

Long-term Perspective and Policy Integration Project

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1. Overview of the LTP Project

1.1. Research Approach

The research objective of the Long-term Perspective and Policy Integration (LTP) Project is to contribute to facilitating and catalysing focused policy dialogues among key stakeholders in the Asia-Pacific region, thereby strengthening the presence of IGES as a leading strategic institute in the region. The LTP project operates as a cross-sectoral project within IGES, conducting research with a long-term and cross-sectoral approach in order to propose innovative policies to policy makers and others. It focuses on the following policy analysis in cooperation with other projects within IGES and relevant external research institutes and international organisations:

- a. Cross-sectoral policy analysis and recommendations with a long-term perspective
- b. Policy analysis and recommendations as a contribution to international dialogue on sustainable development in the Asia-Pacific region
- c. Policy analysis and recommendations on pressing problems commonly observed in the region

1.2. Research Programmes

The research programmes of the LTP project were conducted in relation to three basic functions: 1) targeted policy research; 2) strategisation of research outcomes, and 3) mobilisation of research outcomes. Since the LTP project continued working on the Second Phase research programmes such as RISPO and APFED until FY 2004, the table below summarises the major research activities in FY2004 as well as the Third Phase research which only began in April 2005.

In the process of conducting these research activities the LTP project worked actively with relevant international organisations, such as the Asian Development Bank (ADB), the United Nations Environmental Programme (UNEP) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), and research institutes in the Asia-Pacific region.

Programme		Phase		
		3rd Phase FY2004	FY2005	FY2006
Targeted Policy Research	Asia-Pacific Environmental Innovation Strategy Project/ Research on Innovative and Strategic Policy Options (APEIS/RISPO)	→		
	Asia-Pacific Environmental Innovation Strategy Project/ Research on Innovative and Strategic Policy Options (APEIS/RISPO-II)		←	→
Strategisation of research outcomes	Sustainable Asia 2005 & beyond	→		
Mobilisation of research outcomes	Asia Pacific Forum for Environment and Development (APFED)	→		
	Asia Pacific Forum for Environment and Development Second Phase (APFED-II)		←	→
Other activities	3R initiatives for sustainable development (3R)		←	→
	Toyota Stakeholder Dialogue	←		→
	State of the Environment Northeast Asia 2005			→
	GEO-4		←	→
	SEF II			→
	eKH	←		→
	The Kitakyushu Initiative for a Clean Environment	←		→
	EE sub-project	←		→

1.3. Asia-Pacific Environmental Innovation Strategy/Research on Innovative and Strategic Policy Options Second Phase (APEIS/RISPO-II)

a. Overview of the project

(1) Background/objectives

The original goal of APEIS/RISPO-II is to provide policymakers with strategic environmental policy options for promoting sustainable development in the context of regional economic integration and identifying strategies for environmental sustainability and poverty reduction. APEIS/RISPO-II will focus on regional economic integration in Asia through the process of creating an East-Asian community. The study area covers Japan, China, Korea and 10 countries composing the Association of Southeast Asian Nations (ASEAN). Among them, China, Indonesia, Japan, Korea, Thailand and Viet Nam have been selected as case study countries to represent diversity of the region. The project due date is set at the end of FY2007.

(2) Methodology

1) Analytical methodologies

The unique features of APEIS/RISPO-II can be summarised as follows:

- Environmental policy will be developed based on a feedback process in which the environmental, social and economic impacts of implementing a set of environmental policies are assessed and the results used to improve such policies.
- Risks associated with future uncertainty about the progress of regional economic integration in East Asia will be explicitly addressed in the environmental policy development process.
- Implementability of the environmental policies developed will be explicitly addressed.

APEIS/RISPO-II employs an innovative analytical framework in which the above unique features are materialised as follows:

Economy-wide policy analysis based on the Global Trade Analysis Project (GTAP) model and other quantitative models will be carried out in order to quantitatively assess not only environmental impacts due to regional economic integration but also environmental, social and economic impacts of implementing a set of environmental policies.

A scenario approach will address future uncertainty about the degree of regional economic integration, in which the future regional economic integration in the target year will be represented as a set of scenarios including two extreme cases within the plausible range of future regional economic integration. This scenario approach can reveal how environmental impacts vary depending upon the degree of future economic integration, and it can clarify risks due to uncertainty about future economic integration, without predicting or forecasting the future. The scenarios in APEIS/RISPO-II will describe the background or context of environmental policy development from which environmental policies are deliberately excluded, which is analogous to the Emissions Scenarios of the Intergovernmental Panel on Climate Change.

Sector/issue specific policy analysis, which focuses on a few specified sectors/environmental issues, will address the issue of effective policy implementation. Sector/issue specific policy analysis in RISPO-II will employ various qualitative policy analysis techniques and is confined to a few selected sectors/issues in order to analyse in depth.

These elements will constitute an integrated policy analysis for development of environmental policy options as shown in Figure 5.4-1.

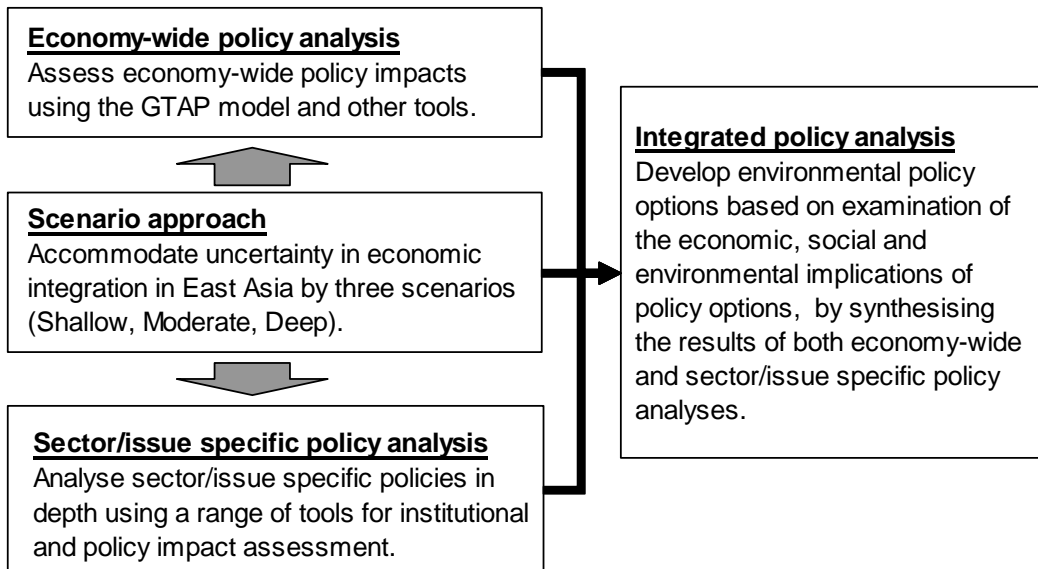


Figure 1.3-1 Analytical methodology of APEIS/RISPO-II

2) Organisational structure

The organisational structure of APEIS/RISPO-II is as shown in Figure 5.4-2.

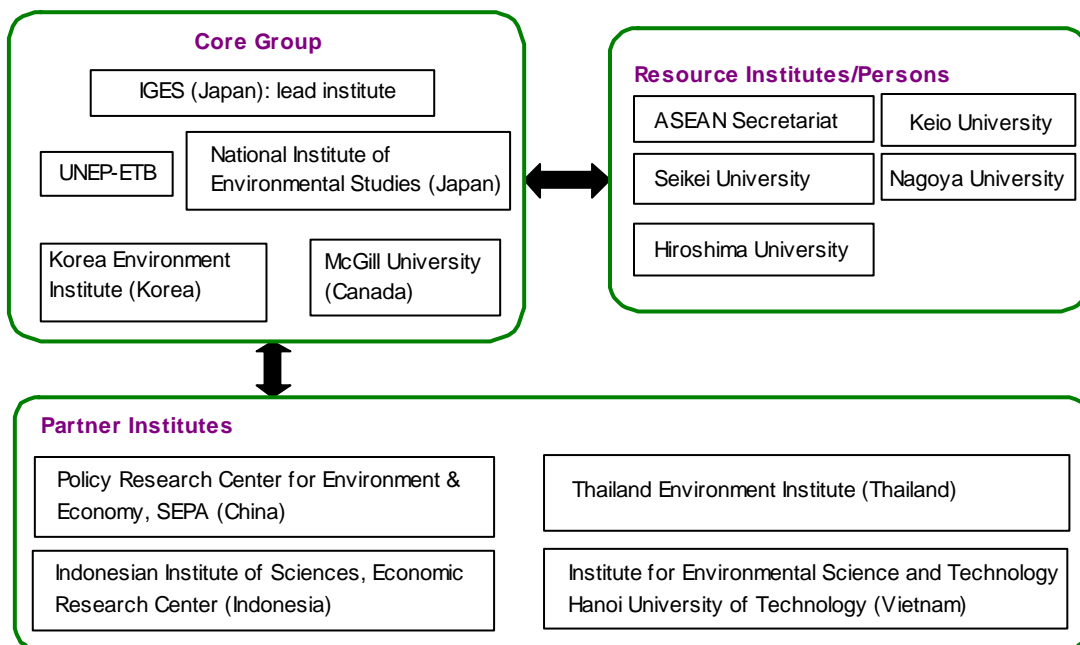


Figure 1.3-2 Organisational structure of APEIS/RISPO-II

The core group consisting of IGES, McGill University, the Korea Environment Institute (KEI), the Trade and Economics Branch of the United Nations Environmental Programme (UNEP-ETB), and the National Institute for Environmental Studies (NIES) take part in

APEIS/RISPO II with their own funds, while the partner institutes are partially financed by IGES. The substantial work for the case studies will be allocated to KEI and the four partner institutes. Advisory institutes/persons are expected to provide suggestions and assistance with the core group during implementation of APEIS/RISPO-II.

b. Achievements

(1) Project formulation

This project comes under the umbrella of two organisations: APEIS and the United Nations Environment Programme - Network of Institutions for Sustainable Development (UNEP-NISD). More precisely, APEIS/RISPO-II is funded through APEIS and at the same time designated as a partnership project of UNEP-NISD. This fact reflects the project formulation process of APEIS/RISPO-II.

Before June 2004 IGES prepared a research proposal entitled “Policy integration on trade, environment and sustainable development in the context of regional economic integration in Asia” (the IGES proposal). In parallel, UNEP-ETB prepared a research proposal entitled “Harmonisation of Free Trade, Environment, and Poverty Eradication” (the UNEP proposal) as one of four UNEP-NISD partnership project proposals. These two proposals shared a very similar motivation, but the UNEP proposal was more ambitious as its study area was the whole world and it explicitly addressed the poverty reduction issue. In December 2004, IGES participated in the first Working Group Meeting on UNEP-NISD partnership project held in Delft, The Netherlands, co-hosted by UNEP-ETB and the Netherlands-based Organisation for Applied Scientific Research (TNO). The four partnership project proposals as well as the IGES proposal were presented at the meeting and it was suggested that IGES be the lead institution for the working group on the UNEP proposal. IGES organised the first project-based working group meeting in February 2005 attended by representatives from UNEP-ETB, KEI and McGill University, and it was agreed to integrate the IGES and the UNEP proposals such that the geographical scope is confined to East Asia while still addressing poverty reduction. Based on the key concepts of APEIS/RISPO-II established in this meeting, the Memorandum of Understanding (MOU) was concluded by IGES, UNEP-ETB, KEI, McGill University and NIES, which form the core group of this project. The Research Design Document (RDD) was also drawn up.

(2) Meetings and Workshops

1) Kick-off meeting

The Kick-off Meeting of APEIS/RISPO-II was held at IGES Hayama Office from 26 – 28 October 2005 with all the core group institutions in attendance. There were also participants from partner institutions from Thailand, Indonesia, China and Viet Nam, as well as other resource persons. The main objectives of this meeting were i) to present the Research Design Document (RDD) to all the members involved in this project, ii) to finalise the RDD incorporating comments/opinions of the members, and iii) to explain and allocate tasks among the members. These objectives were successfully achieved. The RDD was approved with some minor modifications reflecting comments and opinions of the members, and task allocation by the end of March 2006 was agreed by all the members.

2) National Workshops

The Partner institutes from China, Thailand, Indonesia, Viet Nam, KEI, and IGES organised a National Workshop in their respective countries from February through March 2006, with

the purpose of facilitating partner institutes in conducting research activities outlined in the RDD and strengthening communication among various stakeholders. Priority environmental issues to be addressed in the research were identified based upon the presentations of the preliminary studies and discussions by researchers from research institutes and academia, representatives from the governmental offices and NGOs in each country.

3) First Progress Workshop and the Progress Report for FY2005

IGES organised the First Progress Workshop at the IGES Hayama Office on 27-29 March 2006 with the participation of representatives from the Core Group institutes, resource organisations, and the Ministry of the Environment of Japan, as well as researchers from each partner institute. Research design and plans were further refined with specific focus areas, detailed research activities, and suggested methodologies applied to the research, based on the report on environmental issues in each country by the partner institutes and discussions between the participants. IGES produced the Progress Report, building on the national studies by the partner institutes, KEI and IGES, and refined the research activities on which participants agreed in the Progress Workshop.

4) The Fifth Research Coordination Committee of the Asia-Pacific Environmental Innovation Strategy Project (APEIS/RCC)

The fifth APEIS/RCC was held at the IGES Hayama Office on 30 March 2006 and was organised by the Ministry of the Environment, Japan. IGES and two other institutes that conduct research under APEIS each presented their progress report for FY2005.

