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Outline of the Project

1. Activity name General Activities Report of the IGES Kitakyushu Office

2. Activity period October 1999 – March 2001

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4. Activity expenses (yen)

Total activity cost:	**72,496,098**	
FY1999:	25,604,098	(actual)
FY2000:	46,892,000	(budgeted amount)

5. Summary of the report

The IGES Kitakyushu Office conducted studies on advanced policies in urban environmental management and carried out the following activities targeting intercity cooperation that use the experiences of local governments.

- Study on Methods for Improving Urban Environmental Infrastructure
- Case Studies on Urban Environmental Management (Kitakyushu City, Ube City)
- Support for the UN/ESCAP Ministerial Conference

Through the use of private funding and know-how, studies were conducted on promoting improvements to urban environmental infrastructure, in addition to the necessary methods for effective implementation. Using build-operate-transfer project field studies in the Philippines and Bangkok and the brainstorming of experts, studies were conducted on the necessary requirements to introduce private sector participation and role sharing of public and private sectors.

Forming a part of the IGES Urban Environmental Management Project, case studies were conducted by Kitakyushu City and Ube City, with results compiled in the project reports. Reports of independent studies on “Environmental Management Policies Using Information Technology” and “International Cooperation Policies Among Asian Cities” outline current and future environmental policies of Kitakyushu City.

The Ministerial Conference on Environment and Development in Asia and the Pacific 2000 (MCED 2000), hosted by the United Nations Economic and Social Commission for Asia and the Pacific (UN/ESCAP), was held in Kitakyushu City in September 2000. In order to provide support for this conference, the IGES Kitakyushu Office held six symposiums to increase awareness and understanding of environmental problems in Asia. The IGES Kitakyushu Office is involved in the creation and implementation of the Kitakyushu Initiative for a Clean Environment, which was endorsed at this conference.

6. Keywords

Urban environmental management, local government, PFI, BOT, environmental infrastructure, information technology, international cooperation, intercity cooperation, ESCAP, Ministerial Conference for Environment and Development, Kitakyushu Initiative, environmental information city network

1. Introduction

A characteristic of environmental policies in Japan is that local governments have traditionally taken independent steps ahead of the national government in addressing pollution and waste problems. With national policies and related laws, local governments can take charge of regulations and guidance, and observations, measurements, and supervision directly, in addition to devising general measures that consider the needs of residents and the region's natural and societal situation. Presently, this type of independent response from local governments is expected in such global-scale issues as CO_2 countermeasures and policy development for the creation of resource recycling societies, among others.

For a large number of countries in the Asia-Pacific region, improving living standards through economic development is a priority issue. This differs from economic development in Japan in that industrialization and urbanization is proceeding at a surprising rate, poverty and large-scale destruction of the environment as a result of population increases has risen, and industrial, urban and global environmental pollution has developed simultaneously. However, this situation combining economic development, societal problems and environmental problems has not developed in all countries uniformly. Problems and priorities differ from region to region, and city to city. Based on national policies, local governments should implement and carry out policies that correspond to that region's situation. However, because the centralization of power in developing countries is strong, local governments have minimum authority and financial resources, in addition to insufficient human resources and information. Therefore, it can be difficult to map out and implement comprehensive and sound policies.

Against this background, in order to promote independent activities of local governments in the Asia-Pacific region, the Kitakyushu Office carried out studies on methods for improving urban environmental infrastructure, case studies on urban environmental management (Kitakyushu City, Ube City), and support activities for the UN/ESCAP Ministerial Conference in order to strengthen local initiatives, expand partnerships, and promote intercity cooperation activities and investment in environmental activities during the first phase.

2. Major results of activities

2.1 Objectives and targets

With coordination of activities to promote local initiatives and international cooperation as its guide, the IGES Kitakyushu Office carried out studies on methods for improving urban environmental infrastructure, case studies on urban environmental management, and support for the UN/ESCAP Ministerial Conference during the first phase of IGES research. The objectives and targets of those activities are outlined as follows.

Projects using private capital such as private finance initiatives (PFI) have attracted attention in recent years. PFI is an efficient and effective method that utilizes private capital and know-how in the improvement, maintenance and management of public works that were originally managed by the public sector.

Improvement of the environment in Asian cities, with its lack of necessary resources to overcome these problems and insufficient urban management capabilities, has become a major issue. It is essential to improve the infrastructure of transportation systems, sewerage systems, and waste treatment, and to improve the urban environmental infrastructure in a way that is suitable to a city's current economic and technological situation.

In developing countries, the practical use of built-operate-transfer (BOT) schemes is actively being promoted in the improvement, maintenance and management of public works; in the Philippines and Malaysia, BOT projects are being implemented in power generation, toll roads, and treatment of hazardous wastes. In developing countries, there is a demand for infrastructure to meet economic growth, however, this is difficult because of financial limitations and inefficient public works. In addition, role sharing between the public and private sectors to make the best use of these types of private funds must be determined.

In research on methods to promote improvements in urban environmental infrastructure, funding systems and experiences of Asian countries were analyzed and consideration given to the role of international aid and investments from domestic and overseas sources. In addition, recently instituted PFI methods of local governments in Japan were explored. From these results, the future course of role sharing between public and private sectors in the Asian region were clarified and policy models, including funding planning, were indicated as targets.

As part of the IGES Urban Environmental Management Project, these case studies were conducted by Kitakyushu City and Ube City. The focus and analysis of these case studies was on urban pollution countermeasures and policies to create a resource circulating society, analysis of generalities and special characteristics of those policies, and the effectiveness and limitations of Japanese models for other Asian cities. (For more on case studies of Kitakyushu and Ube cities, please refer to the IGES project reports.)

In carrying out Kitakyushu's case studies, particular attention was paid to the policies of "Environmental Management Using Information Technology" and "International Cooperation Among Asian Cities" and individual studies were conducted. It is conceivable that there are urban environmental management methods that can ensure the maximum benefits for developing countries in the Asia-Pacific region in information technology and intercity cooperation. In addition, great strides are expected in methods of urban environmental management in developed countries. The focus was narrowed down to these two policies and studies were carried out.

