policy enforcement. • “IGES policy recommendations” will be applied in the process of policy reformation 	PL: 1 Sub Leader (international approach): 1 Research Fellow: 2 Research Associate: 2 Project Secretary: 1 Visiting Researchers and Interns: a few Project Secretary: 1	To be decided

Title	Objectives	Theme	Expected Results	Number of Staff Members (One member of each project also serves as Project Manager)	Financial Resources
Environmental Education	<p>“Action research” will be carried out in the second phase, with a view to putting “practice” and “research” together</p> <ol style="list-style-type: none"> 1. Strategies proposed in the first phase will be put into practice, and the findings from the practice will be compiled to be reflected in policy proposals 2. Establish a framework of IGES as a future environmental education center in the Asia-Pacific region 	<ol style="list-style-type: none"> 1. Development of practical environmental education materials 2. Implementation of human resources training programs 3. Development of innovative eco-tourism education model 	<ol style="list-style-type: none"> 1. Through application of strategies, design policy proposals based on utilization or evaluation of environmental education in the Asia-Pacific region 2. Establish a framework of IGES as a future environmental education center in the Asia-Pacific region 	PL: 1 Senior Research Fellow: 1 Research Fellow: 1 Research Associate: 2 Visiting Researchers and Interns: a few Project Secretary: 1	To be decided
Business and the Environment	<p>Research and proposal of methodology to promote voluntary environmental initiatives by businesses in order to shift to socio-economic systems towards more sustainable patterns.</p>	<ol style="list-style-type: none"> 1. Studies on integrating environmental management tools into corporate management systems 2. Studies on developing instruments and systems of corporate environmental information disclosure 3. Studies on establishing socio-economic systems to promote voluntary corporate activities for environmental conservation 	<ol style="list-style-type: none"> 1. Research achievements will be proposed at conferences e.g. ECO ASIA, which will enable expansion and development of voluntary environmental initiatives by the private sector. 2. This research will be able to complement the relatively slow governmental responses in the Asia-Pacific region, and contribute to reducing the environmental burden in the area 	PL: 1 Research Fellow: 1 Research Associate: 3-4 Visiting Researchers and Interns: a few Project Secretary: 1	To be decided

Title	Objectives	Theme	Expected Results	Number of Staff Members (One member of each project also serves as Project Manager)	Financial Resources
Long-Term Perspective and Policy Integration	Research and policy proposals for solving regional and global environmental issues in the twenty-first century will be conducted by long-term and policy integration approaches through co-ordination with areas covered by other IGES research projects	<ol style="list-style-type: none"> 1. Compilation of the “Environmental White Paper for Sustainable Development in the Asia-Pacific Region” (tentative name) 2. Contribution to ECO ASIA and “Rio+10” conferences from the Asia-Pacific region 3. Proposals to the Eminent Persons Forum and research on environmental innovation strategies in the Asia-Pacific region for the 21st Century 4. Research on the “greening” of ODA and other development assistance 5. Review of research reports and other materials in response to urgent needs in international environmental policy processes 	Contribution to solving international environmental issues by presenting research findings that promote environmental conservation policies, to conferences (e.g. Rio+10) in a timely way	PL: 1 Sub Leader: 2 Senior Research Fellow: 1 Research Fellow: 2 Research Associate: 5 Visiting Researchers and Interns: a few Project Secretary: 2 (Including IT Revolution and Environment)	To be decided
Information Technology Revolution and the Environment	Research of current status and future prospects of positive and negative impacts of IT on the environment, and proposal of policies that make the best use of IT for achieving sustainable development in the 21st century	<ol style="list-style-type: none"> 1. Study of present state and impacts of IT 2. Estimation of environmental loads by the IT industry and their mitigation, by application of IT 3. Policy proposals about sustainable development and IT 	To evaluate the impacts of IT on the environment, and to present policy proposals for applying IT for sustainable development, at international conferences such as ECO ASIA	See Long-term Perspective and Policy Integration	To be decided

Title	Objectives	Theme	Expected Results	Number of Staff Members (One member of each project also serves as Project Manager)	Financial Resources
Environmental Industries in Developing Countries	To evaluate present conditions of industries that concern the environment, and to discuss and propose measures for fostering these industries	<ol style="list-style-type: none"> 1. Study of current conditions and future perspectives of the environment and the environmental measures in developing countries 2. Evaluation of current conditions and future perspectives of the environment and the environmental industries 3. Study of major limitations for fostering environmental industries, and how they should be supported by industrialized countries and international organizations 	To contribute to sustainable development of developing countries through policy proposals about ways to foster environmental industries	Decided after FY 2002	To be decided
Freshwater Resources Management	Study of integrated water resources management (IWRM) for the sustainable development of freshwater resources in Asia, and study of methods of receiving and using funds for the application of IWRM	<ol style="list-style-type: none"> 1. Development of indices and establishment of guidelines for IWRM 2. Research of effective usage of ODA and private finances 	To contribute to discussions regarding the practice of IWRM in Asia and to international treaties regarding the freshwater resources, by presenting research achievements to international conferences (e.g. World Water Forum)	(Formal Recruitment is planned) PL: 1 Research Fellow: 1 Research Associate: 2 Visiting Researchers and Interns: a few Project Secretary: 1	To be decided

