

GLOBAL
ENVIRONMENT
CENTRE
FOUNDATION

Annual Report 2006





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Foreword

In January 2007, the Global Environment Centre Foundation (GEC) commemorated the 15th anniversary of its founding. At this milestone in its history, I had the privilege of succeeding Dr. Nobuaki Kumagai to become GEC's second president. I would therefore like to take this opportunity to ask for your support in the years ahead.

To date, the Intergovernmental Panel on Climate Change (IPCC), a body of the United Nations chaired by scientists from all over the globe, has published three complete assessment reports detailing the scientific, technical and socio-economic aspects of global warming. In February 2007, the first installment of the IPCC 4th Assessment Report gathering together the latest knowledge on global warming, the "Working Group 1 Report (The Physical Science Basis)", was published starting with consecutive reports from the other working groups. According to the Working Group 1 Report, the increase in world's average temperatures since the mid-20th century is unequivocal, and is very likely due to anthropogenic greenhouse gas concentrations. Meanwhile, Japan experienced one of its warmest winters on record in 2006 and, although it cannot be stated conclusively that this was attributable to global warming, I believe that many people are concerned that the earth is becoming warmer. It is fair to say that the time for debating whether or not global warming is occurring has passed, and that we have now reached the stage where we should be thinking about and implementing effective measures for its mitigation without delay.

Since its founding in 1992 as a support body for the United Nations Environment Programme (UNEP) International Environmental Technology Centre (IETC), the Global Environment Centre Foundation has focused its projects on the transfer of Environmentally Sound Technologies (ESTs) in order to help realize environmental conservation and sustainable development in developing countries. With this in mind, we are carrying out projects in collaboration with IETC to spread ESTs to developing countries. On the global warming front, we have been commissioned by the Ministry of the Environment, Japan to carry out CDM (Clean Development Mechanism)/JI (Joint Implementation) feasibility studies to realize both the promotion of global warming countermeasures and sustainable development in developing countries. Furthermore, we have carried on a diverse range of efforts geared towards environmental conservation, such as our work at the commission of the Japan International Cooperation Agency (JICA) to train environmental policymakers and other personnel from developing countries.

GEC will continue to promote such initiatives in the future while cooperating with our affiliated organizations to contribute to the global environment's conservation and international cooperation in the field of the environment to that end.

We sincerely hope that, through this annual report, we are able to foster an understanding of GEC's activities, and that we may look forward to your continued support and cooperation in the future.



September 2007

A handwritten signature in black ink, which appears to read "H. Miyahara".

MIYAHARA, Hideo

President

Global Environment Centre Foundation

Background of the Establishment

Establishment of the UNEP DTIE International Environmental Technology Centre

In the 1960s, in conjunction with rapid industrialization, the city of Osaka suffered from several unprecedented environmental problems. Enormous infrastructure improvements and development of environmental technologies were subsequently achieved through cooperation between the municipal government and industry. In the hope of extending these benefits beyond its borders, the Osaka City Government has been working to help alleviate environmental problems in developing countries.

With this in mind, in August 1989, Mr. Masaya Nishio, Mayor of Osaka, announced a plan to attract an international environmental organization to the city in order to disseminate and apply Osaka's successful experience in its urban environmental management. This plan was announced in accordance with the spirit of the International Garden and Greenery Exposition held in Osaka in 1990. Following the mayor's announcement and with the support of the Japanese national government, the Osaka Prefectural Government, and business organizations in the region, Osaka Mayor Nishio officially handed a request to Dr. Mostafa K. Tolba, then Executive Director of the United Nations Environment Programme (UNEP), while he was visiting Japan.

The result was that, in July 1990, at a summit of developed countries in Houston, USA, Prime Minister Toshiki Kaifu announced the plan of setting the UNEP facilities up in Japan. In August of the same year, Mr. Naohiro Kumagai, then Japan's Ambassador to Kenya, proposed to the 2nd Special Meeting of the UNEP Governing Council that a center be set up in Japan in view of the increasing importance of environmental technology transfer to achieve sustainable development. In May of the following year, a resolution to establish the UNEP International Environmental Technology Centre (IETC) whose mandate is the adoption, application and operation of Environmentally Sound Technologies (ESTs) in developing countries and countries with economies in transition, was unanimously approved at the 16th Session of the UNEP Governing Council. Official establishment of IETC was completed in October 1992 in Osaka when UNEP Executive Director Tolba and Parliamentary Vice-Minister for Foreign Affairs Kakizawa signed an official agreement marking the founding of IETC. Since 1998, IETC has operated as a part of UNEP's Division of Technology, Industry and Economics Division (DTIE).

Note: all titles are effective as of the years mentioned here.

Establishment of the Global Environment Centre Foundation

After official approval in 1991 by the UNEP Governing Council to set up the IETC in Japan, the Osaka City Government formed an UNEP IETC Osaka Planning Office on 3 July 1991. The purpose of the office was to carry out planning and create a network of support for the proposed center. Following initial preparation by the Planning Office, capital endowment was received from the Osaka prefectural and city governments. The establishment of the Global Environment Centre Foundation (GEC) was carried out on 28 January 1992 with the expressed purpose of supporting IETC. GEC, a nonprofit organization, obtains support from the local business sector.

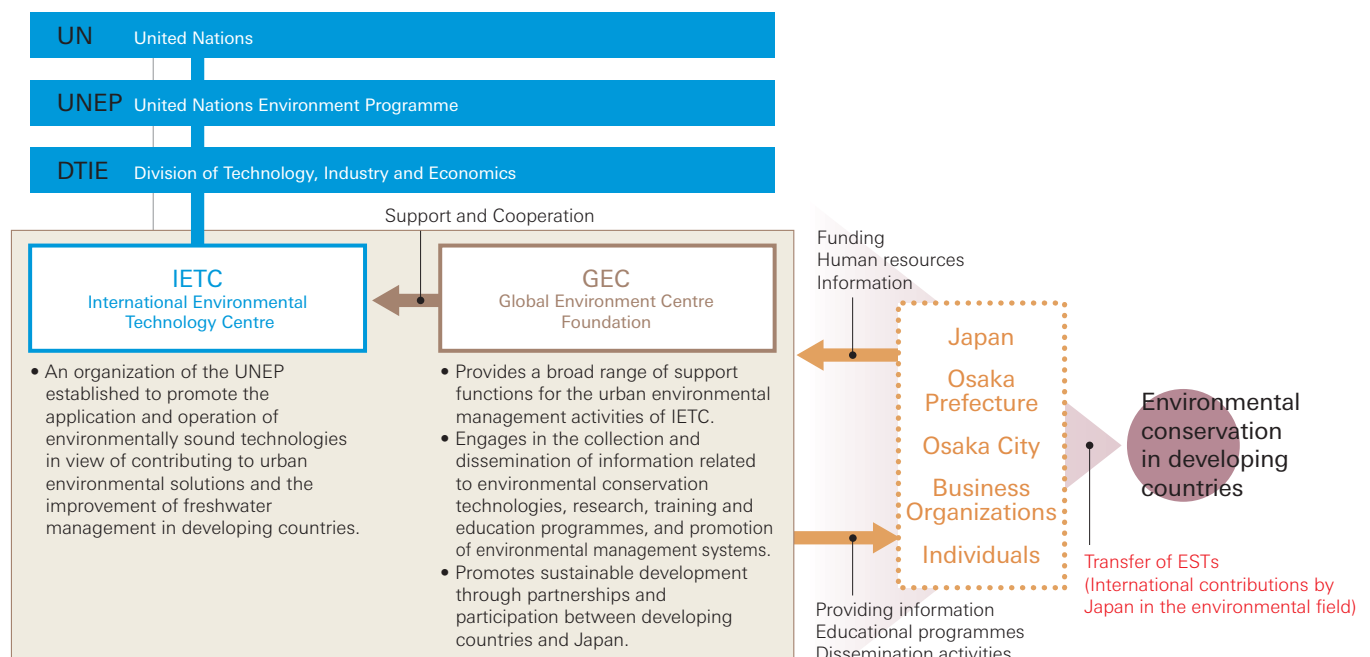
GEC provides logistical support to IETC Osaka and collaborates with IETC on joint projects. It also acts as a liaison between environmental organizations in Japan and the IETC. In this way, it helps to ensure the IETC's smooth and efficient operation. In addition, GEC promotes environmental conservation through original projects such as the collection and dissemination of environmental technological information, training programmes, seminars and symposia, as well as research.

Thus, in all of these ways, GEC's activities make a significant international contribution by Japan in the environmental field.

Mission and Objectives

GEC was established to make use of the abundant accumulation of knowledge and experience in Japan in the field of environmental conservation. In particular, it makes use of knowledgeable groups and individuals in the Kansai region in order to support contributions of IETC in the field of urban environmental management in developing countries. Thus, GEC promotes international cooperation around environmental conservation, and aims to make meaningful, practical contributions to the protection of the global environment.

Name	Global Environment Centre Foundation (GEC)
Date of Establishment	28 January 1992
Supervisory Authorities	The Ministry of Foreign Affairs of Japan, The Ministry of the Environment of Japan
Office Location	2-110 Ryokuchi-koen, Tsurumi-ku, Osaka 538-0036 Japan Telephone: +81-6-6915-4121 Facsimile: +81-6-6915-0181
Endowments	1,753,610,000 yen (as of 31 March 2007)
Activities	(1) Providing general support for activities of UNEP relating to urban environmental conservation in developing countries (2) Undertaking research which contributes to the conservation of the global environment, with particular emphasis upon urban environmental management in developing countries (3) Collection and dissemination of information which contributes to the conservation of the global environment, with particular emphasis upon urban environmental management in developing countries (4) Conducting of training programmes, seminars, and symposia which contribute to conservation of the global environment, with particular focus upon urban environmental management in developing countries (5) Facilitating communications with international organizations, governmental organizations, and research organizations in various countries, in order to contribute to conservation of the global environment (6) Any other activities necessary to achieve the mission of GEC
Number of Staff	16 (as of 31 March 2007)



Activities in Fiscal Year 2006

2006

In order to promote UNEP DTIE IETC's activities of spreading information on Environmentally Sound Technologies (ESTs) and technology transfer, GEC jointly hosted the "Thematic Session on Environmentally Sustainable Industrial Development; The Concept of Eco-Towns in the Asia Pacific Region" with IETC and Asian Productivity Organization (APO), and collaborated with IETC to conduct a preliminary study in Penang, Malaysia, which is an eco-town candidate.