In September 2000, the "4th Ministerial Conference on Environment and Development in Asia and the Pacific (MCED 2000)," organized by the United Nations Economic and Social Commission for Asia and the Pacific (UN/ESCAP), and the "Ninth Environment Congress for Asia and the Pacific (ECO ASIA)," organized by the Environment Agency of Japan (now Ministry of the Environment), were held in Kitakyushu City. The IGES Kitakyushu Office, looking towards the success of these conferences, held a series of six symposiums (MCED (ESCAP)/Eco-Asia 2000 Pre-Symposiums), with the cooperation of Kitakyushu City and Fukuoka Prefecture.

With the participation of citizens, businesses and related organizations, the objective of these symposiums was to increase understanding of the various environmental problems being faced in the Asia-Pacific region and discuss strategies for solving these problems. These results were then to be reflected in the "Kitakyushu Initiative for a Clean Environment (Kitakyushu Initiative)" that was endorsed at the UN/ESCAP Ministerial Conference. An additional target of these symposiums was to provide support for the implementation of the Kitakyushu Initiative, in order to promote environmental improvement and development in the Asia-Pacific region after the conferences.

(Keiko Sasaki, Osamu Norimatsu)

2.2 Outline of activity results

a. Study on methods for facilitating urban environmental structure

(i) Field study in the Philippines

Studies were conducted on the current situation in the Philippines, which is utilizing private funding and know-how from domestic and overseas sources, and potential uses of private funds in build-operate-transfer and environmental projects.

Against the background of its current governmental system and funding difficulties, the Philippine government is moving forward with improvements in infrastructure and is pursuing support from the private sector. In addition, domestic and international companies are actively becoming involved in BOT projects because of the attraction of new investment markets and are researching related governmental ministries and local public bodies. The Philippines instituted the following policies and initiatives in order to actively promote BOT projects.

- The Philippine BOT Law (May 1994, Republic Act No. 7718)
- The BOT Center (Manila), a promotional, coordinating, supervising governmental organization, was established.
- Governmental support given to BOT projects (provision of guarantees and incentives)
- Clarification of risk-sharing (fluctuations in exchange rates, construction risks, operational risks, provision of materials and product purchase guarantees, etc.)

As a result of these policies and initiatives, BOT schemes spread to other areas of the Philippines. Additionally, more than eighty percent of the existing development projects originated with unsolicited proposals. The following are case studies on BOT projects in the Philippines

Case 1: Geothermal generation project in Mindanao Island

In this project, a joint venture business between Marubeni and Oxbow (U.S.), an IPP, signed a BOT contract with PNOC-EDC (a nationally managed oil company) to construct a geothermal generation plant. Contract details stipulated that the joint venture business of Marubeni and Oxbow will construct and run the facility for ten years, after which it will be sold to PNOC-EDC.

This project was a success for the following two reasons.

- Role-sharing was well-conducted between government and private sector.
  - Fuel and steam was supplied by PNOC-EDC free of charge.
  - The Philippine government guaranteed purchase of power even unforeseen situations.
  - The Philippine government bore risks for exchange rate fluctuations and inflation.
- Risks and hedges were well-conducted between project stakeholders.
  - Capital procurement: The Philippines Commercial International Bank supplied US$43,000.
  - Construction risk: Mitsubishi Heavy Industries, Inc., insured design, machinery procurement, and construction risks.

- Operational risk: Oxbow insured operation and maintenance.

Case 2: Sewerage system project in Manila

This project was a case that involved the privatization of a sewerage system facility under the control of the Metro Manila government. Management and maintenance were divided between two areas in the east and west under the control of a foreign and domestic company merger, and a twenty-five year work permit (concession) was provided.

At first, the Maynilad Water Service Inc., who supplied water to the 6.1 million residents in the western area, anticipated an internal rate of return of ten percent, which is difficult in the short term. However, in the long term, the number of customers is expected to increase.

Deserving special mention is that the Metropolitan Waterworks and Sewerage System controls water supply fees in order to provide inexpensive services for residents. Extraordinary Price Adjustments is a formula that is adopted for fluctuations in fees due to exchange rates, inflation, changes in tax systems and institutions and is an effective function for rules of procurement.

The selection of a joint company with international experience and financial, technological and management capabilities, clear bid procedures, sound contracts, high quality management, and strong support from government are requirements for this type of project.

Case 3: Metro Rail Transit (MRT) "Metrostar Express" Project (Manila urban transportation)

In this project, MRTC carried out the construction and maintenance of an elevated railway, introduced to alleviate traffic congestion in Manila, through the BLT (Build-Lease-Transfer) method. In order for this project to be achieved, the government guaranteed a high commuter rate; in the case that the commuter rate did not reach objectives, the government had a contract with MRTC that would make up for the loss.

By January 2000, commuter levels were exceedingly low and liability was sought because of the poor showing of results. Disorganization of studies on potential implementation before start of the project and high commuter fees were two reasons for the failure of this project.

(ii) Field study in Thailand

Studies were conducted in Thailand on the current situation of the privatization of publicly owned companies and the potential uses of private funds in environmentally related projects.

In Thailand, studies have been conducted on the vitalization of the economy through privatization since 1961. However, current trends are much different. As one method to recover from the economic crisis in existence since July 1997, Thailand has received support from the World Bank and the International Monetary Fund. The privatization of nationally owned companies was included in the loan conditions set forth by the IMF and the Thai government has established the Master Plan for State Enterprise Sector Reform to continue the trend towards privatization. The master plan includes organizational reforms of nationally owned companies, with increases in the competitiveness of the nation and service effectiveness; reduction of the burden of nationally owned companies in the governmental budget and distribution to public works; and increases in social services and the creation of new employment opportunities.

In drawing up the master plan, the government is attempting to demonstrate strong leadership through debt reduction, streamlined operations, and strengthening of international competitiveness however, there is strong opposition from government workers employed in these nationally owned companies. Other problems include the difficulty of coordinating not only governmental projects but also the ideas and operations of the nationally owned companies. For these reasons, this master plan is expected to take more than five years to complete.

Companies from overseas (in particular, Europe and North America) are interested in opportunities to participate in these privatization trends, as either partners or capital and service providers.

Case study: Privatization projects of sewerage systems in Thailand

Detailed privatization plans for each public works sector are outlined in Thai government's master plan. Privatization plans of the sewerage system operations of the Metropolitan Waterworks Authority (MWA) are outlined below.

Bangkok's sewerage system is operated by the Metropolitan Waterworks Authority (MWA) within the metropolitan area; the Provincial Waterworks Authority (PWA) conducts operations for areas outside the metropolitan area.