5) Familiarisation Working Group Meetings

IGES organised three Familiarisation Working Group Meetings corresponding to each of the three sectors/issues (wastes, renewable energy, and agriculture) specified for policy analysis research under RISPO-II with the purpose of facilitating collaborative research activities with the partner institutes and KEI in FY2006. Research activities were evaluated and adjusted in order to correspond to the shortened research time available for FY2006 due to the delay in finalising the contract between IGES and the Ministry of the Environment of Japan. Tangible research outcomes goal from the case studies by the partner institutes and KEI were adjusted. IGES presented the adjusted research design and plans for the regional study for the three sectors/issues conducted by IGES in collaboration with the partner institutes and KEI.

6) Sixth Meeting of the Research Coordination Committee of APEIS

The sixth meeting of the Research Coordination Committee of the Asia-Pacific Environmental Innovation Strategy (APEIS) project was organised by Keio University on 15 March 2007 at the G-SEC Laboratory, Institute of Global Security Research, Keio University in Tokyo. From IGES, Mori (Team Leader), Elder (Team Coordinator), and Kojima (Deputy Team Coordinator) attended the meeting and made a presentation on the RISPO-II project activity during FY2006.

7) Regional Workshop

IGES organised the Regional Workshop on 21-23 March 2007 in Bangkok for the purpose of presenting the progress made in FY2006, reviewing and coordinating the overall research activities including both national/regional studies and sector-specific/modelling analysis, reviewing research methodologies and activities for FY 2007, and facilitating collaborative research between IGES and partner institutes. In addition to researchers of IGES and

partner institutes, representatives from core NISD partner institutes (UNEP-ROAP, Korea Research Institutes, and McGill University) and resource persons for RISPO-II were invited.

Each research institute and IGES gave presentations on the progress made in the sector-specific national and regional studies, and McGill University and IGES gave presentations on the modelling analysis. A number of constructive comments and suggestions were given on each presentation, especially by the resource persons. In addition, coordination and synergy between sector-specific national and regional studies as well as between sector-specific analysis and modelling analysis were discussed and developed in light of the overall objectives of RISPO-II research. The workshop also provided a useful occasion to share acquired knowledge, findings, and related methodologies among researchers and contributed to fostering collaboration in the implementation of the research.

(3) Research outputs

1) Modelling analysis

The following are the major outcomes from modelling analysis during FY 2005 and FY 2006:

- i. Research design of modelling analysis has been finalised.
- ii. Adjustment of GTAP base year 2001 data to the simulation target year 2020 is necessary. All but one of the indicators necessary to do this adjustment (except for Total Factor Productivity) has been collected.
- iii. Japanese sectoral emission data for the following environmental indicators have been collected: CO₂, SO_x, NO_x, BOD (or COD), TN, TP, and SS.
- iv. The partner institute in each case study country has checked the availability of nationwide aggregate emission data and collected the available data. The list of available emission data was reported in the Progress Report.
- v. Based on the currently available environmental data and the standard GTAP dataset corresponding to the year 2001, a preliminary environmental impact assessment was conducted and the results were presented at the Regional Workshop in Bangkok.

2) Policy analysis

The following were the major outcomes from policy analysis during FY 2005 and FY 2006:

- i. Six (6) country studies:
 - "Report on Country Policy Review and Trend Analysis: Japan"
 - "Report on Country Policy Review and Trend Analysis: Viet Nam"
 - "Report on Country Policy Review and Trend Analysis: Thailand"
 - "Report on Country Policy Review and Trend Analysis: Indonesia"
 - "Report on Country Policy Review and Trend Analysis: Republic of Korea"
 - "Report on Country Policy Review and Trend Analysis: China"
- ii. "Scenario building narratives," analysing the current status and future prospects of economic integration in East Asia, and outlining different future possible scenarios of economic integration
- iii. Preliminary assessment of current impacts of economic integration

- iv. Report on the regional study, outlining trends in regional economic integration, priority environmental issues, regional and sub-regional policy responses, and regional organisational arrangements
- v. Methodology manual, "Methodologies for Policy Analysis and Examples of Application," outlining methodologies to be used for the study for the benefit of partner research institutes.
- vi. Revised draft of Japan National Study on Renewable Energy
- vii. Revised draft of Japan National Study on Waste and Recycling
- viii. Revised draft of Regional Study on Organic Agriculture

(4) Papers and Presentations

- i. Sano, Daisuke; Puja Sawhney; and Peter N. King; (2006) "The Impacts of Introducing Eco-labelling to Asia: Opportunities and Challenges in Promotion of Sustainable Agriculture" Paper prepared for the International Conference on Greening of Agro-Industries and Networks in Asia: Challenges and Opportunities, Bangkok, Thailand, 27-29 October, 2006.
- ii. Hotta, Y.; M. Elder; H. Mori; and M. Tanaka; (2006) "Policy considerations for establishing environmentally sound regional material flow in East Asia," a paper presented at International Conference on "Sustainable resource management, raw materials security, factor-X resource productivity - tools for delivering sustainable growth in the European Union," 6-7 December, 2006, Bruges, Belgium.
- iii. Kojima, Satoshi (2006) "IGES's efforts concerning Northeast Asia environmental cooperation", Presentation for the NIRA Workshop on East Asia Policy Coordination, Tokyo, Japan, 12 August 2006.
- iv. Kojima, Satoshi (2006) "The role of Japan in addressing Asian environmental problems: From the viewpoint of sustainable development", Invited Lecture at the 9th NIRA Policy Forum, Tokyo, Japan, 6 November 2006.

(5) Outreach

The following were the major outreach activities during FY 2005 and FY 2006:

- Technical Summary (June 2006)
- Poster for Eco Asia (June 2006)

c. Self-evaluation

(1) Relevance

The results of this research are expected to contribute to the East Asia Policy Dialogue meetings and Tripartite Environmental Ministerial Meetings (TEMM). The results will also be used by international organisations and the Global Environment Outlook-4 of UNEP-DEWA, and UNEP-NISD. They will make contributions to policy forums targeting Asia and as a showcase project for APFED-II and discussions at ECO-ASIA.

It is thought that the results of this project will make a vital contribution to the G8 Environment Ministerial Meeting held with the G8 summit. The Japanese Government plans to serve as the chair of the G8 summit in 2008. Environmental issues have been brought up as an important topic at recent summits.

(2) Effectiveness

Research findings and policy recommendations will be able to meet the original research objectives. The objective of this project is to provide policy-makers with strategic environmental policy options for promoting sustainable development in the context of regional economic integration and identifying strategies for environmental sustainability and poverty reduction. After tentative policy recommendations are developed, they will be analysed in various ways to assess their expected implementability and effectiveness using various methodologies such as cost benefit analysis, multi-criteria analysis, and social capacity assessment.

Regarding the achievement of the project's internal goals, the March 2006 Progress Workshop was completed successfully, but the IGES contract with MOEJ was delayed by over 6 months due to a change in the contracting procedure, so the research timeline needed to be adjusted. Nevertheless, it is anticipated that the project will be brought back on track following the originally anticipated schedule.

(3) Efficiency

Human and financial resources have been used effectively. Funding was provided by MOEJ. Major expenses included holding meetings and workshops, and providing support funds to partner institutes for data gathering and other research expenses.

d. Conclusions

In relation to the Fourth Phase Research Programme, the RISPO-II project is on a different timeline. Thus, the final year of the project will coincide with the first year of the Fourth Phase at IGES. The follow-on project relating to trade and environment for the remainder of the Fourth Phase will be developed during FY 2007.

1.4. Sustainable Asia 2005 and Beyond: in the pursuit of innovative policy (IGES White Paper)

a. Overview of the project

(1) Background/objectives

The IGES White Paper "Sustainable Asia 2005 and Beyond: In the pursuit of innovative policies" was prepared and the English version was launched in November 2005 followed by the Japanese version in January 2006. To share the message of the White Paper with a wide range of stakeholders, an international symposium entitled "Towards a Sustainable Asia - Today's Decisions for Tomorrow's Generations" was held at the Yokohama Symposia in Yokohama on 1 July 2006. In the opening address, Prof. Akio Morishima, Chair of the Board of Directors, IGES, identified the extreme crisis with respect to utilisation of natural resources in Asia and the decline of environmental quality concomitant with the advance in population and the swift pace of economic development. He also stressed the importance of environmental issues in Asia, noting that "if development is not sustainable in Asia, then sustainable development at the global level will also be impossible." The keynote speech "Towards an Environmentally Co-existent Society: the Future of Asia and the Role of Japan" was delivered by Ms. Yoriko Kawaguchi, Member of the House of Councillors, former Minister for Foreign Affairs, and former Minister of the Environment, Japan. In the speech, Ms. Kawaguchi noted recent changes in precipitation and hours of sunlight which are having an impact

on everyday life as well as the phenomenon of yellow sand blowing over Japan. Concerns were voiced from a personal perspective regarding what these changes indicate in terms of the global environment. Further, as former Minister of the Environment, she related episodes involving efforts to ratify the Kyoto Protocol in various countries, while underlining that population increase and expansion in energy demand prompt the destruction of the global environment. She also noted the importance of promoting a co-existent lifestyle in harmony with the global environment, as well as the development of a global recycling-oriented society.

(2) Methodologies

The symposium was instrumental in disseminating the White Paper and promoting outreach activities with a wide range of stakeholders. The drafting group members of IGES attended the symposium and received insight from prominent speakers of the key issues.

b. Achievements

The IGES White Paper brought together the developed expertise within IGES in thematic and cross-cutting areas such as overarching policy and institutional issues, water, forestry, climate, urban environment, business and environmental education. It has laid out a set of findings and recommendations for promoting environmental management and sustainable development. It demonstrated its uniqueness as a reference on environmental and sustainable development policies.

Both English and Japanese language versions were launched at events to reach out to key stakeholders taking advantage of regional and inter-regional meetings, as well as stand-alone events. It helped disseminate the key messages of the IGES White Paper to a wide range of stakeholders.

While some consideration has been given to the follow-up activities, it remains important to examine the status of the policies and measures recommended in the White Paper. Further development on these aspects could be useful for the next edition of the IGES White Paper.

c. Self-evaluation

(1) Relevance

The IGES White Paper addressed priority issues for Asia and the Pacific, and has given key messages to major stakeholders at relevant policy processes. It was also useful to the Japanese stakeholders at a symposium in Japan in 2006, as well as to participants at regional and international meetings such as the Conference of the Parties to the UN Framework Convention on Climate Change, UN Commission on Sustainable Development, UN General Assembly and the Asia-Europe Environmental Forum. While continuous efforts shall be made to disseminate the key messages of the First IGES White Paper, the Second IGES White Paper, expected around 2008, shall be designed in a way to share its messages with a wide range of stakeholders at various levels.

(2) Effectiveness

It remains to be seen how the messages of the IGES White Paper have generated impacts on the relevant policy processes and project implementation. The White Paper has been used as a side

reader for some Universities in Japan. Greater campaigns shall be made to promote the reading of the White Paper in various guises including at educational institutes and in training programmes.

(3) Efficiency

Considerable financial and personnel inputs went into producing the IGES White Paper. The entire drafting process was also a useful learning process for IGES as it was our first intra-office coordination work. However, it is worth considering better planning and early integration of IGES White Paper drafting processes into IGES research plans.

d. Conclusions

We will plan and conduct consultations for the Second IGES White Paper with a view to publishing it in 2008. It is currently proposed to produce a White Paper once every two or three years, so this is a long term process.

It is expected that the White Paper Japanese language version will be launched in 2008. Launching and disseminating English and Japanese language versions of the White Paper needs proper distribution and communication channels.

1.5. Asia-Pacific Forum for Environment and Development: Second Phase (APFED II)

a. Overview of the project

(1) Background/objectives

The Asia - Pacific Forum for Environment and Development (APFED) is a group of eminent personalities from Asia and the Pacific launched in 2001 that completed its first phase activities by adopting and presenting the APFED Final Report of 2004 at the Ministerial Conference on Environment and Development in Asia and the Pacific in Seoul in March 2005. In the second phase of APFED (APFEDII) from April 2005, three pillars of activities have been undertaken to promote the implementation of the policies and measures recommended by the APFED Final Report. They are (i) "Policy Dialogues" on priority policy agenda vital for promoting sustainable development in Asia and the Pacific, (ii) "Knowledge Initiatives" that promote the dissemination of information on good practices through APFED Award or the Ryutaro Hashimoto Award, and APFED Database, and (iii) "Showcase Programme" that support the experimentation of policies and/or measures in line with the APFED Final Report recommendations. NetRes, an Asia – Pacific regional network of policy research institutes on Environment and Sustainable Development was officially launched in July 2006 and consists of 6 member institutes as of December 2006 in order to provide policy and scientific inputs and advice to facilitate APFED II activities. APFED II is intended to support the development and implementation of thematic or cross-cutting policies and measures, to draw lessons from good practices and case studies, and to promote replication of innovative/good practices with a view to achieving sustainable development in Asia and the Pacific.

b. Methodology

The three pillars of activities will entail methodologies suitable for achieving the objectives of respective programmes. General guidance is given by APFED members particularly at the annual APFED Plenary meetings. The Plenary meetings were held in Bogor, Indonesia in November 2005 and Adelaide, Australia in July – August 2006.

They have commonly employed the “multi-stakeholder dialogue” approach and “multi-criteria assessments” examining the environmental and socio-economic aspects of the issues.

At the same time, in facilitating the implementation of the three programmes, several particular methodologies have carried greater weight. In facilitating the Policy Dialogue, integrated policy assessment shall be reinforced by examining the policy performance in various domains such as environmental management and socio-economic development.

Case studies to be undertaken in the Knowledge Initiatives particularly the Award and Database programmes, cost-benefit assessment in the long term and holistic viewpoints were underlined.

In the Showcase Programme, programme cycle assessment was employed by examining the varying conditions of the communities, provinces and countries in the project implementation process.