Furthermore, in collaboration with IETC, GEC gathered information within Japan and convened a workshop to examine the direction of future efforts with regards to "Disaster Prevention and Management", one of the new key projects started by IETC.

In an ongoing process to overhaul our environmental technology database "NETT 21", GEC made a preparatory study to facilitate the more efficient update of the "Cleaner Production Technology in Japan" database and investigated the working methods for the renewal to be carried out in fiscal 2007.

As a part of our international cooperation within developing countries, we completed the "Environmental Map" with the goal of sharing information among the four provinces occupying the basin of the Tha Chin River in Thailand in addition to drafting the "Environmental Reading Material" (draft version), which expands upon the map's techniques.

We also supported the "Osaka-Asia 3R Technology Support Project" initiated by Osaka Prefectural Government in 2006 and accompanied the group on their 3R technology needs survey to China and three nations in South East Asia.

In terms of our contribution to combating global warming, GEC continued efforts in 2006 to unearth promising projects and accumulate knowledge for the CDM and JI in addition to hosting symposia to raise awareness and understanding of CDM/JI projects all as part of our role as secretariat of the CDM/JI Feasibility Study Programme commissioned by the Ministry of the Environment, Japan. We also attended international conferences and gathered information, which we then disseminated to a wide audience via the GEC website.

GEC operates JICA group training courses with the aim of fostering human resources in developing countries and five courses were offered in 2006. We held a one-day seminar in Cuba to follow up on the "Environmental Management in the Republic of Cuba Course", which have operated for the past five years. We also improved the content available on the member-based "JICA-GEC Network" and began publication of a new mail magazine "Connect the World".

GEC's work to spread awareness of Environmental Management Systems (EMS) included its running of the "Internal Environmental Auditor Training Course".

UNEP Special Envoy Ms. Tokiko Kato visited the island of Borneo (Sabah, Malaysia) in August where she cultivated exchanges with the local people through music by hosting a concert with the message of protecting the environment.

With the aim of introducing our activities to a wider audience, GEC worked to raise awareness and understanding of our projects by issuing newsletters and other publications and participating in various events.

Promoting UNEP DTIE IETC's Activities of Disseminating Information on Environmentally Sound Technologies (ESTs*) and Technology Transfer

Report on Eco-Towns*

In the Asian region where economic development is marching ahead, there is a growing interest in the concept of eco-towns as a means of achieving a balance between the environment and the economy. Within this context, IETC initiated its eco-town project in 2004 based on the lessons learned from Japan's own eco-town development experiences so as to promote the concept of eco-towns in the Asia-Pacific region.

In 2006, GEC jointly published training manuals (two types) with IETC based on our previous studies for use by trainees and other personnel involved in the creation of eco-towns.

We also visited Penang, Malaysia from 28 to 30 August 2006 to carry out a preliminary study on the development of an eco-town on the island together with IETC. During this time, we studied the current situation on the island and the systems and issues vital to promoting eco-town infrastructure, and compiled our findings into a report. Penang Cyber City, which is occupied by a large number of private enterprises, was selected as the site for the planned development of the eco-town, and an exchange forum, seminar and workshop on strategies for future eco-town development were all held. At the workshop, opinions were exchanged regarding the future issues and direction of Penang's eco-town development, an action plan was drawn up and GEC gave a presentation on Japan's own eco-town development and the eco-town concept.

As a result of these activities, Penang has become the model advocated by IETC for promotion of the eco-town concept in the Asia-Pacific region, and there have been continued moves towards the development of eco-towns there. There are plans to select the next eco-town candidates leveraging the techniques of the Penang preliminary study.

Eco-Town Project Activities

IETC hosted the "Training Programme on the Development of Eco-Towns in the Asia-Pacific Region" in Kawasaki City from 26 September to 2 October 2006 as one facet of its eco-town project in order to leverage Japan's eco-town experiences for the development of eco-towns in the Asia-Pacific region. GEC cooperated on this programme with Kawasaki City by giving lectures as well as drafting and distributing an accompanying training text. Seven participants from eco-town candidates including Penang in Malaysia and Bandung in Indonesia attended the training programme, which included lectures and field trips relating to the 3Rs and eco-towns. On the final day, presentations were made by each city on "Strategies for the Formation of Eco-Towns" prepared by group work.

We also cooperated on works relating to the eco-town project espoused by IETC by collecting and organizing literature on Japan's Biomass Towns and providing them to IETC.



IETC-GEC Eco-Town Seminar (Malaysia)



Meeting with Penang's Chief Minister
Dr. Koh Tsu Koon (Malaysia)



Training on the Development of Eco-Towns
in the Asia-Pacific Region (Kawasaki, Japan)

ESTs

Environmentally Sound Technologies, as defined in Agenda 21, should protect the environment, are less contaminative, use various resources in a more sustainable manner, recycle more of their wastes and products and handle residual waste in a more acceptable manner than the technologies for which they were substitutes.

Eco-Town

The Eco-Towns developed in Japan utilize a framework whereby environmentally-sound enterprises are built on accumulated land using local technologies and industries, thereby stimulating the local economy and ensuring employment as well as simultaneously achieving waste management and conservation of water and air quality.

**"Thematic Session
on Environmentally
Sustainable Industrial
Development; The Concept
of Eco-Towns in the Asia-
Pacific Region"**

Participants: Approx. 40

Hosting of the "Thematic Session on Environmentally Sustainable Industrial Development; The Concept of Eco-Towns in the Asia-Pacific Region"

On 1 November 2006, GEC co-hosted the above entitled session with IETC and APO at the Suntec Singapore International Convention and Exhibition Centre. Held as a joint event with the "Eco-Products International Fair 2006", the session outlined Japan's eco-town concept and the feasibility of its implementation in cities in the Asia-Pacific region. There were also an introduction of the concepts of Industrial Ecology, Industrial Symbiosis and Eco-industrial Parks and lectures on the Kawasaki Eco-Town. This was followed by reports from four Asia-Pacific cities on the status of efforts geared towards the realization of the eco-town concept and the latest practical examples of eco-initiatives. This open session helped to further develop a road map for the realization of the eco-town concept and propel awareness and understanding among cities expressing an interest in eco-urbanization.



Eco-Town Session (Singapore)

GEC intends to work with IETC in the future to promote its eco-town project by providing more practical training and monitoring for the development of eco-towns in the Asia-Pacific region, in addition to carrying out preliminary studies to find other potential eco-town candidates.

"Thematic Session on Environmentally Sustainable Industrial Development; The Concept of Eco-Towns in the Asia-Pacific Region"

Date	1 November 2006
Venue	Suntec Singapore International Convention and Exhibition Centre
Organizers	UNEP DTIE IETC, GEC, Asian Productivity Organization (APO)
Participating Cities (4 cities)	Penang (Malaysia), Bandung (Indonesia), Pune (India), Namakkal (India)
Programme	<ul style="list-style-type: none"> • Presentation <ul style="list-style-type: none"> "Eco Industrial Parks for Waste Minimization" Prof. Jing-Yuan Wang, School of Civil & Environmental Engineering, Nanyang Technological University, Singapore "Kawasaki Eco-Town: Moving Forward with the Kawasaki Action Plan" Mr. Saburo Kato, Special Advisor to the Mayor of Kawasaki City, Japan • Panel Discussion <ul style="list-style-type: none"> Theme: Strategies and Guidelines to Adopt Eco-Towns in Cities in Asia-Pacific Moderator: Dr. Hari Srinivas, Programme Officer, UNEP DTIE IETC Panelists: Ms. Maimunah Sharif, Director of Town Planning and Development Dept., Municipal Council of Penang Island, Malaysia Mr. Anton Sunarwibowo, Head of Transportation Sub Division, Physical and Infrastructure Division, City Development Planning Board, Bandung City Government, Indonesia Mr. Dinesh Girolla, Pune Municipal Corporation, India Mr. Savarimuthu Kalaiselvan, Municipal Commissioner, Namakkal Municipality, India * The speakers from the session also participated as panelists in a panel discussion. • Summary and Recommendations <ul style="list-style-type: none"> Dr. Hari Srinivas, UNEP DTIE IETC

NETT21

**(New Environmental
Technology Transfer in the
21st Century)**

A database developed by GEC from 1996 onward to disseminate information on Japan's environmental technologies for the purpose of promoting EST transfer in developing countries.

NETT21 currently offers approximately 1,500 items of technical information across ten databases.

While NETT21 forms the core of the information GEC transmits on ESTs, the originally published data has since become outdated. We therefore intend to carry out consecutive reviews to deliver further improvements to the database content. (Please refer to page 24 for details.)

Promoting the Spread of Information on ESTs

GEC's environmental technology database NETT21* is currently comprised of technical databases covering ten fields and is accessible to the public via the GEC website.

In 2006, GEC requested materials on cleaner production from IETC, conducted an interview survey of JICA training participants in four courses and a questionnaire-based needs survey of GEC Network members in order to perform preparatory studies on the renewal of the "Cleaner Production Technology in Japan" database, in addition to investigating methods for the renewal. Through these preparatory studies, we were able to ascertain the needs of developing countries and complete preparations for the database update.

Urban Water Issues

• Support for the UNEP Project on Support for Environmental Management of the Iraqi Marshlands*

IETC has been implementing the “Support for Environmental Management of the Iraqi Marshlands” project since August 2004. Within the framework of this project, GEC has been commissioned to operate the 2004 “Training Course on Sustainable Sanitation” and the 2005 “Training Course on ESTs for Drinking Water Provision” and “Study Tour for Iraqi Officials”.