A plan presented by the Thai Ministry of Finance outlined two methods to achieve the privatization of MWA. One was to create a joint stock company and procure funding independently. The second method was to divide the metropolitan area into eastern and western sections and have MWA take over operations for one area and a private company operate the other.

Because the Tokyo Government has strong cooperative ties with MWA through official development assistance (ODA) and Japan International Cooperation Agency (JICA) projects, MWA requested assistance in this endeavor. The Tokyo Metropolitan Government Bureau of Waterworks submitted a plan to combine privatization and international cooperation, with MWA becoming a nationally owned joint stock company (establishing a new metropolitan area waterworks public corporation) on 20 December 2000. A privately owned waterworks company would be established through investments by the new metropolitan area waterworks public corporation and other investors. The new waterworks public corporation would take over the control of planning and managing the waterworks in Bangkok, with the private company controlling the operations, management and construction of each waterworks facility through concessions by the public corporation. The Tokyo Metropolitan government would offer water leakage prevention policies, service improvement policies, and management and technological know-how to both these companies. The Thai government and the MWA are conducting discussions to decide if this plan will be adopted in the future.

(iii) Expert committee for research on methods to promote improvement in urban environmental infrastructure

First Meeting 26 October 1999

Discussions were conducted on the current situation of PFI projects that are attracting attention in Japan, with reference to cases from Britain.

Second Meeting 26 October 1999

Consideration of PFI being carried out in developed countries and differences of BOT in developing countries, in addition to discussions on the requirements needed to promote improvements in environmental infrastructure in Asian countries.

Third Meeting 21 December 1999

At this meeting, concrete ideas and thoughts on project financing and PFI were developed, in addition to considerations on the development of environmental projects in Asia through case studies (sewerage system works in Turkey, power generation projects in Indonesia).

Fourth Meeting 5 July 2000

Discussion and consideration from macroeconomic standpoints and the current situation of privatization in Thailand following the financial crisis.

(iv) Symposium

Theme: “Public-Private Partnerships for Urban Environmental Infrastructure Improvement”
Date: 8 March 2000

At this Symposium, presentations were followed by a panel discussion. A presentation on “PFI Experiences in England and the United States, and the Road to the Creation of Japanese-style PFI” included the following two important points for new methods of public investment in PFI in Japan. First, in the introduction of PFI in Japan, one must be aware of what point in history Japan occupies at the present time, and consider where Japan is going. Second is the assimilation of employment through public service industries and the promotion of industry.

Another topic, “The Current Situation of the Asian Model of PFI and Japan’s Role,” provided the opinion that PFI targets in the environmental field in Asia are still slightly in the future. Reasons may be that because there is no awareness to pay for waste treatment, it is difficult for practical projects to be concluded. However, it was speculated that if the wavering Asian economy can make a full recovery, demand might increase. Additionally, for Japan to move ahead with promoting environmental PFI in other countries in Asia, three points are important.

First, after the establishment of the country’s total management, it is necessary to make use of the capabilities of the private sector. Secondly, in cases where Japanese environmental measures are transferred to another country, it is necessary to foster the development of international lawyers and accountants, etc., as the basis for conducting business. Third, it is necessary to quickly devise solutions with the support of a particular country for projects that are currently at an impasse.

Lastly, the final speaker discoursed on the subject of “Waste Measures in Southeast Asia and Methods of Contributions from Japan” in which the current situation and issues surrounding waste measures in Thailand, Malaysia, and the Philippines were presented. Common points of waste treatment in ASEAN countries are that although treatment of hazardous waste materials is in the works, treatment of household waste has remained untouched. The speaker explained that even within the same ASEAN countries, cultural differences abound, making standard explanations of plans and theories insufficient. A tentative plan was presented regarding the necessity of treating household waste the same as industrial waste, and following up with separate methods after primary treatment.

In addition, remarks were made regarding funding and technological cooperation in contributions from Japan for waste treatment in developing countries.

Results of research on methods of promoting improvements in urban environmental infrastructures are below.

- In improving urban environmental infrastructure, successful results have appeared regularly in the use of private capital through BOT schemes. Project requirements include support provided by the government through improvements in laws and policies and the division of expected risks.
- It is even more difficult to use private funds in improving waste management infrastructure because creating a profitable structure is difficult. However, there is potential to solve problems through partnerships between public and private sectors, such as public-established and private-managed facilities.
- In improving urban environmental infrastructure in developing countries, successful results to date have been obtained through the use of international support, such as ODA. Additionally, both the practical use of this funding and project formation included in the outlook are important.

(Osamu Norimatsu)

b. Urban environmental management case studies

(i) Research on the practical use of information technology in environmental management

Expert Meeting

The following are indicated in issues of current environmental management: ineffectiveness and unreliability of information disclosure and conservation and use of data; complexity and ineffectiveness of governmental procedures and management methods; difficulties in conducting local and simultaneous observations; delays in the horizontal course of information exchange in vertical governments; lack of communication with businesses and citizens; and demands for active participation of citizens in policy planning and implementation.

There is an impressive amount of information technology available today including high quality analysis capability surveys through high resolution satellite observations, miniaturized machinery such as wearable computers, two-way communication through the internet, transfers of large amounts of information through light cables, and a wide variety of software such as automated translation and voice activated input. In addition, new technology is being developed every day.

The business world has taken the initiative in the use of information technology and the effectiveness of employment management, transactions, and sales are increasing. In addition, in countries where information technologies (IT) are advanced, such as the United States and Singapore, unique actions in linking pollutant release and transfer registers (PRTR) and the community are being carried out. Using these examples as reference, plans must be carried out for the appropriate usage of IT in each and every region.

Symposiums

Theme: “Future City of Environment and Information”
Date: 25 May 2000 Number of Participants: 450 persons

Discussions were conducted on the best way make use of rapidly developing information and technology in urban environmental management, in addition to what changes to expect in citizen participation, information exchange, and international cooperation.

Advances in computer technology and the spread of the Internet have spurned dynamic changes in business and communication, and new usage methods have arisen. To date, the development of information science has made large contributions to environmental improvement, such as control of discharged exhaust and energy conservation through combustion control, alleviation of traffic congestion through integrated traffic systems (ITS), and regular observation of large areas through high resolution satellite observations. However, these types of technology and information are used by a limited number of experts and therefore, and residents only see the final results.