Title	Objectives	Theme	Expected Results	Number of Staff Members (One member of each project also serves as Project Manager)	Financial Resources
Capacity Building	Based on results of work in the first phase, capacity building will be promoted through workshops and the Web-based eLearning	<ol style="list-style-type: none"> 1. Hosting of workshops jointly with other organizations (e.g. UNITAR) 2. Promotion of eLearning for the development of online capacity building programs 3. Acceptance of interns 	Focus will be on development of capacity building programs using the eLearning systems	Senior Research Fellow: 1 Research Associate: 1 Web Management Officer: 1 Visiting Researchers and Interns: a few Project Secretary: 1	To be decided
Communications	<ol style="list-style-type: none"> 1. To improve public access to quality environmental information, and to provide smart information tools for environmental analysis and decision-making 2. To support IGES project activities in education, research and practice 	<ol style="list-style-type: none"> 1. Setting up and application of IGES Communications Strategy 2. Set up and utilization of e-mail lists, such as Email Alerts, redevelopment of IGES website to provide latest information 3. Distribution of information in Japan, and dissemination to the Asia-Pacific region, with collaboration with appropriate external organizations and institutions, such as International Institute for Sustainable Development (IISD) and Center for International Earth Science Information Network (CIESIN) of Columbia University 	Recognition by the public, etc., of IGES as an information dissemination center	Senior Research Fellow: 1 Secretariat members working on communication: 3 (Including the Library staff) Visiting Researchers and Interns: a few	To be decided

Appendix 1 – Interim Evaluation of the Strategic Research Projects in the First Phase (by IGES Program Planning Group, June 2000)

Climate Change Project released the technical outputs on baseline setting, CDM and AIJ in many workshops and meetings including the side-events at COP4 and COP5. It is expected that several important technical proposals will be made regarding the Kyoto Mechanism in preparation for the COP6 in November 2000. In the Second Phase, the project could change its title to “Climate Policy Project” to make it clear that the project deals with a policy side of the climate change issues. It would not only deal with designing issues of the Kyoto Mechanism still under consideration and other technical issues remaining after COP6 but also explore policies for formulating domestic mitigation and/or adaptation strategies in Asia. After the COP6, and under the Kyoto Protocol, domestic measures to mitigate GHG emissions in the Annex I countries will be one of the top-priorities in national policies of the Annex I countries. IGES could contribute to the process for formulating national climate strategies in a context of sustainable development not only for Japan but also for other Asian countries. Such formulation of strategies would take energy and other resource policies into consideration and needs to be linked with the international measures to be introduced under the Kyoto Mechanisms, e.g., Emissions Trading and Clean Development Mechanism. The project has a promising collaboration potential with research institutes in Asia including Tata Energy Research Institute as well as those outside Asia such as the Potsdam Institute for Climate Impact Research and the Wuppertal Institute for Climate, Environment and Energy. It would also have a research linkage with the IHDP/IDGEC program on the “Institutional Dimensions of Carbon Management”. Moreover, the project is very supportive to the Technical Support Unit hosted by IGES for the IPCC GHG Inventories Program, especially if it undertakes a task to collect and compile the data and methods in Asia for estimating CO₂ sinks.

Urban Environmental Management Project will complete the reports of the case studies on urbanization and environmental problems in eight cities in Asia by March 2001. Through analysis of the case studies, a research report will also be prepared on themes that are common to the eight cities. Building on the achievements in the First Phase, the UE project could address several key aspects essential to the realization of better urban environment. Comprehensive strategies of Asian cities are urgently needed for industrial transformation (e.g., sustainable production and consumption, utilization of new technologies, lifestyle and value changes), environmentally sound mobility and transportation, ecologically efficient use of energy, water and other resources and improved environmental governance. A variety of instruments and programs to overcome main barriers, including innovative ways to finance infrastructure building, needs to be presented by the project to stakeholders engaged in urban environmental management. There should be stronger networking of know-how, technologies and eco-efficient projects among cities including those studied in the First Phase and those participating in the ICLEI activities. Although there are a number of key factors essential to better urban environment, priority needs to be clearly set among the themes mentioned

above because of limited financial and human resources. The project would have research linkage with the IHDP Industrial Transformation Project.