Based on this track record, GEC was commissioned with part of the “Training Course on Drinking Water Provision with ESTs and Water Quality Management of the Iraqi Marshlands” operated by IETC from 6 to 15 December 2006. GEC’s role included giving lectures and conducting field trips. This training course was attended by high-ranking Iraqi officials who were present at the “UNEP International Workshop on Sustainable Management of the Iraqi Marshlands” held in Kyoto on 8 December and participants from the “Preservation of Marshlands in Southern Iraq Course” run by the Japan International Cooperation Agency (JICA). These activities served as logistical support for local Iraqi pilot projects.

Outline of the “Training Course on Drinking Water Provision with ESTs and Water Quality Management of the Iraqi Marshlands”

Training Period	6–15 December 2006
Operating Body	UNEP DTIE IETC
Commissioned Body (part of the training)	GEC
Associated Bodies	Waterworks Bureau of Osaka Municipal Government, Toray Industries, Inc., Biyo Center
Participants	8 participants from Ministry of Environment (Baghdad Governorate, Thi-Qar Governorate, Missan Governorate), Ministry of Municipalities and Public Works (Thi-Qar Governorate, Basrah Governorate), Ministry of Water Resources (Baghdad Governorate), and Center for Restoration of the Iraqi Marshlands (CRIM), Ministry of Water Resources
Purpose	To improve the skills of Iraqi decision makers by having them learn the fundamentals of drinking water provision and water quality management using ESTs and the techniques for their application, and to promote multidisciplinary dialogue among these decision makers on the Iraqi marshland’s drinking water supply and water quality management.
Training Programme	Introduction of ESTs in the works for drinking water supply, ESTs Assessment and its Methodology, Operation and Maintenance of Water Distribution Facilities for Urban Water Supply, Desalination Technologies for Water Treatment, Site visits etc.



Lecture at GEC



Field trip to Niwakubo Purification Plant in Osaka

• Website on Wastewater Treatment (GESAP*)

In 2006, we added new content to the GESAP website (English version) on wastewater treatment including sewerage which was launched in 2005. The new content appears under the theme “Resource and Energy Recovery in Sanitation”. This addition serves to build on our support for IETC in the field of wastewater treatment. In the future, we plan to examine methods for the website’s effective use including links with similar sites.



UNEP Project on Support for Environmental Management of the Iraqi Marshlands

Please refer to the IETC website for details.
<www.unep.or.jp>

Condition of the Wetlands

The Iraqi Marshlands were once the largest wetland region in the Middle East renowned for their indigenous ecological systems and biodiversity. However, dam construction and irrigation from the upper basins of the Tigris and Euphrates Rivers together with drainage projects under the former regime have led to a dramatic reduction in their size and have dealt a severe blow not only to the ecosystem but local fishing and agricultural industries as well.



The Iraqi Marshland ©UNEP



People living around the Marshland ©UNEP

GESAP (GEC Sanitation Programme)

The website’s content consists of four themes: “Global Situation in Sanitation Sector”, “Water and Wastewater Reuse”, “Sewerage Works in Osaka, Japan” (published by the Osaka City Environment and Sewerage Bureau) and “Resource and Energy Recovery in Sanitation”.

Disaster Prevention and Management

Recently there has been a marked increase in natural disasters such as earthquakes, tsunamis, typhoons, floods, landslides, volcanic eruptions and wildfires as well as manmade disasters such as tanker oil spills and factory chemical spills. While this has led to a rise in direct damages through the personal loss of life and possessions, it has also had a significant impact on the environment.

Focusing on the mutually dependent relationship that exists between these disasters and the environment, IETC has positioned this project alongside “Water and Sanitation” and “Sustainable Production and Consumption” as one of three key themes which it will roll out with the desire to transfer Japan’s high-caliber technology to developing countries in order to alleviate the damage wrought there by such disasters.

In order to cooperate with IETC in their development of a management technology database focusing on the waste generated by natural disasters, GEC conducted an interview survey with IETC among researchers in similar fields to determine what kind of information is available in Japan regarding disaster prevention and the environment. GEC also hosted the “Workshop-Seminar on Understanding the Environmental Impacts of Disasters” on 23 March 2007 in Osaka. The seminar was attended by around 30 people including experts in the areas of disaster prevention and the environment as well as representatives from national and municipal governments, international organizations, universities and NGOs. Opinions were exchanged from the perspectives of groups involved in environmental measures and disaster prevention and a debate was held on the future direction of disaster prevention and environmental efforts.



“Workshop-Seminar on Understanding the Environmental Impacts of Disasters”

“Workshop-Seminar on Understanding the Environmental Impacts of Disasters”

Date	23 March 2007
Organizers	UNEP DTIE IETC, GEC
Co-Organizers	Asian Disaster Reduction Center (ADRC), International Recovery Platform (IRP)
Supporter	Cabinet Office of the Government of Japan (for Disaster Management)
Purpose	To forge a common awareness of the need for comprehensive environmental management to alleviate the damage caused by disasters.
Programme	<ul style="list-style-type: none"> • Keynote Speech “Disaster Prevention and Environment-from a point of view of sustainability” Mr. Satoru Nishikawa, Director for Disaster Preparedness, Cabinet Office, the Government of Japan • Case Studies Workshop: Presentations <ol style="list-style-type: none"> 1. “Post Disaster Recovering Operations-Issues, Concerns and Observations” Mr. Sohel Khan, Programme Analyst, International Recovery Platform (IRP) 2. “Disaster and Environment under Urbanization and Globalization” Dr. Shoichi Ando, Coordinator, Disaster Management Planning Hyogo Office, UNCRD 3. “Costal Forest and Tsunamis” Dr. Kenji Harada, Research Scientist, Disaster Reduction and Human Renovation Institution (DRI) 4. “Towards an Integrated Approach of Disaster and Environment Management” Mr. Phong Tran, Ph.D. Student, Graduate School of Global Environment Studies, Kyoto University • Breakout Sessions on “Governance”, “Education” and “Technology” Session Facilitators: “Governance”...Dr. Shoichi Ando, Coordinator, Disaster Management Planning Hyogo Office, UNCRD “Education”...Ms. Minako Yamamoto, Training Officer, JICA Hyogo International Centre, Japan International Cooperation Agency “Technology”...Dr. Kenji Harada, Research Scientist, DRI • Plenary Discussion • “Summary and Follow-Up” Dr. Hari Srinivas, Programme Officer, UNEP DTIE IETC

Environmental Conservation Activities Involving Local Residents of Thailand's Tha Chin River Basin*

The Tha Chin River flowing west of Bangkok is reputedly the most polluted in Thailand. At the request of the Thai Government, GEC is working with a support team consisting of members with expertise in environmental activities and in conjunction with the Mahidol University's Faculty of Environment and Resource Studies, the Thai Government's Pollution Control Department (PCD) and the Ministry of Natural Resources and Environment of Thailand and Regional Environment Office 5 (REO5) in order to strengthen the conservation activities of local residents from the four provinces occupying the river basin (Chai Nat Province, Suphanburi Province, Nakhon Pathom Province and Samut Sakohn Province). By 2005, we had drafted an "Environmental Map*", introduced river surveys, and provided support towards the revitalization of environmental activities and creation of partnerships to enable the rollout of an environmental activity network spanning the four provinces.

Then, in 2006, we expanded upon these activities by setting up forums among residents, in addition to enhancing information sharing and environmental data collection and organization methods using the "Environmental Map" to represent the entire river basin. Furthermore, in order to respond to the local request for resident-initiated efforts and the fostering of young leaders for the future, we proposed an attempt to draft the "Environmental Reading Material*" drawing upon the techniques used in the "Environmental Map", and completed a draft version based upon experiential training in Japan.

These activities are helping to reinvigorate exchanges between local leaders. The visit to Japan by Thai delegates in October also garnered many positive results through exchanges with Japanese environmental groups and facility tours. It is anticipated that these leaders will leverage their experiences back at home, leading to more practical activities.

Each of the provincial leaders will come together to draft a complete version of the "Environmental Reading Material", and we will provide support so that the results spread to autonomous and ongoing resident-led environmental conservation activities not only in the Tha Chin River basin, but in other regions as well.

Environmental Conservation Activities Involving Local Residents of Thailand's Tha Chin River Basin

Implemented with the subsidies of the Japan Fund for Global Environment of the Environmental Restoration and Conservation Agency.

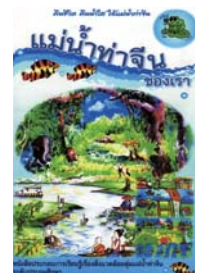
Environmental Map

A map of the results of pack tests to determine water quality and surveys of regional ecosystems.






Environmental Reading Material

A text which explains the Tha Chin River and environmental activities of the four provinces straddling it in an easy to understand format featuring children's drawings. The material is scheduled for distribution to elementary schools along the Tha Chin River basin with the aim of raising awareness of residents' environmental conservation activities.



Field Support Activities in 2006

Schedule	12–15 July 2006	26–28 October 2006	24–28 February 2007
Purpose	The 3rd Tha Chin River Basin Leaders Meeting and field trips	Japan visit by Thai delegation	The 4th Tha Chin River Basin Leaders Meeting and field trips
Contents	At the 3rd Tha Chin River Basin Leaders Meeting, Japanese case studies were introduced, while REO5 announced its comparison of data from the four provinces and a workshop was held to integrate the environmental maps of each province into a single map. Visits were also made to a school, a producer of water hyacinth crafts, an agricultural school and a compost manufacturer in Chai Nat Province to assess local conditions.	Thai affiliates were invited to Japan where an intermediate session was held towards the creation of the “Environmental Reading Material” and to take stock of their progress. The delegation visited an elementary school to see environmental education firsthand, and were introduced to the environmental efforts of Japan’s residents through field trips to facilities involved in environmental activities and participation in the Yodo River Festival.	At the 4th Tha Chin River Basin Leaders Meeting, opinions were exchanged on the “Environmental Reading Material”(draft version) and its use in education and the drafting of a complete version were examined. Japan’s environmental education was also introduced, and visits were made to schools actually using the draft version of the “Environmental Reading Material” in classes to study its practical application.
	 Drafting the “Environmental Map”	 Yodo River Festival	 Class using the “Environmental Reading Material”

3R

Reduce, Reuse and Recycle. A basic concept espousing treatment of waste materials in that order to create a society which generates the minimum possible amount of waste. In other words, this concept describes the attempt to foster a “recycling-oriented society” which minimizes the impact upon the environment by not generating waste, and reusing it or recycling its resources when you do to significantly decrease the consumption of resources and waste created and promote effective resource use. The 3R concept also forms the cornerstone for the promotion of Japan’s recycling laws such as the Container and Packaging Recycling Law, the Home Appliance Recycling Law, the Construction Material Recycling Law, the Food Recycling Law and the End-of-Life Vehicle Recycling Law.

