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Participation Report of the Eleventh Session of the Conference of the Parties (COP11) to the United Nations Framework Convention on Climate Change (UNFCCC) and the First session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (COP/MOP1)

Since last fiscal year, the International Center for Environmental Technology Transfer (ICETT) has been functioning as Secretariat of the Climate Technology Initiative (CTI) as a part of the international research promotion program. The CTI is a multilateral initiative, operating as an Implementing Agreement under the International Energy Agency (IEA). Its mission is to bring countries together to foster international co-operation in the accelerated development and diffusion of climate-friendly and environmentally sound technologies and practices. ICETT has conducted the project to make a contribution to global warming prevention by way of running the CTI Secretariat. Last year the CTI marked its 10th anniversary, and to celebrate the occasion, the CTI held a reception during the Eleventh Session of the Conference of the Parties (COP11) to the United Nations Framework Convention on Climate Change (UNFCCC) and the First session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (COP/MOP1) at the conference center (Palais des Congres de Montreal) in Montreal, Quebec, Canada.

The COP11 and COP/MOP1 were held from November 28 to December 10, 2005, with over 10,000 delegates including related parties from research institutions, NGOs and government representatives involved in climate change issues. In his opening remarks, the Canadian Environment Minister Stéphane Dion, selected as the Conference President at the plenary session of COP11 and COP/MOP1, called for adoption of the Marrakech Accords and advancement of the implementation of the UNFCCC and the Kyoto Protocol including the Clean Development Mechanism (CDM). Amongst other things, he stressed the importance of "three I's" - Implementation, Improvement and Innovation.

This first Conference of the Parties since the Kyoto Protocol came into force sought to establish a foundation by adopting of the Marrakech Accords, the ground rules for administering the Kyoto Protocol, agreed at COP7. The operating rules for the Protocol were formally adopted at COP/MOP1; however no agreement was reached regarding a compliance regime outlining consequences for industrialized countries that fail to meet emission reduction targets. This point will be considered further by subsidiary bodies over the next two years, and the results reported at COP/MOP3.

Regarding reform of the CDM, it was determined that during 2006-2007 industrialized countries will contribute over 13 million dollars to the management of CDM. Decisions were also taken to strengthen the Executive Board of the CDM and promote CDM in various fields such as energy efficiency. The direction of institutional reform was indicated, with substantive discussions to commence henceforth.

Concerning the launch of Joint Implementation (JI), it was decided to promptly establish rules for the set-up and operation of the Article 6 Joint Implementation Supervisory Committee (JISC). Experiences derived from CDM will be incorporated, though specific aspects will be discussed at the JISC. Hiroki Kudo (Environment and Energy Efficiency Group, Group Manager) of the Institute of Energy Economics, Japan (IEEJ), was selected as the alternate member of the JISC.

In the COP decision called the Montreal Action Plan, it is stipulated that the Conference of the Parties resolves to engage in a dialogue, without prejudice to any future negotiations,

commitments, process, framework or mandate under the Convention, to exchange experiences and analyse strategic approaches for long-term cooperative action to address climate change that includes, inter alia, the following areas:

- (a) Advancing development goals in a sustainable way
- (b) Addressing action on adaptation
- (c) Realizing the full potential of technology
- (d) Realizing the full potential of market-based opportunities;

It was also decided, if possible, to hold up to four workshops prior to the Conference of the Parties, in order to facilitate dialogue in which all Parties, including the U.S.A. and major developing countries are able to participate. This dialogue will be facilitated by co-facilitators, one from a Party included in Annex I to the Convention and one from a Party not included in Annex I to the Convention, and the co-facilitators will report on the dialogue to COP12 (November, 2006) and COP13 (December, 2007). Parties are to submit to the secretariat their initial views on the issues to be discussed in this dialogue by April 15, 2006, and the secretariat will make these



Photo courtesy of IISD/ ENB-Leila Mead

submissions available to the first workshop.

At the Subsidiary Body for Scientific and Technological Advice (SBSTA), Mr. Kishan Kumarsingh, Chair of the Expert Group on Technology Transfer (EGTT), presented the EGTT's 2005 annual report and proposed 2006 work programme which would focus on, inter alia, improving reporting of technology needs, technology information, transfer of publicly-owned technologies, innovative financing and technologies for adaptation.

In the COP decisions, Parties are invited to submit their view and suggestions on status and continuation of the EGTT by addressing, inter alia, the following:

- (a) Progress and achievements of the Expert Group on Technology Transfer in enhancing the implementation of the framework;
- (b) Adequacy of the terms of reference of the Expert Group on Technology Transfer contained in the annex to decision 4/CP.7
- (c) Availability and allocation of resources for the Expert Group on Technology Transfer and the secretariat in enhancing

the implementation of the Framework and addressing issues mandated by the Subsidiary Body for Scientific and Technological Advice.