Forest Conservation Project could be extended to the Second Phase because of the increased global importance of forests in terms of bio-diversity and carbon sequestration. An international debate on legal instruments and supportive measures for forests strongly demands the continuation of FC Project. FC project is expected to formulate the “Strategies for Forest Conservation in Asia” as an output in the First Phase. Four sub-projects in the First Phase need to be critically reviewed in terms of adequacy of policy analysis. FC Project might be restructured with a central research axis and two supporting research areas. For instance, exploration of guidelines for the “Strategies for Forest Conservation in Asia” with participation of stakeholders in relevant countries could be a central research theme. Policy analysis of improved participatory management and trade-forest conservation interactions would be supporting research areas to the central theme. The project would have research linkage with the IHDP/IDGEC program on the “ Political Economy of Tropical and Boreal Forests”.

Environmental Education Project has compiled a draft report entitled “ Environmental Education in the Asia and Pacific Region: Status, Issues and Practices” based on 36 country reports on environmental education. It has also prepared the draft regional strategy for environmental education, which is designed to be a basis for developing national strategy for environmental education. Environmental education is very important in raising public awareness of environmental conservation and sustainability and strengthening environmental components in a number of sector’s activities. The nature and role of environmental education is such that it might be more effectively carried out if the project operates as a part of communication and/or capacity building activities. These activities would enhance various sectors’ awareness by providing adequate educational materials and media to specific target groups based on the experience and achievements in the First Phase.

Environmental Governance Project and New Development Patterns Project are strategic research projects cutting across various themes. In the First Phase, EG Project has conducted a comparative study in selected Asian countries and produced a report on the environmental governance in those countries. The project has also completed a report on the environmental conservation activities of Japanese companies. NDP Project published a report on ideas for new development patterns in the 21st century and is preparing an IGES paper on environmental strategies for the ECO ASIA 2000 Meeting and the ESCAP Ministerial Meeting on Environment and Development. In the Second Phase, they should be more focused on concrete subjects and urgent policy agenda. Alternatively, other strategic research projects could incorporate components of environmental governance and a concept of new development patterns into the research agenda. As there are barriers and obstacles in many countries to implementing specific environmental policies for climate change and urban environmental management, it is timely and significant to find appropriate governance solutions for them. In so doing, it may be advisable to suggest an investigation into possible applications of policy tools including economic instruments such as environmental tax and voluntary approaches by the business sector. NDP Project should become more selective in its research agenda and only deal with promising

subjects in order to attain its original objectives. Among others, zero emission initiatives, sustainable patterns of production and consumption, and/or development of information technology and its impact on the environment could be priority research agenda.

Appendix 2

Members of the Program Planning Group (In alphabetical order)

Nirmal Andrews	Regional Director and Representative for Asia and the Pacific, United Nations Environment Programme
Peter de Janosi	Former Director, International Institute for Applied Systems Analysis
Shinji Fukukawa	Chief Executive Officer, Dentsu Institute for Human Studies Dentsu Inc.
Hironori Hamanaka	Director General, Global Environment Department Environment Agency, Japan
Yoshio Hatano	President, Foreign Press Center Japan
Peter Hennicke	Vice President & Director of the Energy Department Wuppertal Institute for Climate, Environment and Energy
Ryokichi Hirono	Professor Emeritus, Seikei University
Masami Ishizaka	Executive Vice President, Japan National Oil Corporation
Jill Jaeger	Executive Director, International Human Dimensions Programme
Miwako Kurosaka	Japan Representative of the World Resources Institute
Hoesung Lee	President, Council on Energy and Environment Korea
Tadahiro Mitsuhashi	Professor, Faculty of Policy Informatics, Chiba University of Commerce
Nobuo Mizuguchi	Vice-Governor, Kanagawa Prefectural Government
Akio Morishima	Chair of the Board of Directors, IGES
Tomomitsu Oba	President, Japan Center for International Finance
Teruaki Okuno	Director-General, Environment Bureau, Kitakyushu Municipal Government
Tongroj Onchan	Senior Advisor, Thailand Environment Institute
Rajendra Pachauri	Director, Tata Energy Research Institute
H. J. Schellnhuber	Director, Potsdam Institute for Climate Impact Research
Kun Zhang	Director General, The Sino-Japan Friendship Center for Environmental Protection

(as of May, 2000)

Appendix 3

Advisory Group Members

Yukiyasu Aoyama	Director, Planning and Coordination Division, Planning and Coordination Bureau, Environment Agency Japan
Akihiro Amano	Professor of Economics, Kwansei Gakuin University
Masami Ishizaka	Executive Vice President, Japan National Oil Corporation
Seiji Ichikatai	Director, Planning Division, Global Environment Department, Environment Agency of Japan
Sukio Iwatate	Secretary-General, Global Environment Action
Shigeyuki Okajima	Executive Director, Japan Environmental Education Forum
Yasuo Goto	Corporate Counselor and Director Chairman, The Yasuda Fire & Marine Insurance Co. Ltd.
Ryokichi Hirono	Professor Emeritus, Seikei University
Akio Matsubara	Director, Member of the Board, Toyota Motor Corporation
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Yukio Shimada	Director, Environment Planning Division, Kanagawa Prefectural Government

(as of December 2000)