However, in this new era of information technology anyone can participate and large amounts of detailed information can be effectively exchanged. Governments can consider effective advertisement of laws and regulations and information disclosure, effective industrial waste treatment and management, environmental education working together with schools, conduct inspections of hazardous materials through high-resolution satellite observations, and make use of urban planning through three-dimensional images. Citizens and non-governmental organizations (NGOs) can participate in monitoring, community development, and forming governmental policies, green purchasing, and actively use information from businesses and government. In addition, the effectiveness of projects conducted by NGOs, local governmental, and business networks, in addition to cooperative activities through mutual networks have increased. Furthermore, as a result of discussions at the ESCAP Ministerial Conference, the use of an Asia-Pacific regional environmental information network could have an effect on the improvement of the environment of each country. In advanced information countries like the United States, information disclosure continues to benefit residents

and the community, and there are a large number of points that should be observed.

The effective use of technology to promote literacy is indispensable, especially relating to the contents and use of environmental information. In addition, the dangers of mistaking information's real intentions and other dangers of weakening the relationship between people and nature and preferring virtual reality must be understood and recognized.

An expectation of the IT revolution is that it will provide not only the business world and governments, but also every nation and person, the opportunity to enjoy the benefits of information technology. It will have a great impact on the private lives of individuals. Governmental officials must consider the advantages of these new kinds of technology for larger numbers of people and develop governmental policies that emphasize these advantages. Systems are needed that can provide anyone, anywhere, with access to information and the ability to send information, thereby creating a network. In order to accomplish this, support is necessary not only for infrastructure but also for education to increase literacy and the activities of residents. An additional important point is that information received through communication with residents and businesses should be reflected in local policies.

In the rapid development of information technology, more decentralized environmental policies that reflect local needs can be realized by promoting the effectiveness, regional spread, and details of environmental management, and two-way communication with residents and businesses.

(ii) Research on intercity international environmental cooperation

Kitakyushu City, with its rich experience and technology in overcoming pollution, is carrying out numerous international environmental cooperation activities including hosting trainees and dispatching experts, organizing international conferences, and environmental consulting. In particular, environmental cooperation based on exchanges between people continues with Kitakyushu's friendship city of Dalian, China. Since 1996, the Dalian Environmental Model Zone development study has been carried out with JICA using ODA funds. This development study was the first collaborative study carried out by JICA and a local government. It has drawn attention as a new model for assistance through linkages with intercity and governmental cooperation.

Kitakyushu City developed the Kitakyushu International Environmental Cooperation Promotion Plan in January 2000 and is expanding environmental cooperation projects that have progressed together with Dalian to other cities in Southeast Asia. This plan outlines three targets: contributions to global environmental conservation, contributions to the creation of a livable urban environment, and contributions to the vitalization of the region. It involves a total of six cities in Indonesia, the Philippines, Malaysia, and Vietnam joining to form an Environmental Cooperation Network of Asian Cities. In addition to sharing environmental experiences and information among the cities, cooperation activities are being developed that include the participation of not only the government, but also citizens and NGOs, in addition to business-based technology transfers.

The Kitakyushu International Techno-Cooperative Association (KITA) is actively supporting these international environmental activities of Kitakyushu. KITA, an NGO established with investments by local businesses and the government in order to promote the transfer of Kitakyushu's industrial technology overseas, carries out environmental studies and consulting in developing countries, including hosting trainees and dispatching experts through requests by JICA.

Kitakyushu City and KITA, in an environmental cooperation partnership, are focusing on Metro Cebu in the Philippines, with a concentration on the cities of Cebu, Mandaue, and Lapu-Lapu. (The manager of the Region 7 Department of Environment and Natural Resources (DENR) visited Kitakyushu for training, and through collaborative studies on development of the environmental industry carried out by Kitakyushu and the Pollution Control Association of the Philippines, Incorporated (PCAPI), an NGO in the Philippines, detailed information and a counter-partnership were secured.)

Because the Japan Bank for International Cooperation (JBIC) was questioning the effectiveness of Japan's ODA and discussing its revision and/or discontinuation, JBIC started to search for highly effective assistance options to respond to situations in developing countries. During this time, JBIC requested Kitakyushu's cooperation in using the information from intercity cooperation activities. After numerous meetings between Kitakyushu and JBIC, Metro Cebu was chosen as the target and studies on the state of societal development, the environment and potential to introduce environmental industries were entrusted to Kitakyushu. Kitakyushu carried out studies with the cooperation of governmental organizations, businesses and NGOs in Metro Cebu. This study marks the first time JBIC has collaborated with a local government in a project.

The following three points were a focus in the studies.

The first point is that there are large gaps between Metro Cebu and Manila. It is not exceptional for the national government to centralize control over authority and funds in developing countries; however, gaps between the capital city of Manila and the local city of Cebu are beyond imagination. In Manila, there is funding from both domestic and overseas sources, large groupings of finances and human resources, and an environment where necessary information can be found easily. However, while Metro Cebu is the Philippines number two economic area, it faces serious shortages in finances, human resources and information. Even if a local government leader has the desire to improve the environment, the next step is not always clear and there is no support from the national government.

For example, emission standards are set by law and local governments provide guidance to plants and factories. However, Cebu City does not possess the analysis and guidance functions to carry this out. Analysis is carried out either by laboratories of the DENR regional office or research offices at universities. Cebu City can only inform the plants of DENR's indicators and results. Additionally, because the treatment capabilities at laboratories are limited, sometimes samples must be brought to Manila directly.

The second point is the problem of solid waste. The Philippines established the Republic Act No.8749 in 1999, also called the Clean Air Act, which prohibits the incineration of garbage. Years ago, garbage was openly dumped in disposal sites along the coastline. However, because the Philippines is an island country, there are a limited number of places that disposal sites can be established. Therefore, in order to treat the increasing garbage sanitarily, an incineration plant was established with support from JICA, and other organizations. However, with the establishment of the Clean Air Act, the completed incineration plant has never been used.

Faced with this perplexing problem, Cebu City has changed the height of disposal sites from 2 to 10 meters and is treating some household waste by composting. Scavengers are finding plastic PET bottles, metals and glass in the waste that have been brought to the disposal sites. Cebu City would like to incinerate hazardous materials such as medical waste, decrease the amount of garbage through separate collection of different types of garbage, and make recycling a business, however, know-how and funds are in short supply.