Osaka-Asia 3R* Technology Support Project

In 2006, Osaka Prefectural Government established the “Osaka-Asia 3R Technology Support Consortium” made up of members of the industry, academia and government and commenced a project on technological support and human resource development to promote recycling-oriented societies among Asia’s developing countries. GEC is supporting this project through the effective use of resources acquired to date. IETC also participates in the project in an advisory capacity.

In 2006, Osaka Prefectural Government conducted field studies in China, Malaysia, Thailand and Viet Nam to ascertain the state of industrial waste recycling in Asian cities and their 3R technology needs, and GEC accompanied the study team on their travels. The study was divided into two parts. The China leg, visiting the cities of Nanjing, Changzhou and Suzhou in the province of Jiangsu, took place from 24 to 28 July 2006, while the visit to Malaysia, Thailand and Viet Nam was made from 6 to 16 December 2006. The study provided an insight into each nation’s waste treatment and their respective challenges through on-site inspections and debriefings from local organizations including local government, private enterprise, JICA branch offices and Japanese chambers of commerce. The results enabled us to determine the requirements for seminars scheduled to be held in 2007.

We also collected, organized and analyzed information on local 3R technology needs and the selection of local organizations to be subject to technological transfer.

Furthermore, we examined the results of the 3R pilot training course held in 2006 upon its completion and drafted curriculum for the 3R training course to be operated by Osaka Prefectural Government in 2007 as well as drafting training course guidance materials.



Bikes cram the streets of old urban area in Hanoi, Viet Nam

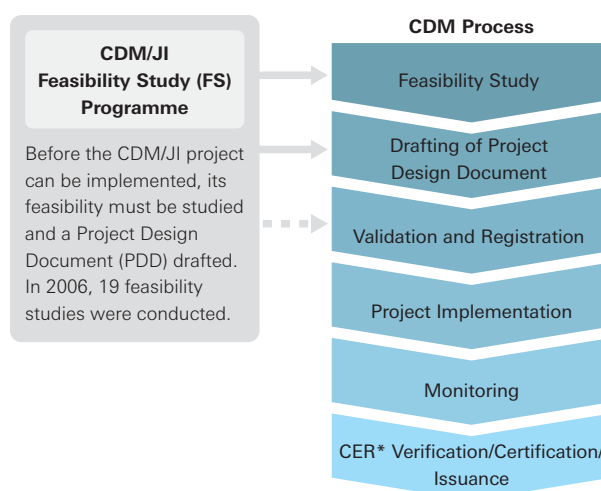
Contribution to Measures for the Mitigation of Climate Change

CDM*/JI* Feasibility Study Programme

Since 1999, GEC has continued efforts to unearth promising projects and accumulate knowledge in our role as secretariat of the CDM/JI Feasibility Study Programme at the commission of the Ministry of the Environment, Japan. In 2006, GEC carried out feasibility studies (FS) on 19 projects in fields such as waste management and biomass utilization, and assisted in the drafting of Project Design Documents (PDDs) required for validation of whether these projects are eligible for the CDM/JI. We also published the "CDM/JI Manual for Project Developers and Policy Makers" which clearly explains project procedures, distributed it at symposia, and made it available on the GEC website to promote CDM/JI projects. The results of previous feasibility studies and information collected at international conferences have also been made available on our website.

The ultimate goal of this work is to have projects resulting from the feasibility studies registered as CDM/JI projects to obtain credits for the achievement of Japan's greenhouse gas reduction target. GEC worked on selecting those projects with a higher level of operability and carefully managed their progress. This has resulted in the successful registration of three projects by the CDM Executive Board, while four projects have been approved by the Japanese government.

CDM Flow & GEC Projects



List of 2006 CDM/JI Feasibility Studies

Category	Project	Country
Waste Management	Utilization of Methane Gas at a Landfill Site in Semarang	Indonesia
	Utilization of Methane Gas at a Landfill Site in Amman	Jordan
	Utilization of Methane Gas at a Landfill Site in Skopje	Macedonia
	Utilization of Methane Gas at a Landfill Site in Zhitomir	Ukraine
	Methane Digestion and Utilization from Swine Manure	China
	Effective Commercial Applications of Biogases at Swine Farms	Brazil
Biomass	Jatropha Biodiesel Development	Tanzania
	Production of Biomass-Coal Briquettes	China
	Wastewater Treatment with Anaerobic Digester at a Starch Processing	Viet Nam
	Wood Biomass Power Generation	Indonesia
	Utilization of Biogas from Wastewater at Noodle-Making Factory	Thailand
	Production, Sale and Use of Sunflower Biodiesel	Philippines
Biomass + Afforestation/Reforestation	Reforestation, Agroforestry and Biomass "Triple Benefit" Project	Philippines
Afforestation/Reforestation	Low Income Community Mangrove Reforestation	Fiji
Others	Small Scale Hydropower Generation	Malaysia
	Wind Power Electricity Generation	Slovakia
	The Non-Firing Bricks Production for Effective Use of the Untapped Natural Resources	India
	Cogeneration with Shaqu Coalmine Methane	China
	Methane Leak Reduction from Gas Pipelines	Russia

CDM (Clean Development Mechanism)

One of the flexible mechanisms (Kyoto Mechanisms) introduced to achieve the greenhouse gas reduction targets contained in the Kyoto Protocol*. When a developed country (investor country) provides funds and technical assistance for the implementation of a project which leads to a reduction in greenhouse gas emissions in a developing country (host country), credits (CER) are issued for the amount of reduced emissions. A developed country can then use these credits to achieve its own emission reduction target.

JI (Joint Implementation)

Like CDM, Joint Implementation is also a Kyoto Mechanism. A system whereby a developed country cooperates to implement projects to reduce greenhouse gases, with one developed country (the host country) issuing credits (ERUs*) and the other developed country (investor country) able to use those credits to achieve its own emission reduction target.

Kyoto Protocol

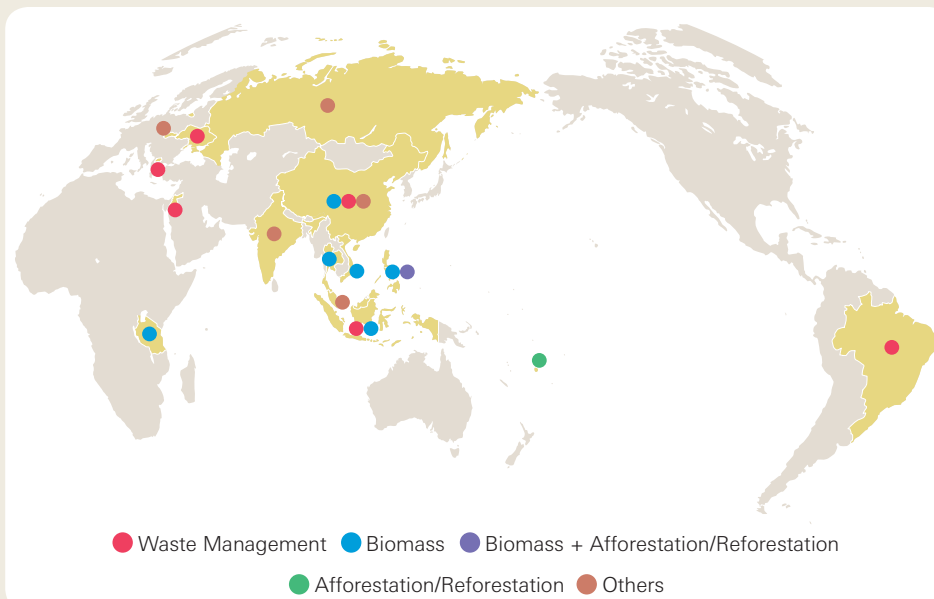
The International Instrument adopted at the 3rd Conference of the Parties (COP3) to the United Nations Framework Convention on Climate Change (UNFCCC) which sets out a framework for international efforts to mitigate climate change. The protocol ordains targets for the reduction of greenhouse gas emissions in developed countries, as well as established flexible mechanisms to achieve these targets in the form of the Kyoto Mechanism (Clean Development Mechanism (CDM), Joint Implementation (JI) and Emissions Trading (ET)).

CER (Certified Emission Reduction)

A credit issued in response to the amount of greenhouse gas reduction resulting from a CDM Project.

ERU (Emission Reduction Unit)

A credit issued in response to the amount of greenhouse gas reduction resulting from a JI Project.

CDM/JI Feasibility Study Projects in 2006

Please refer to the GEC website for further details on the study reports.



Waste Landfill (Indonesia)



Jatropha Biodiesel Development (Tanzania)



Tapioca Drainage Lagoon (Viet Nam)

"CDM/JI Symposium 2006"

Participants:

Osaka: Approx. 150

Tokyo: Approx. 280

Hosting of the "CDM/JI Symposium 2006"

GEC has hosted events annually since 2000 together with the Ministry of the Environment, Japan to provide valuable information to the public as well as private companies interested in the CDM/JI. GEC held the "Symposium on CDM/JI Feasibility Study Programme for Climate Change Mitigation 2006" on 30 August in Osaka and 1 September 2006 in Tokyo. At the symposium, the CDM/JI feasibility study entities reported the results of their studies undertaken in FY2005, which were then reviewed by the CDM/JI experts with the useful comments and the latest CDM/JI trends both in Japan and overseas. In addition, the outlines of the CDM/JI Capacity Building Programme and the Kyoto Mechanisms Credit Acquisition Programme were presented by the respective implementing organizations. These events enabled us to provide useful information to the public including private sectors interested in the CDM/JI and concerned with global warming problems.