The Convention secretariat is requested to compile the submissions of Parties referred to above and make it available for consideration by the Subsidiary Body for Scientific and Technological Advice at its twenty-fifth session. A senior-level round-table discussion between Parties, international financing organizations, the private sector and other stakeholders to enable more informed decisions on actions in the future.

In parallel with COP and contact group meetings, numerous side events were held. The CTI held its 10th anniversary reception to mark the occasion within the conference center. Mr. Richard Kinley, Officer-in-Charge of the Secretariat of the

UNFCCC; Ms. Margaret Martin, former Chair of the EGTT; Mr. William Kojo Agyemang-Bonsu and other representatives from developing countries who have been involved in CTI activities made congratulatory speeches. Whilst acknowledging the successes of the CTI's work to date involving transfer of climate-friendly technologies, they expressed their hope for further effective activities in the future. About 200 delegates including Mr. Hiroyuki Fukano, Deputy Director-General for Global Environmental Affairs, Ministry of Economy, Trade and Industry; Mr. Morishima, Chair of the Institute for Global Environmental Strategies (IGES); related parties from the Ministry of the Environment and the New Energy and Industrial Technology Development Organization (NEDO) attended the reception.



CTI Workshop in Japan on Energy Efficiency for Asian Countries, 2005

Introduction

Since FY 2004, ICETT has been conducting the International Research Promotion Initiative on the Global Environment (IRPI) with subsidy from the Ministry of Economy, Trade and Industry to support international efforts for mitigating global warming by using the forum such as Climate Technology Initiative (CTI). Under this programme, ICETT has carried out surveys on global warming and organized seminars both at home and abroad to present various technologies and methods to reduce CO₂ emission.

The CTI Workshop on Energy Efficiency for Asian Countries is a part of this programme, and will be introduced in the following article.

Outline of the workshop

The CTI workshop has been held at ICETT annually since 1998 (commissioned by New Energy and Industry Development Organization until 2003). On the same theme, "Energy Efficiency" since it started, the workshop aims to help participants promote effective energy use in the developing countries of Asia. For this purpose, Japan, as the only Asian CTI member country, presents its policies, technologies and management methods for energy saving, which it has developed for long time. Some topics relating to the main theme are chosen to organize the workshop curriculum.

One of the characteristics of the workshop is vigorous discussion among participants and resource persons to find solutions for problems raised in country reports produced and presented by each participant. This uniqueness makes the workshop distinctive from a conference where experts are convened for a short period, or from a seminar to educate

less experienced people from the beginners' level.

Another characteristic is the process of selecting workshop participants. Unlike training courses commissioned by other organizations, ICETT makes decision in selecting participants as the organizer, which enables the selection of organizations and training participants suitable for the workshop curriculum.

Workshop in FY 2005

The eighth CTI workshop was held for nine days from 20 (Tue) to 28 (Wed) September, 2005, with fourteen representatives of governmental agencies and industrial sectors from seven Asian countries (China, India, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam).

The workshop consisted of two sessions as follows:

Session 1: Energy Efficiency

Session 1 focused on the main theme of the workshop; energy efficiency and provided the participants with opportunities to share information and exchange opinions on energy efficiency.

A lecture on government policies, and both traditional and advanced technologies on energy saving was given by a Japanese energy saving expert, followed by numerous questions from the participants. In the lecture, Energy Saving Corporation (ESCO) was introduced as an energy saving measure, which was developed in Europe and the United States each, and which was introduced to Japan and improved to suit its situation. Through the lecture, the participants reaffirmed the importance of selecting policies and technologies for their own country situation. With a strong emphasis from the lecture, they also clearly recognized that diffusion of energy saving technologies needs not only understanding of these technologies, but also, or more importantly, an appropriate mechanism which accelerates



Group photo of the participants and ICETT staff

practical and continuous use of the technologies, and that each participant was supposed to reflect their own responsibility for promoting the diffusion.

The lecture was followed by the country report presentation by the participants from the seven countries and discussion on issues raised in the presentations. The participants reported energy saving schemes introduced in their country such as the labeling system, the energy manager system, energy audit and the energy saving numerical target. Through the presentations and discussion, they identified that time-consuming procedure for legislation as a major constraint to dissemination of these measures, which had been keeping them no more than voluntary regulation without any penalty for non-compliance.

Another lecture regarding the introduction of new technologies enhanced the participants' understanding of methods for effective energy saving. Through the lecture, they realized that, for effective energy saving, the potential of re-engineering production process should be examined in combination with replacement of equipments, and that, when re-engineering, best technologies practically applied in the world were the first priorities to be selected rather than better technologies applied in local enterprises in order to accelerate energy saving.