It is suggested that each of three pillars maintain close sequence and linkages to increase the overall impact of APFED activities.

c. Achievements

(1) APFED Policy Dialogue

Three APFED policy dialogues were held from 2005 – 2006. APFED Policy Dialogue on Access to Environmental Information was held in Jakarta, Indonesia from 23 - 24 November 2005. At the workshop, it was emphasised that the promotion of access to environmental information would be a strategic policy tool for promoting public perceptual and behavioural changes and would enable them to make decisions compatible with sustainable development objectives. It was suggested that consideration be given to promoting regional collaboration in this regard while at the same time supporting experimental activities for promoting public access to environmental information and to replicate successful practices.

The APFED Expert Meeting on the 3Rs in Asia was held in Tokyo on 5 March 2006, back-to-back with the Senior Officials’ Meeting on the 3Rs held in Tokyo from 6-8 March 2006. The participants discussed possible modalities for promoting the 3Rs in Asia through, for instance, policy mainstreaming, institutional strengthening, research and development and international partnership projects. Emanating from the discussions at this and subsequent meetings, several concrete pilot projects have been developed and initiated with the support of the United Nations Environment Programme, the Asian Development Bank and the United Nations Center for Regional Development.

The APFED policy dialogue was promoted on the occasion of the Asia-Europe Environment Forum 4th Roundtable: “Combine or Combust: Co-operating on Chemicals and Hazardous Substances Management” held in Brussels, Belgium from 30 November – 1 December 2006. At the meeting, the participants took stock of recent policy development and persistent challenges in chemical management in Asia, and also made concrete suggestions for promoting Asia – Europe inter-regional collaboration in bolstering policy framework and institutional capacity for environmentally sound management of chemicals.

APFED Policy Dialogue on CSR for Environment and Sustainable Development in Asia and the Pacific was held in Singapore in March 2007 in collaboration with the Singapore Institute for International Affairs (SIIA). The Co-chairs’ Summary was adopted that highlighted the major policy and strategic issues of CSR in the region. The SIIA and IGES intend to develop a policy document

on CSR with a view to facilitating the policy and programme development of CSR for effectively promoting environmental management and sustainable development in the region.

(2) Knowledge Initiatives

1) APFED Award, the “Ryutaro Hashimoto Award”

As an important part of the APFED Knowledge Initiative, APFED Awards were proposed and the first APFED Award selection process was conducted this year. In honouring the late Mr. Ryutaro Hashimoto for his support, the Awards were renamed after him and called “The Ryutaro Hashimoto APFED Awards.” Thirty-one applications were submitted to IGES, and nine cases were short-listed for final selection by the Awards Committee that consisted of five APFED members namely, Ms. Yoriko Kawaguchi (Japan), Dr. Emil Salim (Indonesia), Dr. Cielito F. Habito (Philippines), Dr. Reza Maknoon (Iran), and Dr. Hans van Ginkel (UNU). The selection was made based on a set of criteria such as contribution to the improvement in environmental performance, compatibility with sustainable development objectives and innovativeness.

After the selection process, the following five projects were selected for the Awards in 2006:

Gold Prize	Rehabilitating a Rural Economy with Virgin Coconut Oil Production by Kokonut Pacific SI Ltd, Solomon Islands
Silver Prize	Geumho River That Breathes Life by Water Quality Preservation Division, Daegu Metropolitan City, Republic of Korea
Silver Prize	The Christie Walk Eco-city Project by Ecopolis Architects Pty Ltd, Australia
Incentive Prize	Instituting Local Mechanisms for Sustainable Water - Integrated Management and Water Governance (SWIM) in Baguio by ICLEI-Local Governments for Sustainability, Southeast Asia
Incentive Prize	Keeping Environmental Sustainability by Legal Means in China by the Center for Legal Assistance to Pollution Victims, China University of Political Science and Laws, China

2) APFED Good Practice Database

The APFED Good Practice Database is another key feature of APFED Knowledge Initiatives. The database is intended to support the development of an information pool concerning the lessons and experiences in developing and implementing innovative policies and measures for sustainable development in the region. The database will collect, store and disseminate the learned lessons for reference by a wide range of stakeholders.

To serve such purposes, it is proposed that the APFED database be structured to continuously and systematically collect the latest good practices in a consistent manner. In this context, it was decided at the Adelaide Plenary meeting to consolidate the existing Best Policies and Practices Database (BPPs), Research on Innovative and Strategic Policy Options (RISPO) and the Ryutaro Hashimoto APFED Awards into one newly integrated APFED Good Practice Database that will be hosted in the APFED IGES website.

Work has been initiated and undertaken to redesign the APFED website and to refine the format and modalities for the database. At the same time, the contributors/reviewers of good

practices have been contacted to update their good practice data content in the currently operating database.

In addition, the windows and procedures for new data content inclusion have been set out and will be operationalised.

(3) Showcase Programme

The APFED Innovation Showcase for Sustainable Development or the “Showcase Programme” was proposed in the APFED Final Report as an implementation arm of the second phase of activities of APFED (APFED II). The Showcase Programme aims to support innovative policies and measures for sustainable development in Asia and the Pacific with the provision of catalytic funds and the involvement of relevant advisory institutes.

The call for proposals was made public in July 2006 and remained open until 30 September 2006. The call for proposals was publicised together with the main purpose of the Programme and its objectives which are to support the implementation of policies and measures recommended by the APFED Final Report of 2004. A total of 117 project proposals were submitted for the Programme and were mainly well-developed and addressed diverse issues. They exemplified the vast needs, interest and importance attached to the Programme as well the diversity and challenges in the region. Based on the criteria endorsed at the APFED Adelaide meeting in 2006 namely (i) innovativeness, (ii) applicability, (iii) effectiveness, (iv) feasibility and (v) sustainability, and taking into account the geographical and thematic balance, and the importance of innovativeness, the APFED Secretariat prepared a short-list that consisted of 47 proposals in collaboration with the APFED Showcase Facility Secretariat. The APFED Secretariat and APFED Showcase Facility Secretariat made a request to review 47 short-listed proposals in full texts to the following five members of the APFED Showcase Panel who were nominated at the aforementioned APFED Adelaide:

- Prof. Akio Morishima Chair, Board of Directors, Institute for Global Environmental Strategies (IGES)
- Dr. Kim Myung-Ja Member of Parliament and former Minister of Environment, Republic of Korea
- Dr. Tongroj Onchan President, Mekong Environment and Resource Institute, Thailand
- Dr. Parvez Hassan President, Pakistan Environmental Law Association (PELA)
- Dr. Vinya S. Ariyaratne Executive Director, Sarvodaya Shramadana Movement, Sri Lanka

The Showcase Panel members decided at their meeting held in Bangkok, Thailand on 25 October 2006 to approve 11 project proposals and to request the resubmission of the revised proposal for one proposal. For FY2006, 12 proposals shall be supported subject to the final conclusion of the contracts and revised proposals. Each project will receive up to US\$30,000, and the NetRes institutes that were assigned and agreed to undertake the related work will receive 7,000 – 10,000 USD for providing technical guidance and intellectual inputs to support the development, implementation and monitoring of the projects.

(4) NetRes

The APFED Final Report of 2004 recommended the establishment of an Asia-Pacific Network of Research Institutes for Environment and Sustainable Development, (the so-called “NetRes”). The major research institutes in the region have been participating in APFED activities as NetRes members. The importance of vitalising NetRes was underscored at the APFED Plenary meeting in Bogor, Indonesia in November 2005. At the APFED Plenary meeting in Adelaide, Australia in

July-August 2006, it was reiterated that it would be vital to operationalise NetRes in the context of facilitating APFED activities. IGES has been acting as APFED and NetRes secretariats, and five institutes in the region have signed the Instrument of Establishment for NetRes and the Memorandum of Understanding (MoU) for supporting NetRes. The signatories of the Instrument and MoU are:

- (i) Korea Environment Institute (KEI)
- (ii) Singapore Institute for International Affairs (SIIA)
- (iii) TERI (The Energy Research Institute), India
- (iv) Thailand Environment Institute (TEI)
- (v) University of South Pacific (USP)

In pursuance with the guidance given by the APFED Second Plenary Meeting held in Adelaide, Australia in 2006 to facilitate the activities of NetRes (the Asia – Pacific Network of Policy Research Institutes for Environment and Sustainable Development), the First NetRes Meeting was held at the headquarters of the Institute for Global Environmental Strategies (IGES) in Hayama, Japan from 16 – 17 November 2006.

The representatives of NetRes member institutes attended the meetings together with an official from the Japanese Ministry of the Environment and staff members of IGES. The representatives of the University of the South Pacific (USP) and the United Nations Environment Programme's Regional Office for Asia and the Pacific (UNEP/ROAP) participated at the meeting through TV and telephone facilities. The meeting was opened by Prof. Akio Morishima, Chair, Board of Directors of IGES. Prof. Hironori Hamanaka, Professor at Keio University and Senior Consultant at IGES made welcoming remarks at the opening session.

The meeting was co-chaired by Prof. Hamanaka, and Dr. Simon SC Tay, Chairman of the Singapore Institute of International Affairs (SIIA). The agenda and programme of the meeting is hereto attached along with the list of participants.

IGES acted as NetRes Secretariat and staff members made introductory presentations at each session. The participants had intensive discussions on various issues involved in facilitating the proposed NetRes activities to support the APFED II process.

At the meeting, major issues were discussed for possible collaboration among NetRes institutes with a view to supporting APFED activities.

d. Self-evaluation

(1) Relevance

APFED II activities have been developed and launched in accordance with the priorities identified by the APFED members. The APFED Policy Dialogue provides a channel for APFED inputs to be brought into the ongoing policy processes at the various levels. The Knowledge Initiatives have increased the linkages between policy processes and concrete practices. The Showcase Programme, while yet to demonstrate its full-fledged impacts, has already solidified a basis for developing and implementing concrete policies and measures. The NetRes members have been strengthening the relevance of APFED activities to the priorities and needs of the region based upon the institutes' own research and analysis.

(2) Effectiveness

The inputs of the APFED Policy Dialogue were welcomed as useful to the various policy processes. The APFED Policy Dialogue on 3R generated a set of findings and recommendations to the subsequent senior officials meeting. The APFED Policy Dialogue on Access to Environmental Information brought further inputs to the Global Meeting on the Access Initiatives and a pilot project was proposed and approved for promoting access to environmental information in Bangladesh under the Showcase Programme.

Appropriate implementation modalities have been developed for the APFED Knowledge Initiatives, Showcase Programme, and NetRes. While a preliminary progress already exemplifies the effectiveness of their activities in terms of stakeholder partnership, project development and joint research, their full scale impacts are still expected to need further review.

(3) Efficiency

Considerable attention has been paid to cost-efficiency to rationalise the financial and personnel inputs while maximising the impacts of such inputs. The Policy Dialogues were organised back-to-back with the APFED Plenary meeting in 2005, and the selected APFED members were invited to the Policy Dialogues on their specialties. Electronic communications have been extensively used to upgrade the APFED Database and Award Programme implementation. The application and selection processes of the APFED Showcase Programme have been handled mainly through electronic communications. The NetRes institutes based in the countries of project implementation are also assigned to support such projects taking into account their geographic proximity. At the same time, extensive interaction and appropriate representation remain essential to ensure the effectiveness of APFED activities.

e. Conclusions

APFED II was seen as leading to more proactive functions building upon the policy recommendations made in APFED I. High expectation have been attached to APFED II activities, and IGES needs to play a pivotal role in advancing the activities and transforming some of the output into the policy research output for wider dissemination and supporting a wide range of stakeholders in the pursuit of environmental management and sustainable development.

1.6. 3R Initiative for Sustainable Development (LTP 3R Project)

a. Overview of the project

(1) Background/objectives

The 3R Initiative aims to construct a sustainable society by promoting activities on “reduce, reuse, and recycle” across the different sectors. The 3R Initiative was endorsed at the G8 Summit held in 2004 at Sea Island, USA. At the Ministerial Conference on the 3R initiative held in Tokyo in April 2005, it was officially launched as an international initiative. The conference identified the following five agendas to promote the 3Rs. Based on these agendas, the initiative has implemented concrete and practical activities to promote the 3Rs.

- Strengthening of domestic policies to implement the 3Rs
- Reduction of trade barriers against the international flow of goods and materials

- Cooperation between developed and developing countries
- Cooperation among various stakeholders
- Promotion of science and technology suitable for the 3Rs

IGES supported the Ministerial Conference in April 2005 by acting as the conference secretariat. In autumn 2005, IGES was assigned a project from the Ministry of the Environment, Japan, for international promotion of the 3R Initiative in collaboration with international organisations such as UNEP/ROAP and UNCRD. The project for the 3R Initiative was commissioned again in fiscal year 2006. Under this project, IGES gave support to “policy dialogues and planning activities” for the 3R Initiative both as part of the G8 process and in the Asia-Pacific region. Also, together with UNCRD and UNEP/ROAP, IGES aimed at implementing national 3R strategy-making in Asian developing countries such as Thailand, Viet Nam and Indonesia towards 2008. Alongside this process, IGES was expected to facilitate networking and collaboration among Asia-based international organisations including UNCRD, UNEP/ROAP, UNESCAP and ADB.

In order to support this project/process, the LTP project has started research on the 3R Initiative for Sustainable Development (hereafter LTP 3R Project).

(2) Methodology

The LTP 3R project has been engaged in the promotion of the 3R Initiative by conducting action-oriented policy research, examining regional strategies, and promoting networking with Asia-based international and research organisations, in close collaboration with IGES Kitakyushu Office and Beijing Office. The major methodology employed in the LTP 3R project for the Third phase was action-oriented policy research. 'Action-oriented' implies that the research is geared to promote policy-relevant actions and strategy making through a series of policy dialogues and researches which support such activities by being involving in the actual process of the 3R Initiative. Major activities during the Third phase were to organise “policy dialogues and planning activities” for the 3R Initiative in close consultation with the Ministry of the Environment, Japan (MOEJ). The LTP 3R project activities have been implemented as a collaborative project with MOEJ, research institutes, and the international organisations shown below.