"CDM/JI Symposium 2006" in Tokyo

Collection and Distribution of CDM/JI related Information

It is essential to keep abreast of the latest international trends relating to the CDM/JI in order to provide useful information. That is why we attended the conferences and meetings such as UNFCCC Subsidiary Bodies (SB)* meetings, the CDM Executive Board (EB)* meetings, the JI Supervisory Committee (JISC)* meetings, and other international forums. GEC also presented a display booth at the 2nd Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP2)* and the 12th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP12)* held in Nairobi, Kenya. At the Conference, GEC introduced the efforts of the Ministry of the Environment, Japan as well as our own, attended side events and worked to gather information with a focus on the CDM/JI.

We then processed and organized this information and disseminated it via the GEC website and other media. The dissemination of up-to-date, precise information on the CDM/JI in Japanese is highly significant for businesses in Japan involved in the CDM/JI projects.



COP12 (Kenya)

10–12 May 2006	The 24th CDM Executive Board (EB24)/ Bonn, Germany
18–26 May 2006	The 24th Session of the Subsidiary Bodies of the UNFCCC (SB24)/ Bonn, Germany
28–29 May 2006	The 3rd Joint Implementation Supervisory Committee (JISC3)/ Bonn, Germany
19–21 July 2006	The 25th CDM Executive Board (EB25)/ Bonn, Germany
5–8 September 2006	The 16th Asia-Pacific Seminar on Climate Change/ Jakarta, Indonesia
13–15 September 2006	The 4th Joint Implementation Supervisory Committee (JISC4)/ Bonn, Germany
28–29 September 2006	The 26th CDM Executive Board (EB26)/ Bonn, Germany
26–27 October 2006	The 5th Joint Implementation Supervisory Committee (JISC5)/ Bonn, Germany
31 October–1 November 2006	The 27th CDM Executive Board (EB27)/ Bonn, Germany
6–17 November 2006	The 12th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP12), The 2nd Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP2), The 25th Session of the Subsidiary Bodies of the UNFCCC (SB25)/ Nairobi, Kenya
13–15 December 2006	The 28th CDM Executive Board (EB28)/ Bonn, Germany
13–14 February 2007	The 3rd UNFCCC Technical Workshop on Joint Implementation/ Bonn, Germany
15–16 February 2007	The 6th Joint Implementation Supervisory Committee (JISC6), The 29th CDM Executive Board (EB29)/ Bonn, Germany

Osaka CDM Network

In order to promote the active participation in the CDM/JI for the companies located in the Kansai region, GEC set up the “Osaka CDM Network” in February 2004 in coordination with the OISCA Kansai Branch and the Business Innovation Centre Osaka.

On 29 November 2006, the Osaka CDM Network hosted the “Osaka Carbon Conference & Fair 2006” at the Business Innovation Centre Osaka. The network also convened four workshops and one seminar there.

The number of member companies of the Osaka CDM Network is 19 as of March 2007.



Osaka Carbon Fair 2006

Study on New Energy Systems

GEC is continuing our work of managing and collecting data obtained from the solar power generator installed atop the roof of the GEC office building and other equipment in an attempt to test their long-term durability and verify the demonstration facility as a new energy system.

Subsidiary Bodies (SB)

An organization which advises the Conference of the Parties. The two permanent SBs are the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI).

CDM Executive Board (EB)

The administrative and supervisory body for the CDM responsible for drafting CDM procedural rules in addition to authorizing baseline and monitoring methodologies and guidelines.

JI Supervisory Committee (JISC)

Responsible for the supervision of JI including decisions of relevant procedural rules.

Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP)

The supreme decision-making body in regards to the implementation of the Kyoto Protocol. Held annually.

Conference of the Parties (COP)

The supreme decision-making body of the UNFCCC. Held annually.

Human Resource Development in Developing Countries

Japan International Cooperation Agency (JICA) Group Training Project

GEC continued to operate four JICA-commissioned group training courses targeting government officials and engineers in developing countries while also enhancing their respective curricula. The courses offered are the Environmental Policy & Environmental Management Systems II Course, the Pollution Controls for Hazardous Substances in the Environment Course, the Urban Solid Waste Management II Course and the Air Pollution Control II Course. We also established the new China-Japan Policies of Climate Change and CDM country-specific training course in March 2007 to meet the rapid rise in interest from China in CDM project.

Before the commencement of each course, all participants presented a "Country Report*" to share awareness of the issues facing their respective nations. Upon completion of the course, participants also made an "Action Plan*" presentation to define their goals upon returning home.

To respond to the various needs of the participants from developing countries, we provide technical training while carefully arranging the curriculum of all four existing courses together with cooperating bodies. This approach has yielded results, as demonstrated by the positive self-evaluations and lecturer evaluations of the participants. We plan to implement training projects in the future which respond to such new needs.

Country Report

A report prepared by each participant describing the environmental administration system, environmental situation and other related issues in his or her country.

Action Plan

When the training is over, each participant works out measures for environmental improvement in his or her country based on the findings and competence acquired through the training.

Environmental Policy & Environmental Management Systems II Course

Starting in 1995 as the "Environmental Management Seminar", this course initially accepted participants from separate regions such as Asia and South America. In 2001 this regional enrollment system was abolished. In 2002 the curriculum relating to Environmental Management Systems was improved and the course was changed to its current name.

Pollution Controls for Hazardous Substances in the Environment Course

Beginning in 1996 under the name "Heavy Metal and Hazardous Substance Pollution Control Course", the course name was later changed to "Heavy Metal and Other Hazardous Substance Pollution Control Course" in 2002 to reflect its newly expanded curriculum. The course name was changed yet again to its current title in 2006.

Training period	Nationality of participants	Main course contents
Environmental Policy & Environmental Management Systems II*		
22 May–7 July 2006	9 participants from Brazil, Indonesia, Kenya, Morocco (2 participants), Pakistan, Tanzania, Thailand and Ukraine	<p><u>Cooperating bodies</u></p> <ul style="list-style-type: none"> • Osaka City Environment and Sewerage Bureau • NewJapan Certification Service Co., Ltd. • United Nations University, etc. <p><u>Lectures</u></p> <ul style="list-style-type: none"> • History of environmental administration in Japan • Outline of environmental legal system in Japan • Environmental management system, etc. <p><u>Facility tours</u></p> <ul style="list-style-type: none"> • Sewage treatment plant, etc. <p><u>Purpose</u></p> <p>To master pragmatic and practical methodologies, such as the framing of environmental policies, techniques of the environmental assessment, guiding corporation policies, Environmental Management Systems and methods of enlightening citizens.</p>
Pollution Controls for Hazardous Substances in the Environment*		
5 June–28 July 2006	6 participants from Brazil (2 participants), Colombia, Saint Vincent and the Grenadines, The Philippines and Viet Nam	<p><u>Cooperating bodies</u></p> <ul style="list-style-type: none"> • Environmental Pollution Control Center, Osaka Prefecture • Department of Environment, Agriculture, Forestry and Fisheries, Osaka Prefectural Government • Environmental Management and Technology Center in Kansai • Minamata City • Toyama Prefecture, etc. <p><u>Lectures</u></p> <ul style="list-style-type: none"> • Introduction to hazardous metals • Air and water pollution control measures, etc. <p><u>Practical training</u></p> <ul style="list-style-type: none"> • Sampling and analysis of air and water etc. <p><u>Facility tours</u></p> <ul style="list-style-type: none"> • Waste incineration plant • National Institute for Minamata Disease, etc. <p><u>Purpose</u></p> <p>To develop well-qualified human resources who are able to collectively evaluate emission sources and environmental contamination by heavy metals and hazardous chemical substances and to establish preventive measures against environmental pollution.</p>



Field trip to Recycle Plaza Akagawa



Learning about Itai-itai Disease at Seiryu Kaikan

Urban Solid Waste Management II*

4 September– 2 November 2006	10 participants from Bangladesh, Brazil, Cambodia, Croatia, El Salvador, Ethiopia, Guatemala, India, Sri Lanka and Venezuela	<p><u>Cooperating bodies</u></p> <ul style="list-style-type: none"> • Environmental Management Bureau, Osaka City • Fukuoka University, etc. <p><u>Lectures</u></p> <ul style="list-style-type: none"> • Outline of waste management, etc. <p><u>Practical training</u></p> <ul style="list-style-type: none"> • Practice in designing a landfill site, etc. <p><u>Facility tours</u></p> <ul style="list-style-type: none"> • Recycling plant • Final disposing sites, etc. <p><u>Purpose</u></p> <p>To develop leaders and core people who can play a major role in making solid waste treatment plans and in implementing treatment businesses in their countries.</p>
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Time and Motion Study

Air Pollution Control II*

4 September– 24 November 2006	9 participants from China, Egypt (2 participants), Iran, Mongolia, Morocco, Saudi Arabia, The Philippines and Viet Nam	<p><u>Cooperating bodies</u></p> <ul style="list-style-type: none"> • Osaka City Environment and Sewerage Bureau • Osaka City Institute of Public Health and Environmental Science • Osaka Environmental Technology and Research Co., Ltd. • Universities, etc. <p><u>Lectures</u></p> <ul style="list-style-type: none"> • Basic knowledge on air pollution etc. <p><u>Practical training</u></p> <ul style="list-style-type: none"> • Measurement and analysis of flue gas etc. <p><u>Facility tours</u></p> <ul style="list-style-type: none"> • Exhaust gas treatment facility • Monitoring stations, etc. <p><u>Purpose</u></p> <p>To raise engineers and administrative officials having leadership and technique capable of taking comprehensive and planned counter measure against air pollution.</p>
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Field trip to Chugai Ro Co., Ltd.