The third point is that American and Japanese styles of development assistance differ. In the Japanese style, requests for assistance are usually made through intergovernmental negotiations. In some cases, such as those involving large factories, the official requests may not reflect the actual needs of citizens. On the other hand, in the United States and Canada, knowledge-based support by NGOs plays a central role, and independent support activities are carried out, if only on a small scale. A new trend in bilateral assistance in the U.S. is the allocation of forty percent of the aid budget to NGOs and NPOs. As a method to achieve the greatest results with the least resources, this has an impact even on Metro Cebu. However, American-style support lacks the macro-level focus looking at society as a whole, and supports only in "spots." Some residents in Metro Cebu are dissatisfied with incorporating the American standard into every system. Evidently, this style of American assistance cannot be used for every sector of society.

Kitakyushu City pointed out that knowledge-based support is essential to aid in the improvement of national governmental capabilities and managing capabilities in order to promote development that reflects the situation of

Metro Cebu. In addition, the development of human resources, technological guidance, and support in the creation of various policies and plans is possible in intercity cooperation activities. However, initiatives that address governmental financing systems and socio-economic systems are also necessary.

In the future, consideration will be paid to the introduction of viable support programs from JICA and JBIC and linkages with the private sector in developing environmental business. Kitakyushu City and JBIC are aware of the importance and urgency of the problems facing Metro Cebu and are working towards a rapid response to the problem.

There are a number of characteristics worthy of mention in the intercity cooperation activities of Kitakyushu City. First a target city is chosen. Because limitations exist in human resources and finances in the international cooperation activities of local governments, not every request can be accommodated. Here, Kitakyushu City places emphasis on comprehensive intercity exchange, including future economic exchange, and chooses a city that wishes to engage in this type of activity. That is to say, as a key for environmental cooperation, this is an investment strategy to deepen intercity exchange, develop economic exchange, and activate the region. A responsibility of local governments is the welfare of its residents. However, residents rarely consent to voluntary intercity cooperation. In international cooperation activities of local governments, certain actions are necessary to return profits gained to the region, such as business development. Methods to choose a target city that can expect this type of development provides a great impact on the international cooperation activities of other local governments.

Second is the development of a human resource exchange base. Kitakyushu City has secured the talents of persons from organizations in the national and city governments and NGOs to act as counterparts. Through the efforts of these persons, information exchange and other activities are carried out and efforts are made to determine the needs and grasp the problems of other cities. These “channel counterparts” host trainees, hold environmental seminars, and coordinate environmental surveys, among other activities. Human resource exchange builds trust and reliability and these motivated counterparts are an element that should not be lacking in intercity cooperation.

Third are links with national governments. Assistance from the national government in the development of independent policies increases the promotional strength of a project. With suggestions and assistance from the Ministry of the Environment and the Ministry of Foreign Affairs, Kitakyushu City has moved forward with its international environmental cooperation activities, which in turn has played a role in deepening the understanding of its residents and lightening financial burdens on cities. In addition, for international assistance institutions such as JICA and JBIC, active links such as new program proposals can be promoted in line with requests from local governments, not only by making maximum use of existing programs. For aid institutions, linkages with local governments that possess rich practical experiences in the field of urban environmental management, in particular, are welcomed for their contributions to the effectiveness of ODA.

Intercity cooperation activities between Kitakyushu City and Metro Cebu are still in the first stage and implementation as projects for JBIC and JICA, among others, is expected in the future.

(Keiko Sasaki)

c. Support for the UN/ESCAP Ministerial Conference

(i) Symposiums

A series of six symposiums (The MCED (ESCAP)/Eco-Asia 2000 Pre-Symposiums) were held from February to August 2000. They are described below.

1st Pre-Symposium
17 February 2000, 150 participants
“Realization of Material Recycling Societies: Current Issues and Future Perspectives in China, Japan, and Korea”

In Korea, waste treatment in accordance with urbanization in recent years has become a serious problem. In order to respond to such difficulties as securing safe disposal sites on small pieces of land, environmental pollution of areas surrounding disposal sites, increases in waste and worsening of the environment, policies on waste treatment have shifted towards recycling, waste reduction, and building the foundations of resource-recycling economies and societies. The new policies introduced include a large number of economic measures, such as fee-based waste disposal bags, deposits on home appliances and tires, and fees for products that cannot be recycled. The charging of additional fees is proving to be the most effective method to change behavior. Future issues to be focused on include improvements of waste disposal sites, expansion of markets for recycled items, and improvements in environmental technology.

In China, the volume of waste is increasing along with the growing urban population and improvements in living standards. In addition, gas is replacing coal, and the use of paper and plastic has increased. The need for waste treatment is undergoing large changes due to changes in lifestyles. Industrial waste is the responsibility of producers, while hazardous wastes are collected and treated under the responsibility of the government. Household waste is the responsibility of local governments, however, pollution has arisen because of the large amount of waste being accumulated in surrounding areas. With the increase in governmental investment and introduction of foreign capital, overall environmental management is undergoing great changes. In addition, the ratio of resources that are reused in production processes is increasing. Further, because wastewater and gaseous emissions are being controlled during production stages, progress is being made towards cleaner production.

Increasing waste is a common problem in Japan, Korea and China and there are few differences between the three countries in governmental policies and citizen awareness. For example, the effective results of economic measures in Korea, such as fee-based policies, can act as a reference for Japan. In addition, privatization of waste treatment is being carried out in China, where fees for waste treatment are borne by the businesses and persons responsible. This is a new situation that makes use of private funds.

The problem of waste, a serious societal problem, is also a global environmental problem. Their solutions require the effective reuse of resources and a decrease of the burden on the environment. While local characteristics, cultures, and economies are different, a clear vision and principles should be identified in contemplating common problems and solutions in equal partnership.

2nd Pre-Symposium
8 March 2000, 80 participants
“Public-Private Partnerships for Urban Environmental Infrastructure Improvement” (See above “Symposium”)

3rd Pre-Symposium
16 March 2000, 70 participants
“Environmental Challenges for Cities in East Asia: Current Issues and Future Perspectives”

In cooperation with members of the China Council for International Cooperation on Environment and Development and Shuzo Nishioka (IGES Climate Change Project Leader) discussions were carried out on methods of urban environmental management in East Asia, using research results of the IGES Urban Environmental Management Project.

Case studies on the urban environment in East Asia were carried out, causes of poverty, industrial development, and consumer lifestyles in urban environmental problems were classified, and a transitional model in which these three problems occur in succession was created. In local governmental policy in Asian countries, analysis and long-term perspectives are often not sufficient, unsuitable methods are selected, and time and funds are often not used effectively. However, by learning from past experiences, problems and unnecessary waste can be avoided.