- Ministry of the Environment, Japan (MOEJ)
- United Nations Environment Programme Regional Office for Asia and the Pacific (UNEP/ROAP)
- United Nations Centre for Regional Development (UNCRD)
- United Nations Economic and Social Commission for Asia and Pacific (UNESCAP)
- Asia Development Bank (ADB)
- Japan Environmental Sanitation Centre (JESC)
- Japan Waste Research Foundation (JWRF)
- Kitakyushu University

b. Achievements

The LTP 3R Project for the 3rd phase consisted of three major components; i) supporting the 3R Initiative, ii) promotion of networking and collaboration with Asia-based international organisations, and iii) research promotion on regional sound material cycle society in Asia.

The first component was implemented mainly as a commissioned research project from the Ministry of the Environment, Japan. This consisted of two main components; “policy dialogue and

planning activities” and “national 3R strategy making”. For example, IGES acted as the secretariat and prepared an issues paper and the chair’s summary together with MOEJ and collaborating international organisations for the Senior Official Meeting on the 3Rs (SOM) of 6-8 March 2006 and discussed the overall plans for implementing the 3Rs in G8 countries as well as in developing countries. IGES played a secretariat role for two major policy dialogues on the 3R Initiative; the Senior Officials Meeting (SOM) on the 3R Initiative in March 2006 and Asia 3R Conference in 30 October to 2 November 2006. For these conferences, IGES prepared policy discussion papers as policy-relevant and useful inputs based on research and surveys, prepared the chair’s summary, conducted a questionnaire survey, and made presentations.

As for the second component, IGES has promoted its own networking and collaboration with Asia-based international organisations., Arising from this, for example, IGES co-organised the 3R South Asia Expert Workshop from 30 August to 1 September 2006 in Kathmandu, Nepal, to discuss waste management and 3R-related challenges faced by developing countries and possible solutions to them. In this workshop, IGES and co-organisers identified key actions and priorities for 3R promotion in developing countries. The findings were reflected in the issues paper for the Asia 3R Conference.

Thirdly, IGES has started work on “research promotion on regional sound material cycle society in Asia”. Along these lines, the Fourth Phase research plan will be developed with subcomponents such as i) urban and community development, ii) upstream issues in the implementation of the 3Rs, iii) analysis of regional and global markets for reusable products and recyclable materials, and iv) analysis of Eco-towns and Eco-industrial parks, with strong emphasis on regional policy approaches and capacity development in developing countries.

1) Supporting the 3R Initiative

① Senior Officials Meeting on the 3Rs, 6 - 8 March 2006, Tokyo, Japan

IGES prepared a policy discussion paper (issue paper) outlining policy-relevant and useful inputs based on research and surveys, prepared the chair’s summary, conducted a questionnaire survey, and made presentations.

For the preparation of the issues paper, IGES worked with UNCRD and Japan Environmental Sanitation Centre (JESC) to conduct the research activities shown in the box below. Interview research was also conducted in the USA, EU, Germany and UK to identify the possible discussion points at the conference.

<p style="text-align: center;">Research conducted for the preparation of Issue Papers of SOM</p> <p>i) Promotion of 3Rs</p> <ul style="list-style-type: none">• Gaining a better understanding of the status of developing 3R national strategy or policy in developed countries and finding future challenge in the promotion of developing 3R national strategy or policy• Collecting information on international organisations’ activities concerning the 3R initiative• Collecting information on the status quo of academic study on analytical frameworks for 3R policy such as Life Cycle Analysis (LCA) and material flow analysis. <p>ii) International Trade in Recyclable materials</p> <ul style="list-style-type: none">• Gaining a better understanding of the status of the trans-boundary flow of recyclables

- Finding challenges such as barriers and environmental pollution in the trans-boundary flow of recyclables
 - Collecting information on international initiatives for preventing the illegal trade in recyclables
 - Collecting information on international initiatives for promoting capacity-building for 3Rs
- iii) Cooperation between industrialised countries and developing countries**
- Gaining a better understanding of the status of 3R strategy or policy in developing countries and capacity for implementing 3R policy
 - Identifying challenges in cooperation between industrialised and developing countries for 3R
- iv) Networking and capacity-building in 3Rs**
- Gaining a better understanding of the status of capacity-building for 3R for each stakeholder
 - Gaining a better understanding of the status and identifying challenges in cooperation among stakeholders
- v) Science and Technology to promote 3Rs**
- Collecting data on 3R-related technologies which can contribute to capacity-building in developing countries.

The questionnaire research done in countries participating in the SOM was conducted to collect major discussion points at the SOM while drafting the issue paper for the SOM. During the conference, IGES staff presented the results of the questionnaire survey to the participants. This questionnaire survey identified that one of the major keys for success in 3R promotion can be a multi-stakeholder approach/process. Thus, the research on “multi-stakeholder approaches and the key to success in 3R activities” was conducted by a small study group which met from spring 2006.

② Asia 3R Conference, 30 October– 2 November 2006, Tokyo, Japan

IGES prepared the issues paper as joint author with MOEJ, prepared the chair’s summary, and made presentations. IGES reflected the major findings from the research on “multi-stakeholder approaches and keys to success in 3R activities”, policy ideas on “regional material cycle network” and “outcomes of 3R South Asia Expert Workshop” in the issues paper.,IGES also contributed its research finding to the conference in form of a presentation together with UNESCAP on “EPR from international perspective”.

③ The 2nd Asia Pacific Waste Management Expert Conference, 22 - 24 November 2006, Kitakyushu, Japan

IGES Kitakyushu Office and LTP act as the secretariat for this conference which aims to establish a network of experts on waste management and the 3Rs in Asia and the Pacific region in collaboration with Japan Waste Research Foundation and Japan Society for Waste Management Experts.

④ Co-ordinating the Steering Committee for international promotion of the 3Rs

The steering committee, which consists of relevant international organisations and experts from academia, has been held six times to discuss the relevance of the agenda for policy

dialogues such as SOM and the 3R Asia Conference as well as future strategies for the promotion of the 3R Initiative. The steering committee gave advice to IGES and MOEJ on how to handle the 3R Initiative. IGES coordinated the steering committee and acted as the secretariat.

Steering Committee in FY 2005;

1st Meeting; November 11, 2005

2nd Meeting; January 23, 2006

3rd Meeting; February 22, 2006

4th Meeting; March 29, 2006

Steering Committee in FY 2006;

1st Meeting; September 15, 2006

2nd Meeting; October 17, 2006

3rd Meeting; April 16, 2007 (postponed from FY 2006)

- ⑤ Input of 3Rs-related research and analysis for the expert commission of the Central Environment Council of the Ministry of the Environment of Japan

IGES contributed to the preparation of discussion materials based on IGES research on the trans-boundary movement of recyclables for an expert commission of the Central Environment Council of MOEJ. The expert commission provides advice to MOEJ on its policy on the International Circulation of Resources and the establishment of a regional sound material cycle society in Asia. IGES materials were used in the third session (December 2005) and fourth session (January 2006) of the commission.

- ⑥ National 3R Strategy-Making (Capacity-building in implementation of 3R policy in developing countries) in collaboration with UNCRD and UNEP/ROAP

Capacity-building in implementation of 3R policy in developing countries including Viet Nam, Indonesia, Thailand, Philippines and Malaysia has been conducted as a three-year project (2005-2007), as follows: First year - Preliminary study; Second year - Policy Dialogue. Third year - Planning of 3Rs policy in developing countries. As a result of the project, a practical 3R pilot project is expected to be planned and implemented at local governmental level in the developing countries. This has been conducted through collaborative work with UNEP/ROAP and UNCRD.

In 2005-2006, the preliminary study and a kick-off policy dialogue were conducted to identify issues and relevant stakeholders for Viet Nam, Indonesia, Thailand, Philippines and Malaysia . UNCRD did research in Viet Nam and Indonesia, and UNEP/ROAP did research in Thailand, Philippines and Malaysia. IGES has also collected relevant information for this project through participating in relevant international workshops and conferences, and shared such information with UNCRD and UNEP/ROAP. An example of the framework for national 3R strategy appears below:.

Draft Structure of Viet Nam's National 3R Strategy

1. BACKGROUND (5 PAGES)

- International initiatives (e.g. G8 countries)
- Economic growth, population, life style/consumption pattern, urbanisation/service sector (tourism)

- Industrial production vs. GDP & intl. trade/flow of materials, craft villages
- Environmental issues (solid waste, water, land, air, human health)
- Waste generation/composition, and 3R activities
- Overall policies

2. KEY SECTORS & 3R OPPORTUNITIES (15 pages)

- source, issues, policies/measures, opportunities for 3R -MSW, agri-waste, food waste, e-waste, construction waste, mining waste, textile waste, medical waste, commercial waste (concentrated at commercial/business centres, e.g. packaging materials), craft villages, etc.

Note: appropriate classification/categorisation will be done.

This section will address the policy, technological/knowledge and institutional gaps in conjunction with 3R opportunities.

This whole section will be presented in the form of a matrix.

3. VIEWPOINTS & OBJECTIVES – broad objectives (1 page) – with reference to the National Strategy~Vision 2020

4. STRATEGIES FOR 3R PROMOTION IN VIET NAM (15 PAGES)

- Capacity-building - Training / 3R facilities (e.g. 3R Knowledge Centre/Clearing House – 3R technology, tools, industry-industry marketing information on recyclables, etc.)
- Promotion of source separation of wastes by introducing legal systems and economic incentives/subsidies
- Public awareness raising / exchange of information
- International cooperation (research, technology transfer, tech. development, etc).
- Introducing economic/fiscal instruments (e.g. economic incentives, bond-refund system, recycle fees, etc.)
- Legal measures and controls for international flows of recyclable (waste) resources (in compliance with Basel Convention)
- Partnership among key stakeholders (public, private, NGO, research institutions, etc.)
- Pilot/demonstration projects (e.g. eco-labelling, green purchasing, EPR, promoting eco-account book for households/industrial sector, empowering/motivating SMEs on 3R, etc.) to raise 3R profile/awareness
- 3R in the context of CDM/Climate Change
- Technology and Management Tools (mainstreaming Cleaner Production, ISO14000, LCA, including indigenous technologies. Many good indigenous technologies available in Viet Nam, but need to be identified and promoted.)

*Institutional mechanism/inter-agency (line Ministries)
coordination/cooperation/financial (national & international) mechanism –
CROSS-CUTTING ALL ABOVE STRATEGIC ELEMENTS.*

5. STRATEGIES TO ACTION (3 pages)

- Development of appropriate legal system
- Development of local/national action plan in appropriate areas
- Mobilising financial resources
- Implementation arrangements

6. CONCLUSION (2 pages)

2) Promotion of Networking and Collaboration

① Coordination of International Organisations for promotion of the 3R Initiative

IGES acts as the secretariat at informal meetings of international organisations for information sharing and project planning of the 3R Initiative among ADB, UNCRD, UNEP/ROAP, UNESCAP, and MOEJ. The first meeting was held on 5 March 2006, and the second on 25 June 2006.

② South Asia 3R Expert Workshop, 30 August - 1 September 2006, Kathmandu, Nepal

The South Asia 3R Expert Workshop was co-organised by IGES, ADB and UNEP/ROAP at ICIMOD in Kathmandu, Nepal, from 30 August to 1 September 2006. Approximately forty experts from research organisations, international organisations, governments and NGOs gathered to discuss solid waste management issues and comprehensively review 3R promotion in South Asia in the context of developing countries. The workshop discussed the current situation and challenges for the 3Rs in four sessions, which covered domestic solid waste management, industrial waste management, medical hazardous waste, and E-waste. Three working groups focusing on social, financial/economical, and technological contexts reviewed and examined priority actions for the 3Rs in South Asia.

Based on the discussion at the workshop, a synthesis report was published jointly with ADB entitled "Promoting Reduce, Reuse, and Recycling in South Asia".

The workshop identified the following strategic recommendations and actions:

Strategic Recommendations and Actions for 3R Promotion in South Asia

In order to better accomplish the 3Rs in the sub-region it is recommended that the following five points be taken into consideration:

1. Mixing all wastes makes everything potentially more difficult and dangerous. This is especially true when medical and toxic industrial residues are mixed with garbage. Recycling and reuse of these materials becomes even more difficult because the materials are contaminated, losing their market value and meaning that workers are exposed to risk when separating useful items. Material separation at source could be a good immediate way to start implementing a 3R initiative.
2. Measuring wastes only by volume is not sufficient for either 3Rs or sustainable development as there are now many small components mixed in the waste stream that can create tremendous problems and which must be identified. 3R strategies can be more easily implemented with better methods of waste measurement that take into account what recycled products might be produced from the waste. The key is to measure parameters other than volume, such as risk and the hazardousness of materials.
3. It is important to stress the fact that recycling is a production sector activity focused on selling a quality product, and not a waste business that only exists to remove inconvenient residues of small value. Only with this perspective can the concepts of quality control be introduced.
4. Recycling also produces wastes, and the disposal of these residual wastes needs to be planned. As economies develop and lifestyles change, recycling often concentrates these pollutants in a smaller volume. Consideration must be given to how to dispose of these concentrated wastes or to how to recycle them a second time.
5. One must consider the fact that small-scale recycling of hazardous industrial waste is often neither economically nor environmentally sound. Battery recycling is a case in point. We must look further into this aspect to see how to move forward.

The workshop has identified the following as recommended strategic actions toward the application of the 3Rs at the different levels of the sub-region.

International Level

- Ask international aid agencies to raise their priority for funding 3R programmes and projects, including pilot and demonstration projects of proven technology, and not to sponsor polluting technologies.