China-Japan Policies of Climate Change and CDM*

10–20 March 2007	13 participants from China	<p><u>Cooperating bodies</u></p> <ul style="list-style-type: none"> • Climate Experts Ltd. • JICA Institute for International Cooperation • Osaka CDM Network, etc. <p><u>Lectures</u></p> <ul style="list-style-type: none"> • CDM project case studies • PDD case reports • PDD draft guidance, etc. <p><u>Facility tours</u></p> <ul style="list-style-type: none"> • Power plant • Gas science centre • Biodiesel plant • Sludge treatment plant, etc. <p><u>Purpose</u></p> <p>To provide technical support for discovery of Clean Development Mechanism (CDM) projects and help to enhance ability of China's Ministry of Science & Technology, local science & technology agencies and local CDM centre personnel to unearth new projects.</p>
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Field trip to Maishima Incineration Plant

GEC Networking Project for Former Training Participants*

In an effort to follow up on former JICA training participants and ascertain the needs of developing countries, GEC established the GEC Network for former training course participants in 1998, publishes the GEC PLAZA newsletter and conducts one-day seminars* to consolidate our network through the exchange of information.

Carrying on from last year, we have again been contracted by JICA, and have improved the content



One-day seminar venue (Ministry of Science, Technology and Environment) in Cuba

Urban Solid Waste Management II Course

Although originally known as the "Urban Waste Control Course" at its commencement in 1992 by the Osaka City Environmental Management Bureau, the course changed name to its current title in 1999.

Air Pollution Control II Course

This course was initiated by the Environment Division of the Osaka City Environment and Health Bureau and Osaka City Institute of Public Health and Environmental Science in 1989 to provide training in the prevention of atmospheric pollution. GEC took over the running of the course in the year of its founding at which time the course was changed to its current name.

China-Japan Policies of Climate Change and CDM Course

Amidst the backdrop of genuine efforts by nations to tackle global warming, this course was initiated in 2006 as a country-specific course in response to the high demand for CDM-related training in China, the largest producer of greenhouse gas emissions among developing countries.

GEC Networking Project for Former Training Participants

There are 861 overseas GEC participants on the network in 103 countries. (as of Mar. 2007)

One-Day Seminar

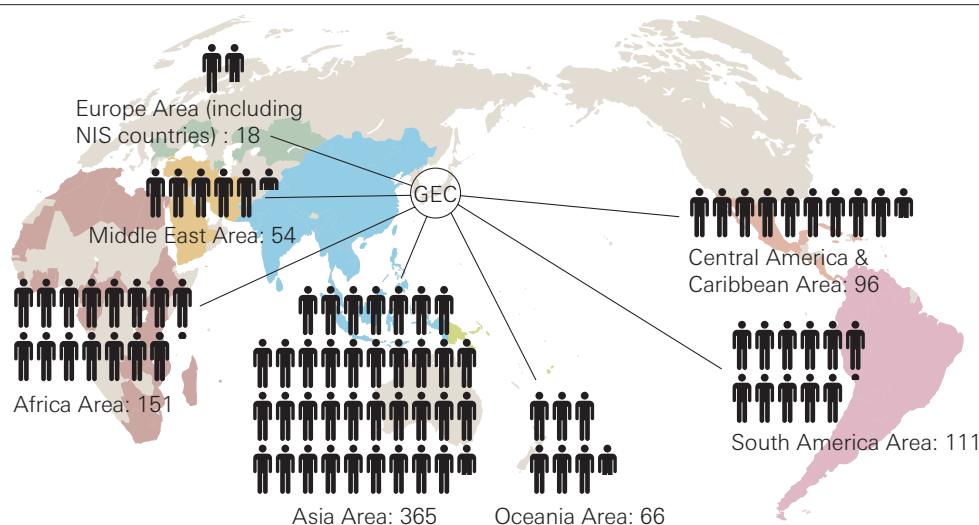
Held in countries where Network membership is high, the theme of each seminar is intended to reflect the specific needs of that country.

- Thailand & the Philippines (March 1999)
- Malaysia & Viet Nam (January 2000)
- Indonesia (February 2001)
- Egypt (March 2002)
- Thailand (March 2005)
- Cuba (March 2007)

This year's one-day seminar held in Cuba included two lectures by Prof. Hisano from Kwansei Gakuin University and Mr. Tanaka, EIA Senior Advisor for JICA from Japan, while the Cuban participants presented reports on the progress of their action plans drafted during their JICA training. Participants also gave reports during visits to the Cuba's Ministry of Science, Technology and Environment (CITMA), Institute of Meteorology and State Working Group for Cleaning, Conservation and Development of the Havana Bay among others.

available on the member-based "JICA-GEC Network". In addition, we surveyed members for whom six months had elapsed since their return home on how they have leveraged the knowledge and experience acquired from their training since their return and monitored the progress of their action plans. In January 2007, we began publication of the monthly mail magazine "Connect the World", thus adding another dimension to our information forums aimed at members.

Following up on the "Environmental Management in the Republic of Cuba Course" which operated for five years from 2001 to 2005, we visited Cuba to hold a one-day seminar and conducted field surveys from 23 to 28 March 2007 with the support and cooperation of JICA. Although it has been two years since the previous seminar, about half of the 49 Cuba training course participants attended and established a reunion group, which will contribute prominently to the future operation of the network. We will actively continue to host these one-day seminars while considering the needs of repatriated participants and strengthening their links to each other.

Network Member Distribution Diagram (As of March 2007)**Dissemination of Environmental Management Systems (EMS)****EMS Training Courses**

Carrying on from 2005, the "Internal Environmental Auditor Training Course" was conducted three times in 2006. We also offered the "EMS Human Resource Training Course" targeting municipal governments and their affiliates a total of twelve times.

Dissemination of EMS Overseas

By enhancing the six day-long Environmental Management System training which we offer within "Environmental Policy & Environmental Management Systems II Course", we have promoted its dissemination overseas including developing countries. The training uses texts certified by the Institute of Environmental Management and Assessment* for environmental auditor training and has proved to be increasingly effective with the majority of participants seeking to popularize ISO14001 accreditation among organizations and private enterprise upon their return home.

We also improved the curriculum of other JICA courses with regards to environmental management systems.

Institute of Environmental Management and Assessment (IEMA)

U.K.-based organization which registers environmental auditors and carries out accreditation of educational establishments providing environmental training. By achieving a given exam score on the final day of the course, participants in the "Environmental Policy & Environmental Management Systems II Course" are able to acquire a maximum of five of the ten points required to obtain the IEMA qualification of Associate Environmental Auditor.

Support for UNEP Special Envoy Activities

Since its commission by the Ministry of the Environment, Japan in 2001, GEC has provided support for the activities of the UNEP Special Envoy Ms. Tokiko Kato* both in Japan and abroad, including visits to areas of environmental concern and encouraging the work of NGOs.

Traveling to Borneo (Sabah, Malaysia) from 17 to 25 August 2006, Ms. Kato visited a permanent rainforest research area set up to continuously measure the long-term growth and change of the rainforest and an orangutan rehabilitation centre training orangutans orphaned by deforestation to return to the wild. These visits provided an insight into the area's rainforest exploitation and ecological conservation efforts. She also took part in a homestay at Dagat village for two days without either electricity or running water, experiencing firsthand the life of people at harmony with nature and engaging in exchanges through song and dance with these villagers who have a fondness for music. Drawing from these experiences, Ms. Kato held a concert under the theme of environmental conservation and appealed to the local people through song about the importance of preserving the environment.

Ms. Kato is currently UNEP's sole special envoy, and we intend to roll out even more projects in 2007 to help her spread awareness of the importance of UNEP's activities and environmental conservation.



Sepilok Orangutan Rehabilitation Centre

UNEP Special Envoy
Ms. Tokiko Kato

Since her appointment as UNEP Special Envoy in October 2000, Ms. Tokiko Kato has been actively involved in awareness-raising activities through the media, in addition to visiting areas of environmental concern both in Japan and overseas and encouraging the work of involved parties and NGOs. A report on Ms. Kato's activities as Special Envoy is available on the GEC website.



Expanding oil palm plantations



Permanent rainforest research area in Borneo

Activities Highlights of Ms. Kato, UNEP Special Envoy

Date	Countries Visited
30 October 2000	Appointed as UNEP Special Envoy
17–27 April 2001	Visit to Thailand and Indonesia
10–19 August 2001	Visit to Mongolia
6–13 April 2002	Visit to Korea
2–4 June 2002	Attended the “WSSD PrepCom 4 Meeting” on sustainable development in Bali, Indonesia
22–31 August 2002	Attended and held a concert at “WSSD” held in Johannesburg, South Africa
13–24 May 2003	Visit to Uzbekistan and Kyrgyzstan
8–18 September 2003	Visit to Fiji and Tonga
16–23 May 2004	Visit to India
19–28 July 2004	Visit to China
30 August–8 September 2005	Visit to Thailand and Sri Lanka

Promotion of IETC Projects & Joint PR

GEC provides PR to raise awareness of IETC activities by introducing IETC projects both in our newsletters (published in Japanese and English) and on our website.

The year 2005 marked the United Nation's 60th anniversary, while 2006 was also memorable as it marked 50 years since Japan's accession to the UN. In order to highlight this milestone, GEC and IETC hosted the “Photo Exhibition for the United Nations Day 2006” at the Eco Museum of Osaka from 18 to 29 October 2006 as an event to commemorate Japan's UN accession. GEC also exhibited a booth together with IETC at the international cooperation event “One World Festival” held at International House, Osaka from 3 to 4 February 2007, where we introduced our activities.



“Photo Exhibition for the United Nations Day 2006”

“One World Festival”
(GEC's booth)

GEC Publications

Please refer to page 19.

PR Activities

In order to introduce our activities to a wider audience, GEC performed aptly-timed PR activities by distributing regular newsletters and annual reports in both Japanese and English to affiliated organizations, and through the use of our website.