For example, what can be learned from Japan’s environmental policies is the importance of the development and

implementation of measures, the management capabilities and independent activities of local government, and the roles of the national government in supporting these activities, in addition to the small number of economic methods and ineffectiveness of governmental policies.

The result of unplanned land development in the face of rapid urbanization can be seen in the loss of natural biodiversity, pollution of the air and water, rise of municipalities with low quality products, and mass production of waste, all of which have become serious problems in Korea. Achieving the sustainable development of local cities for the future is Korea's most important agenda. For starters, the special cultural qualities and biological diversity of each city should be assessed, with cooperation between politicians, governmental workers, NGOs, and residents of that area. In addition, comprehensive strategies for urban planning and protection of the environment should be developed and carried out.

In China, air pollution in urban areas is reportedly caused by automobile exhaust. Various governmental policies are being put into effect and technology development is being carried out to combat this problem. However, every country experiences this phenomenon—with rising income standards, the number of automobiles increases and air pollution becomes worse.

In a large number of countries and cities, there are a variety of policies and technological developments being carried out, however, to conduct suitable selections and maintenance of these policies and technology and increase the effective use of limited resources, accurate information and superior management is indispensable, in addition to investment in the development of human resources.

4th Pre-Symposium
25 May 2000, 450 participants
"Future City of Environment and Information" (described above)

5th Pre-Symposium
17 June 2000, 200 participants
"Creation of Environmentally Symbiotic City in a Resource-filled Society"

Discussions were conducted on urban infrastructure methods with the cooperation of the Kyushu Asia Branch of the Japan Association for Human and Environmental Symbiosis.

After World War II, Japan repeatedly applied the "scrap and build" method for construction of its urban infrastructure, and using a vast quantity of investment, destroyed the natural environment and continued emitting large amounts of waste. Looking at Asia, in the large number of areas that are undergoing rapid economic development and urbanization, improvements to low quality infrastructure and chaotic urban planning are being carried out. In periods of economic development, methods to increase consumption and investment are necessary. However, today, with the quality of the environment declining globally and limited energy resources, the transition to a system of sustainable material cycles is needed quickly.

Sound material cycles involve only limited consumption of resources and energy. Resources are recycled and reused. Sound material cycles to not require a decline in quality of life. Key features needed for improving urban infrastructure include resource and energy conservation, energy safety, long-lasting products, reuse and recycling. Technological development and consumer education are also indispensable.

The most important point that must be considered in community development is the knowledge and understanding of residents. Even with the most advanced technology and systems, if the city is one in which the residents are not content, there is no meaning to establish this type of living environment. Through cooperation with the residents and citizens, the local history and natural environment can be emphasized, functions and culture to support rich lifestyles can be

enriched, and a city that will proudly be passed on to future generations can be created.

6th Pre-Symposium
2 August 2000, 75 participants
"Inter-City Networks for International Environmental Cooperation"

A summary of previous symposiums, discussions in this symposium focused on inter-city cooperation for environmental improvement and recommendations for the UN/ESCAP Ministerial Conference.

Countries in Asia are experiencing rapid population increases, industrialization, and globalization of their economies. At the same time, these phenomena have major impacts on the environment, including forests, air, and water. The Asian region is an important factor in global environmental problems and if countries take appropriate actions to address the problems, it can offer a global model for environmental policies. However, the negative consequences of improper action are serious.

United Nations organizations and governments of developed countries provide much technological and financial assistance and guidance to address environmental issues in the Asian region. However, support at the national level cannot always guarantee that measures will effectively respond to local characteristics and needs. This is where the experience of local governments and organizations is valuable in pollution countermeasures and other environmental issues. They are making steady progress in intercity cooperation that developed from sister city or other cooperative relations. However, funding and human resources are limited. Assistance can be more effective and efficient with a systematic combination of assistance at the country level and cooperation at the city level.

The Kitakyushu Initiative for a Clean Environment was endorsed at the UN/ESCAP Ministerial Conference in order to promote environmental measures. Outlined within the Initiative are governmental policies and actions benefiting from the experience of Kitakyushu, the establishment of quantitative indicators for objectives and assessments, and establishment of a Kitakyushu Initiative Network to promote intercity cooperation. Each participating country establishes priority issues, makes an effort to concentrate national resources for that target, and conducts a quantitative assessment of the results, thereby creating a project that is attractive to donor organizations.

The Kitakyushu Initiative Network aims towards the development of intercity cooperation through the exchange of information on environmental measures by local governments. This cooperation will be developed into a national project and will target the procurement of funding from donor organizations. In order to have effective management of this system, cooperation of national and local governments, rather than competition, is essential. Additionally, links between these national and local governments and linkages with existing initiatives is essential.

3. Conclusions

3.1 Conclusions

The phrase Think Globally, Act Locally has often been repeated as a message about how environmental policies should be promoted. From the latter half of the 1960s to the 1970s, local governments played a major role in pollution countermeasures in Japan. Because actions on the part of the central government were insufficient, local governments made free use of various governmental measures, such as pollution prevention agreements and more stringent environmental standards, and moved forward with environmental policies. Actions such as these by local governments helped to advance the national environmental policies.

Currently, even in global activities that aim towards the creation of a society with sustainable material cycles, city-level policies that relate more closely to day-to-day living have become crucial, in addition to international and national level policies related to socio-economic systems.

In developing countries in the Asia-Pacific region, major cities, such as those that are national capitals, enjoy special access to power and finances. Local governments, on the other hand, are often only given the role of executing policies established by the national governments. In this type of situation, it is difficult to expect local governments in Asia to play the same roles that local governments in Japan do. To further environmental policies at the local level, national governments should provide support to guarantee the authority of local governments, secure financing, and foster the development of human resources.

The most important issue for countries in Asia is socio-economic development. In order for this development to be "sustainable," stakeholders must recognize the different situations of each country, and independent long-term development scenarios must be created and implemented. If national policies with macro-scale outlooks are linked properly with implementation by local governments, societies may be able to achieve true sustainable development.