Regional and Sub-regional Level

- Establish a network of new and existing regional 3R centres of information, best practice and knowledge exchange, and technical support, such as the 3R Knowledge Hub established in Bangkok.
- Build and strengthen networks among national governments, municipalities, industry, and NGOs for the exchange within the region of relevant experiences with technology and institutional development.
- Link with existing regional networks and programmes that are already working at some level of 3Rs – e.g. cleaner production, green productivity, eco-efficiency, and so on.

National Level

- Raise the priority of 3R-related policy within national policy.
- Establish stable and effective national enabling policy with fiscal enabling support.
- Establish 3R national strategy in each country with a holistic approach covering upstream and downstream issues.
- Implement new or improved legislation on 3Rs that complement pollution control regulations.
- Develop national action plans jointly among key stakeholders.
- Establish clear targets for waste reduction and recycling for key waste areas.
- Establish clear guidelines for implementation of 3R programmes.
- Development capacity of national and community governments to implement 3Rs.
- Promote collaboration among municipalities, business sectors and NGOs/CSOs.
- Promote the exchange of industrial waste and by-products from one industry as inputs for other industries through information sharing as a starting point for a more comprehensive programme on industrial 3Rs.
- Establish environmental education and information services.

Local Level

- Establish 3R-related demonstration projects in key waste sectors and include waste reduction through resource efficiency.
- Involve the informal sector as a stakeholder.
- Disseminate existing success stories on 3Rs to local agencies.
- Build public awareness of the environmental and health risks from wastes and the options for mitigation of risks through 3Rs.

All Levels

- Give a higher priority to waste reduction rather than reuse and recycling and incorporate concepts of sustainable production/cleaner production/pollution prevention into 3R strategy and programmes.
- Promote 3R business opportunities and entrepreneurship to establish the market as well as management capacity needed for the 3Rs.
- Change the perspective of waste management so it is seen as an integral part of the manufacturing process and as an investment opportunity rather than a sunk cost.
- Include agricultural biomass waste as a key sector for 3R programmes.

- ③ East Asia and Southeast Asia 3R Expert Workshop, 15-16 February 2007, Manila, Philippines

Along the same lines as the South Asia 3R Expert Workshop, IGES, ADB, UNESCAP, UNCRD, and UNEP/ROAP held an expert workshop focusing on the 3R-related issues in East Asia and Southeast Asia from 14-16 February 2007 at ADB in Manila, Philippines.

- ④ Workshop on EPR and International Material Flow, 14 February 2007, Manila, Philippines

14 February 2006, UNESCAP and IGES jointly organised the workshop on "EPR and International Material Flow" to discuss the possibility of promoting regional harmonization of recycling-related requirements in Asia, with a specific focus on coordination amongst national Extended Producer Responsibility (EPR) schemes. Participants came mainly from international, regional organisations, as well as research institutes, universities and business sector. The synthesis report based on this workshop will be published soon.

MAJOR discussion points of the Workshop;

• **Country-specific conditions motivated the introduction of EPR in different countries.**

Japan, Germany and Korea introduced EPR to respond rising waste management cost such as landfill cost as well as to promote design for the environment. In contrast, China is interested in securing domestic recyclable resource to respond increasing demand of resources, capacity development of existing recycling mechanisms, and development of export-oriented manufactures targeting Japan and EU market. Also, Thailand interprets EPR as promotion of voluntary life-cycle environmental management activities by industrial sector.

• **To make EPR mechanisms effective, each country needs much wider supporting policy mechanisms.**

Need for legislation targeting both upstream and downstream of products, market-based policy instruments, various actors and organizations to support such policy tools, information sharing mechanisms, and local-national cooperation.

• **EU's environmental regulation is having a huge impact on the introduction of environmental regulation including EPR mechanisms in East Asia.**

For example, China's RoHs and WEEE. Thailand case shows that FDI and foreign market gives various pressures to motivate for voluntary measures. Also, EU's possible increased emphasis on Environmentally Conscious Design could have a large impact on Asia.

• **Advanced companies in some industries have created on-going international recycling networks or take-back schemes utilising their international supply chains.**

• **On-going development of Asian Economy and Economic Integration results in internationalization of waste and recycling issues and calls for a regional policy response.**

- ⑤ Collaboration with the Wuppertal Institute

To seek future collaboration between the German government and Japanese government on 3R promotion, IGES opened a communication channel with the Wuppertal Institute, Germany. IGES and Wuppertal Institute will hold expert workshop in Berlin Germany in conjunction with the 2nd Senior Officials Meeting of the 3Rs in Fall 2007.

3) Research promotion on regional sound material cycle society in Asia

① ADB/IGES Report “Toward Resource-efficient Economies for Asia and the Pacific; Reduce, Reuse, and Recycle”

ADB plans to publish a report on resource efficiency and the 3Rs in Asia in November 2007. IGES is a co-author of the report. LTP, FW, BSS and the Kitakyushu office are now contributing to the report.

② Study on the Multi-stakeholder Approach and Key for Success in 3R activities

At SOM in March 2006, a questionnaire survey was conducted in participating countries and international organisations on the situation of implementation of 3R-related policy and activities. The respondents include governmental and organisational representatives of the following 20 governments and international organisations; Brazil, Canada, France, Germany, India, Japan, Malaysia, Mexico, Republic of Korea, Singapore, South Africa, Thailand, United Kingdom, USA, EC, the League of Arab States, ADB, UNCRD, UNEP, and UNESCAP. The questionnaire survey identified that one of the major keys for success in 3R promotion is a multi-stakeholder approach/process. Thus, the research on “multi-stakeholder approaches and keys for success in 3R activities” was conducted by a small study group which met from spring 2006 to autumn 2006. The research results will be compiled as a research paper to be published in 2007.

③ Eco-town related research

Accepted as a research project under MOEJ’s “scientific research grant in aid of waste management research” in summer 2006, LTP conducted collaborative research with IGES Kitakyushu office, Beijing Office and Tsingtao City on evaluation of the Eco-town in Kitakyushu and the Eco-industrial park in Tsingtao.

④ Local Initiatives in Solid Waste Management and the 3Rs in Asia

Accepted as a grant research project from Kitakyushu City, IGES Kitakyushu office conducted a joint research focused on local initiatives and programmes related to solid waste management and the 3Rs in Asia in collaboration with Kitakyushu University. This research took the form of field survey based case studies in various Asian countries which include China, Indonesia and Papua New Guinea. Results from the joint research are relevant for both the Kitakyushu Initiative and the 3R Initiative.

⑤ APEIS/RISPO II

Under APEIS/RISPO II, policy research on regional recycling systems is under implementation. See APEIS/RISPO II in Section 1.3 for more details.

⑥ Extend Producer Responsibility (EPR)

IGES has contributed its research findings on international aspects of EPR to the Asia 3R conference in the form of a joint presentation with UNESCAP. UNESCAP, ADB. On this regard, IGES held an informal expert workshop on EPR on 14 February 2006 at ADB, Manila in the Philippines (see 2)④). Also, along this context, UNESCAP and China NDRC is now planning to hold another expert meeting for the EPR issue from international trade aspect in FY 2007.

4) Outreach activities (activities as a resource organisation)

IGES participated in the following international meetings or activities as a resource organisation or as a consultant, making presentations on “the 3R Initiative” or “Japan’s material cycle society policy”.

- 7-9 October 2005 International Conference on the 3R Initiative (as a part of the International Conference on Eco-products for Competitiveness in Global Markets: a side event at the Eco-Products International Fair 2005), Bangkok, Thailand (organised by Asia Productivity Organisation)
- 8-9 November 2005 1st Green Growth Policy Consultation Expert Forum, Seoul, Republic of Korea (organised by UNESCAP)
- 13-17 November 2005 Training Seminar for Capacity-Building for Environmental Management of Developing Countries, Beijing, China (organised by JICA)
- 24-25 May 2006 2nd Green Growth Policy Dialogue: “Role of Public Policy in Providing Sustainable Consumption Policies: Resourc -Saving Society and Green Growth”, Beijing, China (organised by UNESCAP)
- 12-19 November 2006, Mexico 3R Preparatory Study Group on “JICA Project of Development of Waste Management Policy based on 3Rs in Mexico”, Mexico City, Mexico (organised by JICA)
- 6-7 December 2006, International Conference on “Sustainable resources management, raw materials security, Factor-X resource productivity – tools for delivering sustainable growth in the European Union”, Bruges, Belgium (organised by Wuppertal Institute, UNEP/DTIE and College of Europe)

c. Self-evaluation

(1) Relevance

This project is highly policy-relevant. The LTP 3R project itself is an integral part of G8’s 3R Initiative, acting as a coordinator for joint projects among MOEJ and the relevant international organisations such as UNEP/ROAP and UNCRD to follow-up the 3R initiative. IGES supported MOEJ as the secretariat for major policy dialogues such as the Senior Officials Meeting (SOM) on the 3R Initiative from 6 – 8 March 2006. For the Asia 3R Conference, MOEJ asked IGES to take part as co-secretariat of the conference including cooperating in the co-authorship of the conference issues paper. Through national 3R strategy making, IGES is involved in the actual policy making process in Asian developing countries. Through collaboration with ADB and UNESCAP, IGES also secured an international channel to which contributions to IGES are expected such as the ADB 3R report or informal discussion group on EPR. The outcome of the 3R Initiative will be presented to the G8 Summit in Tokyo 2008.

(2) Effectiveness

The project is highly effective in the way it promotes the 3R Initiative in the Asia-Pacific region by involving relevant international organisations in the process, IGES has also secured its presence in

making intellectual contributions such as its presentation at the Asia 3R Conference or ADB's 3R Report.

(3) Efficiency

The project was very efficient in the way it used human and financial resources through effective collaboration with other international organisations in terms of human resources and financial resources. In this way, MOEJ, ADB, UNCRD, and UNEP/ROAP work as a team. The 3R project also works with APFED II and APEIS/RISPO II, for example, and gives on-site policy-relevant information to the other projects within IGES. In a sense, the LTP projects are implemented in a role-shared way. Thus, for example, APEIS/RISPO II provided opportunities for the LTP 3R project to discuss more academic/research-oriented policy ideas. Similarly, the LTP 3R project can provide access to the policy process itself and to human and organisational networks outside of IGES.

d. Conclusions

Through close collaboration with MOEJ and Asia-based international organisations and research institutes, the LTP 3R project has been very effective and efficient in opening up a new international policy process. It has been resourceful in accumulating on-site policy-relevant information for further research at IGES. It has also given an opportunity for further and closer collaboration with Asia-based international and research organisations.

It has opened up a new research area on resource efficiency and integrated waste management for IGES. As such, there have been discussions at IGES to start a new integrated research project on "integrated waste management and resource productivity" for its Fourth Phase. At the same time, collaboration with ADB such as on the ADB 3R report and a series of sub-regional 3R expert workshops will be able to open up new possibilities for research funding.

The G8 summit scheduled to be held in Japan in 2008 will be an important milestone for the 3R initiative. At the G8 summit, the 3R initiative will launch an international programme for enhancing capacity for 3Rs in each country and establishing the appropriate international network for waste treatment as well as the international market for recyclables. The LTP's 3R project will fully support the follow-up process of the SOM and 3R-related activities toward the G8 summit. Thus, the policy-relevance of the project will continue to be raised.

For the Fourth Phase, it will use its accumulation of policy-relevant information and collaboration with international organisations, and is expected to further develop its research-basis on the 3Rs and resource efficiency at IGES. In addition to promoting policy processes through policy-relevant funding sources, it is also expected to seek more research promotion on regional sound material cycle society in Asia at IGES in order to access scientific and research-based funding sources.

1.7. State of the Environment for Northeast Asia 2005 (SOE 2005)

a. Overview of the project

(1) Background/objectives

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) hosts the Ministerial Conference on Environment and Development (MCED) every five years. The fifth

MCED was held in Republic of Korea in March 2005, and UNESCAP planned to publish "State of the Environment in Asia and the Pacific 2005" (SOE 2005) for the conference.

Being commissioned by UNESCAP, the LTP project aimed to focus one of its chapters on the Northeast Asian sub-region. The chapter addresses particularly important environmental issues in the sub-region, namely, land degradation, biodiversity loss, freshwater resource degradation, industrialisation and pollution, cleaner production and energy, and marine degradation. It provided information on their causes, current status, and responses taken or to be taken.

(2) Methodology

Necessary data for analysis were initially collected by UNESCAP through each government. The LTP project drafted the chapter by fully utilising its expertise and experience in incorporating information provided by researchers both within and outside of IGES, by government officials in relevant countries, as well as from international organisations.

b. Achievements

A draft outline of the SOE 2005 and major contents of each chapter were agreed upon among participants at the Expert Group Workshop for SOE 2005 organised by UNESCAP (Bangkok, September 2003). Based upon this agreement, the LTP project conducted a review and analysis of the important selected environmental issues in the Northeast Asia sub-region, fully utilising IGES networks, and submitted the first draft to UNESCAP prior to the deadline.

c. Self-evaluation

(1) Relevance

A series of consultation processes which involved governmental officials and experts was conducted to finalise the draft. LTP project updated and finalised the draft in due course, reflecting comments arising from the experts' review and incorporating the latest information. The final draft will be published soon.

(2) Effectiveness

The findings and policy recommendations which were selectively accommodated in the first draft have mostly been accepted. It is understood that our research outcomes met the original objectives expected by UNESCAP.

(3) Efficiency

Given the limited timeframe and funding sources from UNESCAP, the research was conducted intensively in three months. Three researchers from the LTP project conducted research activities which include data and information collection and analysis in collaboration with external experts in order to identify the emerging environmental problems.

d. Conclusions

Originally the final draft was planned to be published by the fifth MCED. However, due to some delay in finalisation of the draft, the draft is still under review. The final report is expected to be published soon. These efforts became a basis for the GEO-4 involvement.