We also conducted PR activities at several events by exhibiting booths which introduce our activities.

Our PR video has also been updated in both Japanese and English, and we plan to stream the video over our website.

With the aim of promoting an awareness of GEC's work and promoting an understanding of global warming in schools, we commissioned the Osaka Environmental Counselors Association (OECA) to conduct the Global Warming Laboratory Class* in Osaka prefectural elementary schools following on from 2005. Participants from a GEC-operated JICA training course also visited

Osaka City Ougimachi Sougou High School in October and observed the laboratory class with the aim of seeing environmental education firsthand. The high school students then introduced examples of their eco-friendly activities and an exchange ensued between the students and the JICA participants in an example of international exchange on the environment which is truly unique to GEC.



GEC's booth at Tsurumi Ward Festival



Using a hand-powered generator
(Global Warming Laboratory Class)

Global Warming Laboratory Class

Held 18 times over 2006.
(654 participants)



Library use

The library is open on Tuesday & Friday (excluding the last Friday of the month, public, year-end & New Year holidays) from 10:00 to 12:00 & 13:00 to 17:00. Visitors are required to make an appointment, and books may be viewed and copied but are not available for loan (as of March 2007).



Upkeep of the Library*

Since 1997, GEC has provided public access (by appointment) to the library containing specialist literature on the global environment. We have continued to catalog and improve our UNEP-related literature and GEC reports and have worked to diversify the composition of the library's collection, as well as publishing a list of the UNEP-related literature on our website to enhance its availability to the public. We have also entered into a partnership with Osaka Municipal Central Library and the Eco Museum of Osaka's library to enable even more people to make effective use of our book collection.

The library's collection numbered 6,208 publications (including 384 UNEP-related references) as of 31 March 2007.

Maintenance and Enhancement of Information Systems

GEC is dedicated to maintaining our web-based and internal information networks, and has implemented system and software upgrades to enhance operational efficiency and ensure system stability and reliability.

We also replaced the NETT21 server to consolidate our IT infrastructure in readiness for future database updates.

Provision of Facilities to IETC*

GEC continued to provide facilities to IETC.

Provision of Facilities to IETC

GEC continues to provide facilities to IETC at no cost as part of Osaka City's incentive to attract UNEP to the region.

Publications List

Publications in 2006

Publication name	Contents	Format	Size/pages/date of publication
CDM/JI Symposium 2006	Survey reports from the 2005 CDM/JI Feasibility Study Implementation Group. (distributed on the day of the symposium)	Booklet PDF	A4/52 pages August 2006 Japanese version
CDM/JI Manual for Project Developers and Policy Makers 2006	Outlines the latest developments in CDM/JI frameworks, CDM Executive Board, COP, etc. Drafted at the commission of the Ministry of the Environment, Japan.	Booklet PDF	<ul style="list-style-type: none"> • A4/96 pages August 2006 Japanese version • A4/122 pages October 2006 English version • A4/109 pages January 2007 Portuguese version
* Portuguese version published with the cooperation of the JICA Brazil Office			
CER Estimation Toolkit	A chart for estimating the amount of CER generated from a CDM project, classified according to project types.	PDF	A4/14 pages November 2006 (1st edition) March 2007 (2nd Edition) English version
CDM/JI Host Party Principal Information	A comprehensive collection of indispensable information about CDM/JI host parties to efficiently facilitate the development and implementation of CDM/JI projects.	PDF	A4/263 pages March 2007 Japanese version
Legal and Other Support Systems for Eco-Towns in Japan	Explains the legal and other support systems relating to Japan's eco-towns.	Booklet PDF	A4/23 pages September 2006 English version
3Rs Technologies and Techniques in Japan	Describes Japan's various 3R technologies.	Booklet PDF	A4/13 pages September 2006 English version

Periodicals

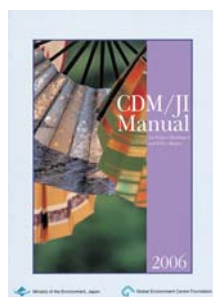
Publication name	Contents	Format	Size/pages/date of publication
GEC Newsletter No.30 (Japanese version)	An introduction to the activities of GEC	Booklet PDF	A4/8 pages August 2006
GEC Newsletter No.31 (Japanese version)	An introduction to the activities of GEC	Booklet PDF	A4/8 pages February 2007
GEC Newsletter No.20 (English version)	An introduction to the activities of GEC	Booklet PDF	A4/4 pages September 2006
GEC Newsletter No.21 (English version)	An introduction to the activities of GEC	Booklet PDF	A4/4 pages March 2007
Global Environment Centre Foundation Annual Report 2005 (Japanese version)	Report on project of GEC for fiscal year 2005	Booklet PDF	A4/24 pages October 2006
Global Environment Centre Foundation Annual Report 2005 (English version)	Report on project of GEC for fiscal year 2005	Booklet PDF	A4/20 pages January 2007

GEC Publications

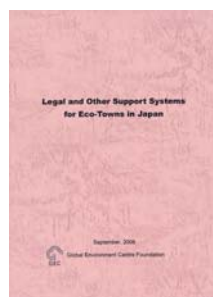
Please visit the GEC website for all of our publications in PDF form.

CDM/JI Feasibility Study Programme

Please refer to page 11–12.



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4



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Projects for Fiscal Year 2007

GEC will make even greater efforts towards the conservation of the global environment and contribute to developing countries by supporting UNEP DTIE IETC and promoting international cooperation in the environment while drawing upon the knowledge and experience that exist in Japan.

We will continue to work with IETC in 2007 and carry out a preliminary study in Bandung, Indonesia as well as seminars and training in Penang, Malaysia to provide proactive support for IETC projects.

GEC will also update and improve the “Cleaner Production Technology in Japan” database of the NETT21 so as to disseminate information on ESTs and promote technology transfer.

As 2007 is the final year of the Thailand’s Tha Chin River project, we will complete the “Environmental Reading Material” and host workshops and forums for local residents to establish a framework that will help them to carry out their activities autonomously and continually.

As part of our support for the creation of recycling-oriented societies in Asian developing countries, GEC will support for hosting on-site seminars in Jiangsu, China and Hanoi, Viet Nam with the goal of spreading 3R technologies.

We will contribute to the mitigation of global warming by hosting a symposium and attending international gatherings, in addition to continuing to implement CDM/JI feasibility studies.

GEC will offer the four existing JICA training courses while diversifying their content. We will also bolster our partnerships with research institutes and related organizations to meet the demand for new training.

In addition to supporting the activities of UNEP Special Envoy Ms. Tokiko Kato, GEC, marking the 15th year since our inception in 2007, will actively strive to raise awareness and understanding of our projects by hosting an event to extensively introduce our past activities and to call for environmental conservation.

International Cooperation: Technical Support for Developing Countries

1) Promoting UNEP DTIE IETC’s Activities of Disseminating Information on Environmentally Sound Technologies (ESTs) and Technology Transfer

- 1) Development of Environmentally Sustainable Industries and Creation of Eco-towns in the Asia-Pacific Region
 - Implementation of preliminary study in eco-town candidate city Bandung, Indonesia
 - Hosting of practical seminars and training for development of eco-town in Penang, Malaysia
 - Assignment of instructors for interactive training in cities in the Asia-Pacific region aiming to develop eco-towns
- 2) Dissemination and Promotion of Information on ESTs
 - Updating and improvement of the NETT21 “Cleaner Production Technology in Japan” database
 - Investigation of methods to improve and effectively utilize the NETT21 database
- 3) Urban Water Issues
 - i) Cooperating to “UNEP Project on Support for Environmental Management of the Iraqi Marshlands”
 - ii) Website on Wastewater Treatment “GESAP”
 - Renewal and enhancement of GESAP content and review of methods for its effective application
- 4) Project on Disaster Prevention and Management
 - Formation of a committee on Japan’s disaster prevention and the environment and collaboration with IETC to build their database on techniques for controlling waste created by natural disasters within Japan.

2) International Cooperation in Developing Countries

- 1) Environmental Conservation Activities Involving Local Residents of Thailand’s Tha Chin River Basin
 - Drafting of “Environmental Reading Material” (complete version)
 - Hosting of resident workshops and forums
- 2) Osaka-Asia 3R Technology Support Project
 - Supporting for hosting local seminars in selected cities (Jiangsu, China & Hanoi, Viet Nam) with goal of spreading 3R technologies

3) Contribution to Measures for the Mitigation of Climate Change

- 1) CDM/JI Surveys
 - Conducting CDM/JI Feasibility Study Programme with improved content
 - Hosting of a CDM/JI symposium to report the results of feasibility studies in FY2006

- 2) Collection and Distribution of CDM/JI Related Information
 - Gathering the latest CDM/JI information as well as providing it via our website and other media
 - 3) Information Exchange on Reduction of Greenhouse Gases Using CDM and Other Kyoto Mechanisms
 - Offering support to Osaka-based companies through the Osaka CDM Network by provision of CDM/JI-related information
 - 4) Study on New Energy Systems
 - Collecting data obtained from solar power generators and other equipment to test their long-term durability as verified new energy system facilities
-

Training of Environmental Technology

1) Human Resource Development in Developing Countries

- 1) JICA Group Training Projects: 4 courses
 - Environmental Policy & Environmental Management Systems, Pollution Controls for Hazardous Substances in the Environment, Urban Solid Waste Management, Air Pollution Control
 - Strengthening ties with research institutes and related organizations to meet demand for new training
 - 2) GEC Networking Project
 - GEC will reinforce its network capacity by information-exchanges with former participants.
-

2) Dissemination of Environmental Management Systems (EMS)

- 1) EMS Training Courses
 - i) Operation of training programmes such as the “Internal Environmental Auditor Training Course” and “On Demand Seminars” for municipalities and private enterprises
 - ii) EMS Human Resource Training Course: Targeting the municipalities and their affiliates, this course teaches participants how to set up and manage EMS.
 - 2) Dissemination of EMS Overseas
 - Through our JICA training courses, GEC is working to spread the adoption of EMS in developing countries.
 - 3) Introduction of EMS within GEC
 - GEC established an EMS within our office in July 2001, and intends to continue its operation into the future.
-