The experiences of local governments in Japan in environmental countermeasures may be able to provide useful lessons for urban environmental problems in other parts of Asia. In addition, information technology and the private sector should play important roles in improving environmental conditions. However, the environmental experiences of cities often cannot be directly transferred to other locations. The mechanisms of experience and case studies must be analyzed and successful elements extracted and put into use in other cities, by which new and original policies that are suitable to a certain city's political, economical, and cultural situation can be developed. Local governments in Asia with little administrative experience are requesting the information and know-how to accomplish this.

Intercity cooperation in the environmental field is one method of responding to the needs of these Asian cities. Technology and knowledge accumulated by local governments are used, and from a practical standpoint, assist in the environmental countermeasures of individual cities. In order to promote sustainable development within Asian cities, links between macro-level assistance through funding and governmental systems and practical support though local governmental cooperation are necessary.

The Kitakyushu Initiative for a Clean Environment, endorsed at the 4th Ministerial Conference on Environment and Development in Asia and the Pacific, is a mechanism to promote environmental countermeasures by local initiatives through intercity cooperation. Intercity cooperation to date has primarily included voluntary activities on the part of local governments. However, with the endorsement of the Kitakyushu Initiative, local governments can receive support from national governments and international aid institutions and organize systematic activities.

In contrast to the European and North American styles of assistance that enforce uniform systems, the promotion of this type of Asian-style intercity cooperation is indicative of a new approach of knowledge-based support.

3.2 Remaining issues for future research

Major activities of the second phase of IGES research will center around the implementation of the Kitakyushu Initiative for a Clean Environment. Together with efforts to strengthen links with ESCAP, Japan's Ministry of the Environment and Ministry of Foreign Affairs, it is important to build cooperative relationships with aid institutions such as JICA, JBIC, and the Asian Development Bank, in addition to existing city networks.

Because of centralized power structures in many Asian countries, human resources, information and financial resources are focused at the national level. Although local cities often face serious environmental pollution, they often find it difficult to implement the proper policies to address them, because of inflexible national policies and the lack of funds, human resources, and information. In such situations, the understanding and support of the national government is essential.

In cases where intercity cooperation activities are being carried out, it is necessary to gather background information on not only the state of the environment, but also on culture, history, governmental systems, and local knowledge and understanding of the problems. In addition, assistance is essential to promote the participation not only of governmental officials, but also local residents, NGOs, and private companies.

(Keiko Sasaki, Osamu Norimatsu)

4. Evaluation and achievements

4.1 Assessments of major outputs

Originality of activities

The Project focused on intercity cooperation in the environmental field. It also placed importance on practical policy promotion.

Advancement from existing activity level

While not classified as “academic” research, these activities necessitated moving away from deskwork out into the field. From the viewpoint of developing concrete policies, these activities made progress.

Influences on policy-making process

The goal of intercity cooperation is to influence policy-making processes, using the lessons learned from cities that have experience in addressing environmental issues. At this point, the extent of influence of this project is not yet clear.

Appropriateness and timeliness to stakeholders’ needs

The Kitakyushu Initiative for a Clean Environment, endorsed at UN/ESCAP’s Ministerial Conference, outlines the expectations of national and local governments in intercity cooperation.

Outreach

Outreach and expansion plans are being carried out as part of the implementation of the Kitakyushu Initiative.

4.2 Evaluation of the performance of the activities

Activities of this project have only been carried out for one and a half years to date. Nevertheless, they have attracted notice and are linked to ESCAP projects.

4.3 Evaluation of management of the activities

Linkages with the IGES Urban Environmental Management project may not be strong. Management of activities by the Kitakyushu Office has been smooth.

4.4 Economic efficiency of activity management

Sufficient results were achieved within the budget.

4.5 Suggestions for improving activities in the second phase

In the second phase of IGES research, basic management of the Kitakyushu Initiative for a Clean Environment will be carried out, with activities focusing on the promotion and expansion of intercity cooperation and assessments of urban environmental management policies. With the urban environment of cities in the Asia-Pacific region declining rapidly, swift and suitable responses to these problems are urgently needed, in addition to the promotion of projects. In response to these needs, it is essential to create and maintain a people- and knowledge-based organization.

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List of Achievements

1. Commercial Publications

None

2. Books Published by IGES

FY1999

IGES Kitakyushu Office (1999) "*Expert Committee for Research on Methods to Promote Improvement in Urban Environmental Infrastructure*" Refer to The 2nd Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development, IGES

FY2000

IGES Kitakyushu Office(2000) "*The 1st Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development: Realization of Material Recycling Societies-Current Issues and Future Perspective in China, Japan, Korea-*", IGES, 69pp.

IGES Kitakyushu Office (2000) "*The 2nd Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development: Public Private Partnarship for Urban Environmental Infrastructure Improvement*", IGES, 118pp.

IGES Kitakyushu Office (2000) "*The 3rd Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development: Environmental Challenges for Cites in East Asia-Current Issues and Future Perspective-*", IGES, 72pp.

IGES Kitakyushu Office (2001) "*Final Report: Study on Methods for Facilitating Urban Environmental Infrastructure Construction and Improvement*", IGES, (to be published)

IGES Kitakyushu Office (2001) "*The 4th Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development: Future City of Environment and Information*", IGES, 46pp.

IGES Kitakyushu Office (2001) "*The 5th Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development: Future City of Environment and Information*", IGES, 41pp.

IGES Kitakyushu Office (2001) "*The 6th Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development: Inter-City Networks for International Environmental Cooperation*", IGES, 55pp.