1.8. Global Environmental Outlook (GEO)-4

a. Overview of the project

(1) Background/objectives

The GEO process is the main mechanism for the implementation of UNEP's mandate to mobilise scientific expertise to keep the global environment under review. The UNEP Governing Council (GC) initiated the GEO process in 1995. Following the production of GEO-1 in 1997, the UNEP GC renewed its call for subsequent GEO reports in 1999 (GEO-2) and 2003 (GEO-3).

Since GEO-3, the GC has welcomed the UNEP Executive Director's proposal to use the GEO-4 process as a key vehicle for strengthening the scientific basis of UNEP. The GEO-4 process aims to ensure that environmental problems and emerging issues of wide international significance receive appropriate, adequate and timely consideration by governments and other stakeholders.

(2) Methodology

The overall scope of the assessment is to present global and regional issues in the context of international environmental governance – specifically, the Millennium Development Goals and targets since the 1987 Brundtland Commission (*inter alia*, the Rio Declaration, Agenda 21, the Millennium Declaration, the Johannesburg Declaration and Plan of Implementation, and relevant environmental global and regional instruments).

The GEO-4 process also further expands on the previous scenario's work, an area that continues to generate considerable interest. It builds on the unique strengths of the GEO process, including the presentation of environmental challenges at a regional level, based upon inputs from a network of GEO collaborating centres (including IGES), within a global perspective.

The GEO-4 process has functioned largely through 'in-kind' contributions from hundreds of experts drawn from the entire world. As with other scientific assessments, the majority of experts involved in the GEO-4 process were expected to contribute time to the process, and it is expected that they gained considerable professional credit and recognition for the chapters they have co-authored. The process involved a greater number of expert authors than GEO-3 to further strengthen its scientific credibility. The GEO Collaborating Centres (CCs) are leading and important contributors in the process.

IGES, as one of the main CCs in Asia and Pacific, was involved in the GEO-4 process from the beginning. Researchers from the LTP project played important roles as the lead authors of the concluding chapter (Chapter 10. Policy Chapter) and parts of the Regional Chapter (Chapter 6) that relate to Asia and the Pacific. In order to produce these chapters, IGES conducted collaborative activities with various institutes in line with production guidelines and schedules. One of the authors' production meetings for Chapter 10 was hosted at IGES Headquarters in Hayama, Japan.

1) Regional Chapter

IGES worked with the National Institute for Environmental Studies, which was in charge of data collection, and analysed direct and indirect causes and trends of the emerging environmental issues in Northeast Asia, using the driver-pressure-state-impacts-response (DPSIR) framework. IGES identified the emerging environmental issues in the region, assessed the driving forces behind the current environmental problems, and illustrated the sub-regional perspective, focusing on inter-linkages between waste management, air pollution, and energy efficiency.

2) Policy Chapter

Based upon intensive discussion with experts at the GEO CCs in Asia and the Pacific and in other regions, IGES developed a draft for the chapter, accommodating the comments and suggestions from the reviews. As a coordinating lead author, the LTP researcher team contributed much of the original material for the policy chapter and summary for decision makers as well as responding to two rounds of peer reviews. Production workshops were held in Nairobi (Kenya), Cairo (Egypt), Cambridge (UK), Allesund (Norway), and Hayama (Japan). Regular teleconferences were held almost every month between the three coordinating lead authors and UNEP staff responsible for the chapter.

b. Achievements

The final outputs of IGES for the GEO-4 process are the Regional Chapter (Asia-Pacific Region) and Policy Chapter of the Fourth Global Environment Outlook and the Summary for Policy Makers, based upon the series of drafting and review processes.

The Regional Chapter illustrated a regional overview of the state, trends and emerging issues of the major environmental challenges. The Policy chapter synthesised the overall policy-relevant findings with conclusions from the GEO-4 assessment and present policy options in the form of major tools for mainstreaming the environment into economic sectors. During the GEO-process, IGES not only produced these drafts but also contributed to comprehensive review process, providing comments and suggestions on the drafts.

In addition, using these opportunities, IGES contributed to the development of the GEO yearbook 2006, providing the information on the emerging environmental issues in Asia and the Pacific.

c. Self-evaluation

(1) Relevance

Regional Consultations and Government and Independent Expert Reviews were conducted for a draft revision of the Regional Chapter during May-June 2006. The Policy Chapter will provide the definitive policy statement by UNEP on the policy changes that are now needed to deal with persistent environmental problems that are inhibiting sustainable development. IGES contribution to this chapter is therefore a significant contribution to the global environmental policy debate.

(2) Effectiveness

Based upon the framework and guidelines, necessary inputs that focused on specific issues were developed for the regional chapter. Findings and statements were accommodated in the regional chapter draft in order to state the trends in emerging environmental problems. Overall policy-relevant findings and policy recommendations are proposed in the policy chapter draft in an appropriate and comprehensive manner.

The GEO process is on-going. The final report is expected to be available in September 2007, when it will be accompanied by global outreach activities to influence global environmental policy and programmes.

(3) Efficiency

Since this is an in-kind contribution to the GEO process, a limited number of LTP researchers were involved in the GEO-4 process as working groups for chapter development. The working groups efficiently analysed and created drafts collecting necessary data and information in collaboration with other CCs. In particular, the policy chapter working group with IGES as a coordinating lead author held a drafting workshop which invited the co-authors from each region and effectively created the respective drafts. The working groups provided fruitful inputs to the UNEP in line with the production guidelines and schedule.

d. Conclusions

The summary for policy-makers is being drafted between December 2006 and March 2007. The Final Draft of GEO-4 is expected to be completed in September 2007.

The GEO process highlights the need to expand collaborative assessment and monitoring structures of GEO with CCs at all levels. Since the GEO process was established in 1995, the number of GEO CCs has expanded to include various institutes from around the world, with 36 participating in GEO-3. Involvement in the GEO-process was a significant opportunity for IGES to expand its research partnership and networking and to demonstrate its global relevance as one of Asia's leading environmental policy think-tanks. Especially through the policy chapter drafting workshop to which various collaboration centres from other regions were invited, an extensive working relationship with new research institutes was established. This kind of networking development is an important asset for future development of IGES research activities.

1.9. The joint research on environmental management in Northeast Asia

a. Overview of the project

(1) Background/objectives

Based on the Seventh Tripartite Environment Ministers Meeting (TEMM) held by China, Republic of Korea and Japan, IGES conducted joint research with the Policy Research Center for Environment and Economy of State Environmental Protection Administration of China and with the Korea Environment Institute "to find out possible and efficient ways to improve the overall efficiency of environmental cooperation efforts in Northeast Asia" and "to find ways to strengthen TEMM's role", improve its performance, and coordinate better with other mechanisms in order to promote coherent and coordinated measures for Northeast Asia."

(2) Methodology

The three institutes held tripartite workshops between December 2005 and March 2007 to agree on the terms of reference, to review the first draft and to work out the overall structure and the main message of the joint research report. They took into account the pressure-state-response model of OECDs to analyse direct and indirect causes of the common environmental issues in Northeast Asia, and also to consider regional cooperation mechanisms as societal response to the environmental issues. The project aims to propose measures to improve the efficiency of the regional cooperation mechanisms, most notably TEMM, to ultimately improve the regional environmental state. The joint research will identify the common environmental issues in the region, assess the performance of

current regional environmental cooperation mechanisms¹ through a survey to be conducted in the first half of financial year 2007, and propose additional measures to strengthen regional environmental cooperation. To propose viable measures, this study will conduct gap analysis where a desirable state of the environment is identified as a target, against which the current state of the environment will be compared to in order to extrapolate the gap. The study will propose measures to bridge these two states.

b. Achievements

The project is expected to deliver a final joint research report to TEMM9 in 2008, which will present policy measures to improve the efficiency of regional cooperation mechanisms and to strengthen the role of TEMM.

c. Self-evaluation

(1) Relevance

In general terms, the outputs of this joint research can be directly used in ongoing international discussions on the restructuring of regional environmental cooperation mechanisms. The joint research report will be directly delivered to and discussed in the TEMM working group. Not only TEMM, but also NEASPEC and NEAC are reviewing their organisational structure, and this research may indirectly influence such discussions.

(2) Effectiveness

NEAC indicated that it will take into account the recommendation of the final report of this project in determining the future of NEAC.

(3) Efficiency

The joint research involved 24 person-months of research activities, with an output of two versions of the draft research papers of 30 pages each, with a three-day workshop also having been organised. More specifically, during the project period IGES was responsible for drafting part of chapter 3 in collaboration with the Korean counterpart institution.

Additionally IGES organised one three-day workshop at Hayama HQ to facilitate the collaborative drafting process in September 2006, which produced a skeleton of the first draft (section headings and main messages therein of Chapters 1, 2 and 3). It also took the lead in organising nine international telephone conferences to facilitate the process between October 2006 and May 2007. In March 2006, it produced an interim report of Chapters 1, 2 and 3.

d. Conclusions

This joint research created the basis for cross-cutting studies to examine the performance of Northeast Asian regional cooperation mechanisms in the Fourth Phase. Most notably, a good working relationship among partner institutions was established, with good contact with the Ministry of the Environment, Japan. These are all assets for the next phase.

1. Regional mechanisms under review include Tripartite Environment Ministers Meeting (TEMM), North-East Asian Subregional Programme of Environmental Cooperation (NEASPEC), Northeast Asian Conference on Environmental Cooperation (NEAC), Acid Deposition Monitoring Network in East Asia and Northwest Pacific Action Plan

1.10. National Performance Assessment and Sub-regional Strategic Environment Framework in the Greater Mekong Sub-region (SEFII)

a. Overview of the project

(1) Background/objectives

The “National Performance Assessment and Sub-regional Strategic Environment Framework in the Greater Mekong Sub-region” (SEFII) was funded by the Global Environment Facility (GEF) and the Asian Development Bank (ADB). The project was completed in March 2006, with the final workshop held in April 2006 in Bangkok, Thailand. IGES was committed to making in-kind contributions especially in providing expertise and inputs for development and implementation of the project, seeking possible linkage with APEIS/RISPO together with the National Institute for Environmental Studies (NIES).

The goal of the SEF project was to promote sustainable development of the GMS sub-region. The GMS sub-region comprises six countries/regions: Cambodia, Laos, Myanmar, Viet Nam, Yunnan Province – China, and Thailand. The project aimed to promote sustainable development through the creation of i) country-specific environmental performance assessment systems for the GMS countries, containing indicators, computer models and databases, ii) national performance assessment reports, iii) sub-regional environmental performance assessment systems, iv) sub-regional national performance assessment report, and v) development of national and sub-regional capacities for implementing the performance assessment. Sustainable development in the GMS sub-region can be promoted by helping individual governments to assess the progress of environmental management, by encouraging policy dialogue within and amongst the GMS countries, and by stimulating greater accountability of the GMS governments towards better environmental management.

(2) Methodology

The SEF II project undertook a systematic analysis of the i) state of the environment, ii) pressures causing the change in this state, and iii) responses of the GMS governments to halt environmental degradation in the GMS sub-region. The following methodologies have been adopted for the project:

- 1) Selection of environmental concerns
- 2) Identification of targets for each environmental concern (stated in national policies and/or regional and international agreement)
- 3) Selection of indicators to measure environmental performance: A PSR (Pressure - State - Response) framework has been applied to the selected environmental concerns.
- 4) Preparation of indicator fact sheets for information and data collection.
- 5) Analysis of environmental performance

With guidance from international consultants, national consultants assessed their country’s environmental performance. National workshops were organised to inform other stakeholders in the country, such as ministries and academia, about the assessment, and to receive suggestions and cooperation from them in the process. In addition, expert meetings and technical workshops were organised from time to time to discuss the methodologies as well as provide comments on the performance assessment itself. IGES joined several of these meetings and workshops, providing inputs from the policy perspective.

b. Achievements

At the 3rd Expert Group meeting, held in Thailand in November 2005, the draft environmental performance assessment reports were reviewed by experts including IGES. The comments and suggestions made at this meeting were subsequently incorporated in the final version of the country reports.

The SEF II Final workshop was held on 24 April, 2006, in Bangkok, Thailand where the final environmental performance assessment reports were tabled and discussions held regarding the future phase of the environmental performance assessment. The expected outcomes of the SEF II project included; i) informed decision making in national planning for sustainable development through better understanding of environmental conditions, trends and impacts, ii) effective and efficient environmental programme management and improved public accountability for better management of the environment, iii) increased supply of national, sub-regional and global environmental information, and iv) enhanced reviews of the effectiveness of donor-supported projects including those funded by the Global Environmental Facility.

The SEF II project has developed a set of indicators to conduct environmental performance assessment. It undertook the first-ever initial environmental performance assessments in developing Asia. The environmental performance assessments provide a tool for influencing decision makers to take environmental concerns into account when formulating the economic and developmental policies of the country.

c. Self-evaluation

(1) Relevance

The conclusions and findings presented in the environmental performance assessment reports are of relevance to the countries since they have identified the existing deficiencies in policies currently in place and in the data required for making a complete assessment.

(2) Effectiveness

The environmental performance assessment and the recommendations made in the report, if implemented, can lead to the mainstreaming of environmental concerns in the economic strategies of the countries. Since various governmental representatives from the countries were involved during the project phase, the chances of the recommendations being taken up for implementation are good.

(3) Efficiency

Given the capacity, finances and data availability, the project was able to achieve its objective and come up with comprehensive environmental performance assessment reports for the countries in the GMS sub-region.

d. Conclusions

The environmental performance assessments were received well by the governments of the GMS countries since the process involved people from the government through the process of the SEF II, while the environmental performance assessments were being conducted.

Since the country-based environmental performance assessments revealed the prevailing environmental situation in the GMS countries and what needs to be undertaken in the future in order to assure sustainability in the sub-region, ADB, together with its partners, plans to continue the environmental performance assessment under the GMS Core Environment Programme. Under Component III of the Core Environment Programme (Environmental Performance Assessment and Sustainable Development), sub-regional assessments will be conducted (2006-2008). It will also look at capacity building for data and information collection in the GMS countries, since the need was realised during the SEF II process. It will undertake a complete analysis on the environment to cover the main policy concerns identified under the project.