PR and Educational Activities

1) UNEP Special Envoy Project

- GEC supports the environmental activities of the UNEP Special Envoy Ms. Tokiko Kato both in Japan and abroad.
-

2) Promotion of IETC Projects & Joint PR

- PR activities including posting of articles on IETC in GEC publications and on our website, and at exhibit booths
 - Cooperating to host a photo exhibition introducing UNEP’s activities
-

3) Hosting of Seminars and Symposia

- To commemorate the 15th year since its founding, GEC will hold an event in Osaka in 2007 to introduce our activities and call for conservation of the global environment.
-

4) PR Activities

- Publication of GEC newsletters and annual reports
 - Providing information on GEC’s activities and environmental information through website and participation in various events
 - Accepting tours of GEC facilities
 - Introducing GEC’s activities and promoting awareness of global warming measures in schools
-

5) Upkeep of the Library

- Broadening the use of our collection of available reading materials by disclosing UNEP-related materials and GEC’s own publications on our website in addition to expanding our collection of UNEP-related materials
-

6) Maintenance and Enhancement of Information Systems

- Expanding transmission of information via GEC website
 - Appropriate maintenance to enhance operational efficiency and ensure system stability and reliability
-

Provision of Facilities to IETC

GEC continues to provide facilities to IETC.

Overview of the UNEP DTIE IETC

Name	United Nations Environment Programme (UNEP) Division of Technology, Industry and Economics (DTIE) International Environmental Technology Centre (IETC)
Date of Conclusion of the Agreement between Japanese Government and UNEP	30 October 1992
Mandate	Promoting the application and transfer of Environmentally Sound Technologies (ESTs) particularly among developing countries in the three key fields of "Water and Sanitation", "Sustainable Production and Consumption" focusing on waste management/3R initiatives and "Disaster Prevention and Management"
Contacts	Osaka Office 2-110 Ryokuchi-koen, Tsurumi-ku, Osaka 538-0036 Japan tel: +81-6-6915-4581 fax: +81-6-6915-0304 Shiga Office 1091 Oroshimo-cho, Kusatsu-city, Shiga, 525-0001 Japan tel: +81-77-568-4581 fax: +81-77-568-4587 e-mail: ietc@unep.or.jp IETC homepage: http://www.unep.or.jp/
Posts (As of 31 March 2007)	Director, Deputy Director, Senior Liaison Officer, Programme Officers (4) Administrative/Fund Management Officer
Programme Activities (implemented in 2006)	<ul style="list-style-type: none"> • Water and Sanitation <ul style="list-style-type: none"> - Participation in the 4th World Water Forum (Mexico) • Sustainable Production and Consumption <ul style="list-style-type: none"> - Workshop on Resource Augmentation by Tapping Renewable Resources and Utilizing Waste (Viet Nam) - 2nd Asia-Pacific Eco-Business Forum on "Urban and Industrial Symbiosis" (Kawasaki) - Participation in the 3R Senior Officials Meeting (3R-SOM) (Tokyo) - Signing of a framework agreement with the Wuxi Municipality on an integrated waste management (China) - Participation in Eco Asia Ministerial-Level meeting (Saitama) - Participation in the "Osaka-Asia 3R Technology Support Consortium" (Osaka) - Organizing a training programme on the development of eco-towns in the Asia-Pacific region (Kawasaki) - Participation in the Asia 3R Conference (Tokyo) - Thematic session on eco-towns (Singapore) - Meeting of Project Implementation Committee for UNEP Project on Integrated Solid Waste Management in Wuxi New District of Wuxi Municipality (China) - Workshop on Integrated Waste Management (India) • Disaster Prevention and Management <ul style="list-style-type: none"> - Participation in an UNDAC mission to Tajikistan - IETC awarded EU funds for tsunami debris management - Workshop on "Use of ESTs in Forestry Waste Management for Disaster Prevention" (Indonesia) • Iraqi Marshlands Project <ul style="list-style-type: none"> - Installation and test operation of drinking water treatment plants (Iraq) - Initial Meeting on Support for Environmental Management of the Iraqi Marshlands (Project Extension) (Paris) - Training Course on Marshlands Information Network (MIN) (Bahrain) - Technical Meeting on "Data gaps needed to support suitable environmental management of the Iraqi Marshlands" (Shiga) - Initial Meeting on UNEP Support for Environmental Management of the Iraqi Marshlands (Phase II-B) (Jordan) - UNEP supported BBC Earth Report on Iraqi marshlands - Publication of booklet "Back to Life" (revised version) (English, Japanese and Arabic) - Training Course on Drinking Water Provision with ESTs and Water Quality Management of the Iraqi Marshlands (Osaka, Shiga) - Press Conference on the UNEP Project (Tokyo) - UNEP International Workshop on Sustainable Management of the Iraqi Marshlands (Kyoto) • Conferences, Events etc. <ul style="list-style-type: none"> - Participation in "One World Festival" (Osaka) - The 7th IETC International Advisory Board Meeting (Shiga) - Photo Exhibition for the United Nations Day 2006 (Osaka)

Board Members of the Global Environment Centre Foundation

President	MIYAHARA, Hideo	President, Osaka University
Executive Director	MASUDA, Takafumi	Former Director General/Director of Environment Division, Environment and Sewerage Bureau, Osaka City Government
Directors	KATAYAMA, Toru KOJIMA, Atsushi MATANO, Kagechika* MORISHIMA, Akio NOMURA, Akio OHTA, Fusae SEKI, Junichi SHIMOZUMA, Hiroshi	Executive Managing Director, Overseas Environmental Cooperation Center Chairperson, Kansai Association of Corporate Executives Special Adviser, IKEA Japan K.K. (Former Ambassador to Sweden) Professor Emeritus, Nagoya University Chairperson, Osaka Chamber of Commerce and Industry Governor of Osaka Mayor of Osaka Chairperson, Kansai Economic Federation (Kankeiren)
Auditors	IWAMOTO, Kenichi SHICHI, Michihiro	Certified Tax Accountant Director General, Department of Environment, Agriculture, Forestry and Fisheries, Osaka Prefectural Government
Councilors	IGOSHI, Masashi KANEKO, Kumao KOBAYASHI, Shoichiro KODAMA, Takao MIWA, Kazuo MIZUNO, Minoru OHTSUKA, Ryutaro ONOGAWA, Kazunobu SHIBANO, Hirofumi SUZUKI, Yutaka TAKAHASHI, Yoshiyuki	Vice Mayor of Osaka Chairperson, Japan Council on Energy & Security Advisor, Kansai Electric Power Co., Ltd. Chairperson, Osaka City Environment Council Vice Governor of Osaka Professor Emeritus, Osaka University President, National Institute for Environmental Studies Director, United Nations Centre for Regional Development President, Osaka Gas Co., Ltd. Vice President, University of Hyogo Director General, Osaka International Centre of the Japan International Cooperation Agency
Board of Technology and Planning	FUJITA, Masanori HINO, Yasuo KITADA, Hiroaki KOSAKA, Akira MAEDA, Yasuaki MASUDA, Noboru MITSUOKA, Kazuhiko MORIOKA, Toru MOROTOMI, Toru NAKAGAWA, Masataka PAK, Pyong Sik SERITA, Kentaro SHINOZAKI, Yukiko TAKEDA, Nobuo WATANABE, Masataka	Director, Kochi National College of Technology Professor, Graduate School of Engineering, Osaka City University Executive Director, Urban Environment Office, Department of Environment, Agriculture, Forestry and Fisheries, Osaka Prefectural Government Professor, Osaka School of International Public Policy, Osaka University Professor, Graduate School of Engineering, Osaka Prefecture University Professor, Graduate School of Life and Environmental Science, Osaka Prefecture University Director General for Environmental Policy, Environment Bureau, Osaka City Government Professor, Graduate School of Engineering, Osaka University Associate Professor, Kyoto University School of Government & Graduate School of Economics Director, Economy and Industry Division, The Osaka Chamber of Commerce and Industry Associate Professor, Graduate School of Information Science and Technology, Osaka University Professor, Aichi Gakuin University Law School President, City-Life Institute Visiting Professor, Research Organization of Science and Engineering Director, Research Center for Eco-Technology Professor, Faculty of Environment and Information Studies, Keio University

(as of 1 July 2007, honorific omitted; name in alphabetical order <Surname>)

* Director Kagechika Matano, who served for many years on GEC's board of directors, passed away on 17 July 2007.

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Series of NETT21:

Database on New Environmental Technology Transfer in the 21st Century by GEC, and the number of data listings for each topic.

Database on:

- Air Pollution Control Technology in Japan: 128
 - Waste Treatment Technology in Japan: 46
 - Water Pollution Control Technology in Japan: 93
 - On-Site Green Technique (OGT) in Japan: 83
 - Air Pollution Continuous Monitoring Technology in Japan: 83
 - Water Pollution Continuous Monitoring Technology in Japan: 53
 - Cleaner Production Technology in Japan: 190
 - Energy-Saving Technology at Business-Related Buildings: 94
 - Soil and Groundwater Contamination Survey and Countermeasure Technologies: 37
 - Japanese Advanced Environmental Equipment (provided by JSIM): 621
-

Total: 1,428 data listings

(as of 31 March 2007, complete data available in English via the GEC Website)

Number of inquiries to NETT21:

Overseas: 24; Domestic: 4 (1 April 2006–31 March 2007)

Number of visitors to GEC:

102 (1 April 2006–31 March 2007)

Stored publications:

6,208 including 384 UNEP-related books (as of 31 March 2007)

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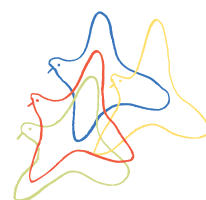
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the Future by
Caring for
the Earth and
People



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