3. Workshop and Seminars organizes by IGES

FY1999

Date	Title of workshop	Lecturers and participants	Place
Oct. 26, 1999	1st Expert Committee for Research on Methods to Promote Improvement in Urban Environmental Infrastructure	Hitoshi IKUMA(Center for the Strategy of Emergence), Masahiko ISHIDA(Development Bank of Japan), Manabu FUKUCHI(Nomura Research Institute), Hiroshi MIZOGUCHI(KITA Environment Coopration Center), Takeshi KATSUHARA(Toa University), Toru MATSUMOTO(Kyushu University), Hidefumi IMURA, Xuemei BAI, Shinji KANEKO, Osamu NORIMATSU	IGES Tokyo Office/ Tokyo
Oct. 26, 1999	2nd Expert Committee for Research on Methods to Promote Improvement in Urban Environmental Infrastructure	Akihiro TAMURA(Dai-Ichi Kangyo Bank), Mitsutaka MORI(Dai-Ichi Kangyo Bank), Hitoshi YOSHIMURA(Mitsui & Co., LTD), Hiroshi MIZOGUCHI(KITA Environment Coopration Center), Takeshi KATSUHARA(Toa University), Toru MATSUMOTO(Kyushu University), Hidefumi IMURA, Xuemei BAI, Shinji KANEKO, Osamu NORIMATSU	IGES Tokyo Office/ Tokyo
Dec. 21, 1999	3rd Expert Committee for Research on Methods to Promote Improvement in Urban Environmental Infrastructure	Hitoshi YOSHIMURA(Mitsui & Co., LTD), Hiroshi MIZOGUCHI(KITA Environment Coopration Center), Takeshi KATSUHARA(Toa University), Toru MATSUMOTO(Kyushu University), Hidefumi IMURA, Xuemei BAI, Shinji KANEKO, Miao CHANG, Osamu NORIMATSU	IGES Tokyo Office/ Tokyo
Feb. 17, 2000	The 1st Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development	Mituyoshi OKADA(Vice Mayor of Kitakyushu), Peijun SHI(Beijing Normal University), Nam-Hoon LEE(Anyang University), Wei WANG(Tsinghua University), Masao UKITA(Yamaguchi University), Ryota SHINOHARA(Prefectural University of Kumamoto), Akio MORISHIMA, Hidefumi IMURA, Kazuo MATSUSHITA	Kitakyushu University/ Kitakyushu
Mar. 8, 2000	The 2nd Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development	Hitoshi IKUMA(Center for the Strategy of Emergence), Toshihiko KINOSHITA(Japan center for Economic research), Ryuichi MURANO(Consultants for Urban Environmetal Systems), Takeshi KATSUHARA(Toa University), Toru MATSUMOTO(Kyushu University), Hidefumi IMURA	Kitakyushu International Conference Center/ Kitakyushu
Mar. 15, 2000	The 3rd Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development	Hoi-Seong JEONG(Korea Environment Institute), Binghuan QIANG(CCICEDI), Fengchun WANG(National People's Congress), Wenyong JING(Tsinghua University), Shuxiao WANG(Tsinghua University), Xueyi LIU(State Planning Commission), Fengqi ZHOU(State Planning Commission), Xiaochan SHI(State Environmental Protection Bureau), Jianbo MA(CCICED), Toni SCHNEIDER(Senior Science Advisor), Siduk LEE(Pacific Institute for Environmental Research), Keiji KITAMURA(Overseas Environmental Cooperation Center), Peijun SHI(Beijing Normal University), Dan HUN(Chinese Academy of Science), Guang XIA(China-Japan Friendship Center for Environmental Protection), Deok Ho CHO(Kyong Ju University), Mohamad SOERJANI(National Research Council), Takeshi KATSUHARA(Toa University), Masao UKITA(Yamaguchi University), Toru MATSUMOTO(Kyushu University), Hirofumi NAKAYAMA(Kyushu University), Jin CHEN(Kyushu University), Hidefumi IMURA, Shuzo NISHIOKA, Xuemei BAI, Yong REN, Shinji KANEKO, Masato NAKAYAMA, Miao CHANG	Kitakyushu International Conference Center/ Kitakyushu

FY2000

Date	Title of workshop	Lecturers and participants	Place
May 25, 2000	The 4th Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development (NTT DATA)	Takeshi OGAWA(Environment Agency), Toru NAKAGAWA(NTT DATA), Toshikazu MATSUOKA(City of Kitakyushu), Miyoko MOROFUJI(Supar Wakasugi Kodomo Eco-Club Supporter), Ippei HAGIWARA(NTT DATA Institute for Management Consulting), Hidefumi IMURA, Shuzo NISHIOKA	Kitakyushu International Conference Center/ Kitakyushu
Jun. 17, 2000	The 5th Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development (Jisedai System Kenkyukai, Kitakyushu Junior Chamber)	Akinobu KUMADA(Japan Association for Human and Environment Symbiosis), Koichi SUEYOSHI(City of Kitakyushu), Masasuke NAKATA(Urban Development Corporation), Hisato OKAMOTO(Jisedai System Kenkyukai), Yoriko ABIRU(Kitakyushu Junior Chamber), Akio HAYASHI (The Iron and Steel Instisute of Japan), Kouichirou AKIMOTO(Japan Industrial Location Center), Katsuki KURODA(Architect), Hidefumi IMURA	Commercial and Industrial Trade Center/Kitakyushu
Jul. 5, 2000	4th Expert Committee for research on methods to promote improvement in urban environmental infrastructure	Keiichiro OIZUMI(Sakura Institute of Research), Ryuichi MURANO(Japan Environment), Takeshi KATSUHARA(Toa University), Toru MATSUMOTO(Kyushu University), Hidefumi IMURA, Shinji KANEKO, Miao CHANG, Osamu NORIMATSU	IGES Tokyo Office/ Tokyo
Aug. 2, 2000	The 6th Pre-Symposium on Eco-Asia 2000/ESCAP Ministerial Conference on Environment and Development	Masakazu ICHIMURA(ESCAP), Seiji IKKATAI(Environment Agency), Zhougyan WANG(Dalian City), Dao Van LUONG(Ho Chi Minh City), Koichi SUEYOSHI(City of Kitakyushu), David RISSTROM(ICLEI), Yoichi ISHII(City of Yokohama), Kiyoshi ISAKA(JICA), Naoki MORI(JBIC), Yoshinori KITAGUCHI(Hiroshima City), Akio MORISHIMA, Hidefumi IMURA	Kitakyushu International Conference Center/ Kitakyushu

4. Academic Papers

None

5. Lectures at Workshop and Seminars

None

6. Participation in Committees outside of IGES

None

7. Field studies

FY1999

Date	Purpose	Place	Participants from IGES
Jan. 23-28, 2000	Field Study in the Philippines	Manila, Clark/Phillipines	Takeshi KATSUHARA(Toa University), Toru MATSUMOTO(Kyushu University), Osamu NORIMATSU

FY2000

Date	Purpose	Place	Participants from IGES
Oct. 9-17, 2000	Field Study in Thailand	Bangkok/Thailand	Takeshi KATSUHARA (Toa University), Toru MATSUMOTO (Kyushu University), Osamu NORIMATSU
Dec. 9-16, 2000	Creation of database of information on pollution countermeasures and cases tackling issues in Kitakyushu City for use in international training and academic study	Cebu/Phillipines	Takeshi KATSUHARA (Toa University), Keiko SASAKI

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<The IGES Kitakyushu Office>

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