Component III of the Core Environment Programme has two parts. Part 1 will be to measure progress towards improved institutional performance in meeting sustainable development goals and targets by using the OECD environmental performance review and UNEP driver-pressure-state-impact-response framework. Part 2 essentially deals with improved sustainable development by integrating environmental objectives into economic strategies and decision making in the sub-region.

The Core Environment Programme, Component III, aims at mainstreaming environmental concerns into the economic strategies and decisions of the GMS countries. The environmental performance assessments to be undertaken under Component III are supposed to increase the capacity of the GMS governments to undertake environmental performance assessments on their own in the future and mainstream the process.

The procedures and process undertaken in conducting the SEF II project point to the need to have common concerns and problems related to the environment discussed at the supra-national level in order to find common solutions to common problems. The lessons thus learnt from this process can provide valuable inputs to the Fourth Phase proposal which focuses upon Trade and Environment in the BIMSTEC sub-region that consists of Bangladesh, Bhutan, India, Myanmar, Nepal and Sri Lanka.

1.11. Toyota Stakeholder Dialogues

a. Overview of the project

(1) Background/objectives

The Toyota stakeholder dialogue is expected to advance the multi-stakeholder dialogue method as a way of promoting policy dialogue and consensus building in pursuing sustainable development. It is intended to mobilise knowledge, views and information from diverse stakeholders on the selected topics that are of common interest, and has regional and/or global significance in supporting the global endeavours to promote sustainable development. Methodological analysis is also made on the effectiveness of dialogue facilitation methods by examining the changes in participants' perceptions on key issues of a selected topic based on their questionnaire responses before and after discussions.

(2) Methodologies

IGES started playing a leading role in the Toyota stakeholder dialogue from the beginning of FY 2005, departing from the supporting role that IGES played over the previous four years. The LTP Project Leader was designated as a coordinator of the Toyota stakeholder dialogue, and other LTP

members proactively support the preparatory process, such as the preparation of the issue paper (background document), the selection of participants and the drafting and analytical framework development of questionnaires in consultation with the Environment Department of Toyota Motor Corp.

LTP examines the interface of policy, institutions and civil society regarding the development and implementation of CSR activities. LTP organises the study group meetings with Toyota Motor Corp. as part of the preparatory process, inviting prominent experts from academia and the expert community. The sub-project leader of the IGES Business and Sustainable Society project team has been providing advice on the preparation of the Toyota stakeholder dialogue and delivered a key note lecture at the Fifth Toyota stakeholder dialogue held from 27 – 28 January 2006.

b. Achievements

The consultation meetings were held on a regular basis with the Toyota Motor Corp. Environment Department. External experts were also invited to the study group meetings.

In FY 2005, LTP prepared and made available for the dialogue participants the discussion paper (background document) that addressed the overall framework of Corporate Social Responsibility (CSR) in Environmental Management. It covered recent policy development including the EU CSR guidelines, Global Compact, ISO26000 and the Corporate Behavioural Guideline of the Federation of the Economic Organisation (Keidanren) of Japan. It then highlighted key topics such as environmental management systems, socially responsible investment, compliance, information disclosure, and community support programmes.

The questionnaires that examined the perceptual changes of the participants were also drafted with a view to exploring the convergence and conflict of perceptions and interests of the participants. The response processing and presentation methods were also considered.

The discussion facilitation methods were reviewed in order to practise some of the key techniques at the Toyota stakeholder dialogue.

The selection of the participants and collection of information on CSR activities were also carried out as a part of the preparatory process.

c. Self-evaluation

(1) Relevance

In the light that the increasing importance has been attached to the role played by the private sector in Asia and the Pacific under the theme of “Cooperate Social Responsibility” for improving environmental performance and promoting collaboration with stakeholders, it was of high significance to have had a stakeholder dialogue based on CSR in Japan with a particular focus on a leading Japanese corporation with the same thematic emphasis.

(2) Effectiveness

The continuity of the work is highly assured as APFED has also launched a work on CSR for environmental management and sustainable development in Asia and the Pacific, and IGES is required to work on this topic and present its outcome at major regional and international meetings in coming months.

(3) Efficiency

The work was undertaken productively and its outcome was highly appreciated as it was done based on the IGES work developed over the past years in facilitating stakeholder dialogues, and reviewed the work undertaken by other experts and organisations on the same topic in order to efficiently mobilise the work and information with additional value.

d. Conclusions

The LTP reviewed the outcome of the Fifth Toyota Stakeholder Dialogue held in January 2006, and conducted consultations with Toyota Motor Corp. on the plan and preparation process for convening the next meeting in FY 2007. After the plan for FY2007 was confirmed, the required preparatory work was undertaken with a view to convening the Sixth Toyota Stakeholder Dialogue that was held from 19 – 20 January 2007. For the Sixth Toyota stakeholder dialogue, the selected topic was “Toyota and CSR/Environment.” Programme Managing Director facilitated the dialogue, a senior researcher made a presentation on CSR in developing Asia. A team of IGES researchers/staff supported the deliberation of the dialogue.

The report on the sixth Toyota Stakeholder Dialogue held in January 2007 was prepared for submission to Toyota Motor Corp. The provisional overview summary was submitted in January 2007, and the final report was submitted to Toyota Motor Corp. at the end of February 2007. The major points of the dialogue outcome was introduced, for instance, at the APFED Policy Dialogue on CSR for Environmental Management and Sustainable Development in Asia and the Pacific held in Singapore in March 2007, and shall be released to the public through other relevant forms.

1.12. Environmental Knowledge Hub (eKH)

a. Overview of the project

(1) Background/objectives

UNEP has initiated the eKH to help stakeholders access relevant information, data, and knowledge in a timely manner, especially in Asia and the Pacific. It is a storehouse of information, data, and knowledge, facilitating debate and discussions on various environmental issues.

(2) Methodologies

The eKH applies a “decentralised network approach,” which means that partners of the eKH contribute the information and knowledge they already have. Thus, partnership is key to the success of the eKH. As a partner, IGES will be working together with UNEP and other partners for further improvement of the eKH.

A partners’ meeting was held for development of the eKH, where participating organisations, such as IUCN, ESCAP, TEI, and CAI (the Clean Air Initiative for Asian Cities) –Asia exchanged their ideas and suggestions for implementation and coordination of the eKH. An IGES staff member from the Outreach Section attended the Technical Workshop on the Development of Environment Knowledge Hub (eKH) for the Asia and the Pacific Region held at the International Centre for Integrated Mountain Development (ICIMOD) in Kathmandu, Nepal from 25 – 26 August 2006. Some samples of the APFED Database were presented at the meeting, and constructive feedback was given with a view to improving its interaction with other databases and with the eKH.

To effectively participate in the eKH, IGES decided to consolidate several databases into the APFED Good Practice Database, building on RISPO, APFED and GPP Databases.

The consolidation work on the APFED Database has been conducted with the Mitsubishi Research Institute and update work has started with the support of the good practice reviewers.

b. Achievements

A partners' meeting was held for development of the eKH, where participating organisations, such as IUCN, ESCAP, TEI, and CAI (the Clean Air Initiative for Asian Cities) –Asia exchanged their ideas and suggestions for implementation and coordination of the eKH. IGES introduced some best practices from APFED (see Section 5.5) to give some ideas of case studies in the development stage of the eKH. In November 2005, the eKH was launched at the UNEP's Collaborative Assessment Network (CAN) Meeting. On that occasion, IGES provided a common format of case studies to be used by participating organisations in uploading their case studies. The format has been developed in consideration with the APFED Knowledge Initiative (see Section 5.6) for future linkage. Ten good practices from APEIS/RISPO Good Practice Inventory were also formatted and uploaded on the eKH site for its launch.

c. Self-evaluation

(1) Relevance

The eKH has given a common platform to link the IGES databases, particularly the newly constructed APFED Good Practice Database. The number of potential users and supporters is expected to rise with the participation and active involvement in eKH. At the same time, the refinement, upgrading and rationalisation of the IGES Database has been aided by the connection of major database and groups of database users.

(2) Effectiveness

The effectiveness of IGES involvement in the eKH, particularly through the newly launched APFED Good Practice Database, needs to be examined with further development. Thus far, the involvement has helped shaping up the IGES Database particularly through the process of consolidating databases and establishing a unified APFED Good Practice Database. It has raised the standard and the quality of features. At the same time, it remains a future task to incorporate some additional features to measure the number of users and the spin-off effects of the APFED Good Practice Database.

(3) Efficiency

A small number of staff members have been supporting the development of the APFED Good Practice Database and IGES participation in the eKH. The number of supporting staff members and modalities should to be further expanded and their collaboration with respective IGES research teams should be strengthened with a view to raising the impact and expanding the number of potential users.

d. Conclusions

The eKH will upload more data and information for further improvement in collaboration with the participating organisations, and IGES will continue to seek areas in which to collaborate and cooperate.

Although the eKH keeps growing as information, data, and knowledge are added and updated, its output will be indexed and classified to include data, information and knowledge from participating organisations, as well as facilitated information and opinion exchange through forums.

1.13. The Kitakyushu Initiative for a Clean Environment

a. Overview of the project

(1) Background/objectives

The Kitakyushu Initiative for a Clean Environment was adopted at the 4th Ministerial Conference on Environment and Development in Asia and the Pacific (MCED) held in Kitakyushu in 2000 and again endorsed at the 5th MCED meeting in Seoul, Korea, in 2005. The programme aims to demonstrate tangible progress in the environmental quality of cities in the Asia-Pacific region.

(2) Methodology

To achieve this aim, various activities have been conducted from 2000 to 2006, promoting local initiatives on air and water pollution control and minimisation of waste. These activities are conducted through the Kitakyushu Initiative Network, which is comprised of participants from 62 cities in 18 countries in the Asia-Pacific region. Activities are implemented throughout the network, such as training seminars and programmes, pilot projects and information exchange and sharing of experience between cities through various mediums.

The Kitakyushu Initiative has conducted the following activities in the Third Phase (April 2004 to March 2007).

b. Achievements

(1) Third Meeting of the Kitakyushu Initiative Network (2-4 August 2004, Kitakyushu, Japan)

With activities of the Kitakyushu Initiative entering their fourth year, the Third Meeting was organised to conduct a comprehensive review of Network activities, including pilot projects, thematic seminars and training workshops, dissemination of successful practices and indicators, as well as to develop a consensus on future actions to further enhance activities, in particular, a concrete action plan to help member cities reduce and manage solid waste, improve air quality, promote urban environmental planning, conserve and improve water quality, build management capacities particularly through the use of ICT, conserve energy and improve energy efficiency, among others. As the Meeting fell before the 5th Ministerial Conference on Environment and Development in Asia and the Pacific, a concrete action plan and Message was developed which was presented to the Environmental Ministers in March 2005 for their consideration.

The Meeting was organised by UNESCAP, IGES, the Ministry of the Environment of the Government of Japan, and the Ministry of Foreign Affairs of the Government of Japan and hosted by the city of Kitakyushu, Japan. The Meeting was conducted over a period of three days, commencing with an Expert Segment on 2 August and a Mayors' & Senior Officials' Segment on 3-4 August.

Mayors and other officials from 26 cities (15 countries) took part, as well as representatives from the donor community, international initiatives and others. Key problems in urban environments were highlighted: population concentration in mega cities, air pollution, water pollution, increasing solid waste, and the challenge of integrated urban environmental management. Member cities' lack of capacity and appropriate technology, as well as difficulties in financial resources were also noted. The Meeting proposed the following mechanisms to address these challenges: cooperation for capacity-building, financing, technology transfer and institutional strengthening. It also emphasised the exchange of information, development of partnerships and involvement of stakeholders in the promotion of sustainable development, as well as twinning cities to further the exchange of information and technology. The establishment of a financial mechanism to accommodate local concerns/priorities/projects to allow access to funds by local governments was also recommended. For this purpose, a consortium of donors and technical cooperation agencies will be developed to procure funding on a sustainable basis.

Emphasis was placed on the development of a future course of action, in which local governments have identified the critical areas for action:

- 1) Urban environmental issues directly related to urgent needs in cities, (i.e. poverty and human health, including: solid waste management, air quality management, water conservation, wastewater treatment).
- 2) Long-term vision and capacities for environmentally-sound and sustainable management of cities including integrated urban environmental management.

(2) 6th Thematic Seminar: International cooperation for local initiatives

This seminar was held on 2 July 2004 in Kitakyushu, Japan, and was conducted as a panel discussion, with presentations and discussions carried out on the **available funding schemes and processes** (guidelines for different types of support) to address the **physical** (solid waste, water and wastewater, air quality management) and **capacity** (urban planning, regulations, institutions, financial mechanisms, appropriate technology, social capital) challenges that local governments face in developing and conducting activities within their cities, as well as their international cooperation activities with local cities in Asia and the Pacific.

The seminar facilitated the identification of appropriate schemes available to local governments in implementation of activities, identified the processes to seek international cooperation and support, and was the basis for consideration of a module for use by local governments in their application for international support.

Participants included representatives from Fukuoka, Hiroshima, Kitakyushu, Minamata, Osaka, Ube and Yokohama, as well as international agencies, including the Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), Overseas Environmental Cooperation Centre (OECC), United Nations Centre for Regional Development (UNCRD), United Nations Environment Programme/International Environmental Technology Centre (UNEP/IETC), United Nations Human Settlements Programme (UN-HABITAT) and the World Bank

(3) 7th Thematic Seminar: Use of Information and Communication Technologies in Urban Environmental Management: Strengthening the Implementation of the Kitakyushu Initiative

This seminar was held on 13-14 December 2004 in Bangkok, Thailand. The objectives of the seminar—sharing information and raising awareness of local governments on the use and effectiveness of ICT in urban environmental management, review the role of ICT in the

implementation of the Kitakyushu Initiative, discussing ways to strengthen information sharing and future implementation through use of ICT, including, among others, the possibility of developing an online discussion forum for the Initiative, training member city participants in developing and/or improving their own web sites for urban environmental management, which will also reflect the activities under the Kitakyushu Initiative—provided a basis for local governments to gain an understanding of the various methods in the use of ICT employed by other cities in similar situations.

The seminar concluded with an improved understanding of the use of effectiveness of ICT in urban environmental management, provided an assessment of the current status of ICT application in urban environmental management at the local level, assisted cities in determining the measures and activities carried out by other local governments, and increased the capacity of local participants in developing and improving information dissemination both within and outside the city through better development of websites.

Following the seminar, the Kitakyushu Initiative established a discussion forum to play a key role in strengthening the implementation of the Initiative and exchange of information and views on key issues under the Initiative. Member cities were encouraged to develop online discussion topics on urban environmental management to enhance interactions among relevant stakeholders. Other issues to be addressed included human resource constraints, and the necessity to develop and maintain local language versions of websites to enhance public awareness and participation. A special section for member cities to introduce their city and its urban environmental activities was strongly requested by the participants.

A training session followed the conclusion of the seminar to introduce methods of designing and improving local websites on urban environments. This training session was followed by a special session (e-learning training module on public participation in solid waste management) which provided an opportunity for participants to have hands-on experience in e-learning, particularly in promoting public participation in reuse and recycling of solid waste, and to discuss how e-learning could support urban environmental management. IGES researchers facilitated the discussion and have followed up on the use of online discussion forum with participants to continue discussion after the Seminar.

Participants included representatives from Dhaka (Bangladesh), Beijing, Weihai (China), Lami (Fiji), Surabaya (Indonesia), Tehran (Iran), Kitakyushu (Japan), Sibul (Malaysia), Kathmandu (Nepal), Karachi (Pakistan), Cebu (Philippines), Colombo (Sri Lanka), Bangkok, Nonthaburi (Thailand), and Ho Chi Minh (Vietnam), as well as the UN Food and Agriculture Organisation.

(4) Eco-Asia Pre-event: International Workshop on Local Initiatives Addressing the Transformation of Lifestyles”

This workshop was organised on 23 June 2006 in Tokyo as a pre-event to Eco-Asia 2006. Representatives from local governments, NGOs, and international organisations around Asia gathered to discuss how they are addressing the issue of lifestyle change through local action. The workshop included representatives from Japan, the Philippines, Thailand, Bangladesh, Indonesia, Iran, Korea, and Nepal. These representatives delivered presentations and held discussions on local initiatives and cooperation schemes aimed at improving the environment, coupled with economic and social benefits. The outcomes of the deliberations were reported to Eco-Asia for discussion by the environmental ministers of the region.

(5) Study Tours in Nonthaburi, Thailand and Surabaya, Indonesia

A study tour programme under the Kitakyushu Initiative was developed to share the experiences and outcomes of select activities, with an outlook to the visible transfer of successful elements from one city to another. The study tour programme is a mechanism for transferring experiences to other cities and is a move towards the “delivery” of outputs of not only successful experiences, but also functions a link to the outcomes of the first cycle of the Kitakyushu Initiative programme and the targeted achievements for 2010.

The study tour programme was formulated to provide Network cities with an opportunity to observe successful activities first-hand in the environment in which the activities were carried out. The objective of this programme is to provide visiting cities with the benefit of observing how partner cities have addressed similar issues from conception to implementation to expansion, and discuss these issues directly with representatives of the host city, including residents and those who were involved in or affected by the implementation of the activities. Host cities have been selected based on the achievement level of their activities in conducting activities, as well as their potential to act as informal advisors to the cities that participate in the programme. Host cities have the benefit of being able to share the successful outcomes of their projects with other cities in the region, marking a shift towards visible replication from one city to another. As such, participating cities have been selected based on their potential to conduct follow-up activities after the conclusion of the programme.

The first study tour, organised by IGES, in cooperation with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and with sponsorship by the Ministry of the Environment of Japan, was hosted by Nonthaburi Municipality, Thailand from 13-15 December 2005 under the topic of community activities to decrease waste generation in households and promote separation at source. The study tour was attended by representatives of five member cities of the Kitakyushu Initiative Network: Colombo (Sri Lanka), Kathmandu (Nepal), Bangkok (Thailand), Sibuloh (Malaysia), and Bago (Philippines).

The second study tour, held from 5-9 February 2007 in Surabaya, Indonesia, was organised by IGES, in cooperation with UNESCAP, the Kitakyushu International Techno-Cooperative Association (KITA) and hosted by Surabaya City under the topic of environmental, social and economic benefits of household composting. The study tour was attended by representatives of the following cities: Chittagong, Sylhet (Bangladesh), Weihai (China), Jakarta, Surabaya, Semarang, Denpasar (Indonesia), Kitakyushu (Japan), Quetta (Pakistan), Bago (Philippines), and Bangkok (Thailand).

(6) Collection and sector-wise analysis of successful practices

The experiences of cities provide good reference for the identification of effective and innovative management techniques or approaches to overcome urban environmental problems. Such practices can facilitate the formulation of future activities in order to replicate actions in other cities or assist cities in the development of new action programmes to address critical issues. To strengthen the actions at the local level, such sharing of information and experiences is crucial in facilitating the transfer of know-how and technology to other cities.

As part of the Kitakyushu Initiative, a programme which aims to strengthen the capacity of local governments to address urban environmental issues, the collection and analysis of successful practices is one method used to identify management techniques to understand *why* such problems have occurred, *what* can be done to overcome these problems, and more importantly, *how* other cities have done this in the past.

The environmental practices highlighted under the Kitakyushu Initiative programme traverse the areas of air, water, solid waste and urban planning.

The database also contains research carried out to date regarding the utilisation of quantitative indicators in the development, implementation, monitoring, and evaluation of policies.

The Kitakyushu Initiative recommends setting quantitative targets and indicators (such as SO₂ in air pollution, COD in water pollution, recycling ratio in solid waste management) along with policy decisions in urban environment management. Setting quantitative indicators makes it easier to measure the effectiveness and degree of success of policies and encourages undertaking regular surveys and adjustment, promotes stakeholder participation in various stages of decision-making and implementation and helps assess the results in transfer of successful practices.

(7) Pilot activities

Pilot projects are a core of the Kitakyushu Initiative and have a role as a mechanism to improve the urban environment in cities in the regions through capacity-building of local governments. Pilot activities are conducted to review the methods of the Kitakyushu Initiative (i.e. the transfer and promotion of successful urban environmental management policies and target setting using quantitative indicators). In monitoring those processes and results, the effectiveness of specific approaches will be defined and a model developed to enable their transfer to cities in the Asia-Pacific region.

Activities that qualify as pilot activities under the Kitakyushu Initiative should essentially involve the following points:

- Actions at the ground-level aiming to bring about tangible improvements in environmental quality and human health, as well as other co-benefits
- Progress to be quantitatively monitored using indicators
- Enhanced participation by local stakeholders
- Encouragement of a replication approach

All pilot projects are implemented with the purpose of verifying various targets, approaches, and concrete measures in urban environmental management. The pilot projects are defined in detail by the municipal environmental section, which will be the main implementing body, and are implemented with advice from UNESCAP, IGES or other Initiative supporting organisations. In doing so, monitoring of the progress of the project through the systematic use of quantitative indicators has become an essential element in the implementation of pilot activities.

The pilot projects that have been carried out to date include the following:

- Promotion of recycling and reduction of waste (Nonthaburi, Thailand)
- Feasibility study on the privatisation of industrial wastewater treatment (Weihai, China)
- Multi-stakeholder approach to climate change (Puerto Princesa, Philippines)
- Urban air quality management (Chongqing, China)
- Solid waste management planning (Dhaka, Bangladesh)
- Construction of small-scale treatment facilities for domestic wastewater (Nakhon Ratchasima (Korat), Thailand)
- Stakeholder awareness improvement for air quality management (Surabaya, Indonesia)

- Stakeholder awareness in industrial relocation (Ho Chi Minh, Vietnam)
- Energy efficiency (Ulaanbaatar, Mongolia)
- Water-use efficiency (Tehran, Islamic Republic of Iran)
- Water quality improvement (Cebu, Philippines)

(8) Dissemination of information

In order to support the capacity-building of local governments to develop win-win approaches to urban environmental management and socio-economic development, the Kitakyushu Initiative programme facilitates the dissemination of information through various vehicles, including the development and effective delivery of pamphlets on the programme, regular dissemination of newsletters and other PR materials, and dissemination of information through the Kitakyushu Initiative website.

c. Self-evaluation

(1) Relevance

Easy access to the showcases of successful practices supports local governments replication of policies to improve the environment

The implementation of study tours takes this one step further to provide a hands-on learning experience to local governments and encourage them to conduct similar activities in their own cities. Participants are able to establish informal partnerships and identify and start follow-up actions with high potential through the study tour.

(2) Effectiveness

Findings and implementation were able to meet the original objectives.

(3) Efficiency

Human and financial resources have been used effectively. Funding was provided by MOEJ. Activities were implemented in collaboration with UNESCAP and Kitakyushu City.

d. Conclusions

The Second Phase of the Kitakyushu Initiative (2005-2010) is being conducted in line with the Green Growth approach highlighted by MCED 2005, with win-win approaches to encourage improved environmental management and socio-economic development at a local level. The Kitakyushu Initiative will also be a tool to enhance local initiatives to address environmental and socio-economic benefits.

1.14. Environmental Education Sub-project

a. Overview of the project

(1) Background/objectives

Environmental Education is considered to be one of the most important tools to increase environmental public awareness. An international new scheme entitled "Education for Sustainable Development (ESD)" has been developed by UNESCO and UN Decade on ESD (DESD) and has

been conducted worldwide since 2005. In order to adopt our previous research outcomes into this new scheme and at the same time promote our research outcomes in the Asia-Pacific region, the Environmental Education (EE) Sub-project has set research programmes which conduct information collections on this scheme and preliminary analysis by utilizing the information. The followings were the main research activities which the EE sub-project conducted during the Third Phase.

- Establishment of a Policy Concept on “Environmental Education as a Strategic Tool to Achieve Sustainable Development”
- Support to the Regional Implementation of DESD in the Asia-Pacific region
- Development of a Model National Strategy on Environmental Education for Sustainable Development

(2) Methodology

The research on “Establishment of a Policy Concept on Environmental Education as a Strategic Tool to Achieve Sustainable Development” implemented 1) an overall review of the contents and outcomes of environmental education related researches which have been conducted in both the First and Second Phases with explicit focus on the perspective “EE as a strategic tool to achieve Sustainable Development”, 2) literature reviews on monitoring and evaluation of successful policy options, and interviews/hearing with practitioners in the fields of EE and ESD.

“Supporting the Regional Implementation of DESD in the Asia-Pacific region” is a support activity for developing countries, based upon reviews of DESD national implementation processes in Australia as a case of a developed country and through analysis on policy options related to the implementation process. Through the support activity, consultation networks with the leading agencies such as UNESCO, UNEP, UNU, and so on, for DESD implementation were developed and, at the same time, a series of meetings with those agencies was organised to exchange useful information related EE.

“A Model National Strategy on Environmental Education for Sustainable Development” is being developed based upon fieldwork in Malaysia by one research group which joined the local government of the country.

b. Achievements

During both FY2004 and FY2005, research frameworks on ESD and EE – which IGES should focus on – were developed, based upon the assessment of how the concept of Education for Sustainable Development has been accepted in Asian countries. As a result of the research activities, one position paper concerning Australia’s experience in environmental education has been developed.

In addition, two documents in particular were based on the research activities in FY 2005. These were “Environmental Education for a Sustainable Future: The Australian Experience”, and “Submission report to SPREP”. These were compiled in English. One interim report entitled “Environmental Education for Sustainable Development” was developed in Japanese.

One researcher from the EE sub-project joined a local government in Malaysia during FY2006 in order to develop and implement appropriate policies on enhancing environmental education for the government. During the assignment, fieldwork which aimed to assess the enabling policies of enhancing environmental education was conducted. Analytical results from the fieldwork in Asia

were fully utilised in developing a model of national strategies on environmental education for Sustainable Development.

c. Self-evaluation

(1) Relevance

Research relevance is considered to be high. In FY 2005, the EE Sub-project research plan was developed by reviewing results of discussions of the ESD and the UN-DESD. This meant that the research plan matched the needs of international society at that time. The UN-DESD is an ongoing international programme conducted by UNESCO. The research programmes of EE's sub-project are considered to be highly relevant in contributing to this programme by conducting researches in this field.

(2) Effectiveness

Effectiveness is considered to be moderate. The EE sub-project has produced several discussion papers and/or issue papers during FY 2005-2006. Some of them were actually utilised in policy formulation for the local government in Asia. Therefore, some accomplishments through the EE sub-project research have been utilised in actual environmental policy in Asia. Adoption of research outcomes in the actual policy process is at a very preliminary stage in this phase, meaning that more effective utilisation of the research outcomes should be considered.

(3) Efficiency

Efficiency is considered to be moderate. Continuous research activities are thought to be very important in order to contribute to international discussions and negotiations on environmental education and ESD. The EE sub-project activities should follow up IGES previous research activities since FY1998. The research outcomes in the Third Phase were limited, because the EE sub-project managed to conduct research activities efficiently, utilising a very limited number of personnel as well as a limited budget. Most of the researchers moved to other related institutions and agencies during the Third Phase. However, some accomplishments by the EE Sub-project were utilised in actual policy formulation processes in Asia.

d. Conclusions

All the research activities that were conducted in the Third Phase are closely related to the Fourth Phase Research Plan (FY2007 - FY2009). The outcomes of these research activities will become a basis for the Research Plan on ESD and EE in IGES.