In addition, energy saving practices and environmental countermeasures were introduced by an expert from a power company, representing a huge energy consuming industry. Following the lecture, the participants visited a thermal power plant of the company to see their facilities and practical efforts for energy saving such as careful on-site management. They actively communicated with company staff for better understanding by asking various questions based on their expertise.

The workshop also provided the participants with an opportunity to visit a wind power plant and a solar energy generation facility as practices for curbing global warming, which CTI is aiming at.

Session 2: Clean Development Mechanism (CDM)

Session 2 focused on CDM as an important financial assistance for promoting projects to prevent global warming with effective measures such as energy saving. As in session 1, session 2 consisted of lectures by Japanese experts, presentations of country reports by participants and discussion.



Workshop participants in discussion

In the lectures and discussion of this session, practical questions based on the reality were generated by the participants, because some belonged to their country's Designated National Authority, the office to examine and approve CDM projects of the country. The other participants, who were not in charge of CDM issues, also actively took part in the discussion by



At Kawagoe Thermal Power Plant



At Hisai Wind Power Farm

connecting CDM with their knowledge and experiences in energy saving.

On the first day of the session, a lecture covering various topics, from how the Kyoto mechanisms including CDM were established, to latest information was given by a representative from a development consulting firm which created the first methodology for CDM projects. In the country report presentation session, the participants gained various comments on CDM projects and procedures from the lecture and a commentator who was in charge of CDM issues in a private company. Encouraged by these comments they raised plenty of questions and vigorously discussed a variety of issues surrounding CDM with the two experts.

On the second day, the financial scheme and case studies of CDM were introduced by representatives from a consulting firm. Through discussion, the participants effectively learned the practice of CDM with specific figures such as costs, economic benefits and the amount of CO₂ emission reduction of CDM projects.

On the final day, each country presented an action plan for applying information, knowledge and experiences from the workshop to participants' daily work on return to their country.

Conclusion

The invitation procedures for more than one country was more complicated than expected, which made the ICETT staff happier and more excited to meet smiling faces of the participants. A visit to Expo 2005 held in Aichi prefecture, which addressed the importance of the environment, was included in the workshop curriculum. Although it was crowded, the participants enjoyed the visit to Expo without anyone complaining about the crowds or getting lost. Looking back days before and during the workshop, ICETT would like to express the best gratitude to the participants and all those concerned for their supports and cooperation.

To make any change, knowledge should be effectively utilized and put into practice. In this respect, ICETT would like to



Workshop participants in discussion

expect the participants' contribution to enhancing energy efficiency in the future.



At Expo 2005, Aichi prefecture

JICA Group Training Course on "Capacity Building for Project Staff Regarding Kyoto Mechanism"

1. Introduction

A training course on global warming measures was held for 46 days from June 15 to July 29, 2005, commissioned by Japan International Cooperation Agency (JICA). The course focused on the Kyoto mechanism, specifically greenhouse gases (GHG) emission trading, among the global warming countermeasures.

It was attended by national administrative officers from nine developing countries (Argentina, Brazil, Bulgaria, Chile, Costa Rica, Indonesia, Malaysia, Peru and Uruguay). The course was advertised when the global warming countermeasures drew attention, partly because the Kyoto protocol came into effect in February 2005. Nevertheless, more than half of the participants were from South America, where preparatory works for some projects were in progress.

2. Objectives

The purpose of the course was to train the administrative officers in charge of the Kyoto mechanism, which is the GHG emission trading system incorporated in the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC).

Among the Kyoto mechanism of flexibility measures, for developed countries to attain the GHG emission reduction target, the course focused on the Clean Development Mechanism (CDM), which is the GHG emission trading system between developing and developed countries. CDM allows for financial and technology transfer from developed countries to developing countries, and helps the projects to be launched to contribute to sustainable development in the developing countries.

Through the training, the participants were expected to fully understand the necessity for the developing countries to improve the conditions for acceptance and implementation of the GHG emission reduction projects. They were expected to learn what capability was required from the developing countries in this regard, and about the role to be played by the developing nations. In addition, plans were made for presentations on some technologies as possible candidates for the CDM projects, to help the participants get a rudimentary idea of what CDM projects would look like.

Another objective of the training was for the participants to understand more about Japan, by taking advantage of their visit. To that end, various events were organized including a tea ceremony after the training, and a home visit and home stay at the weekend so that the participants had a chance to

enjoy Japanese culture. They also had a chance to visit major cities and historical treasures when going to Tokyo and Kyoto for part of the training.

3. Outline of the training

(1) Curriculum

The lectures covered energy issues for reducing CO₂ emission, which is caused by use of fossil fuels, the Kyoto mechanism and other procedures to realize the projects, although it was a training course on global warming prevention measures. Specifically, the participants gained scientific knowledge on climatic change and learned about various rules and modalities related to the Kyoto protocol and Kyoto mechanism, requirements for CDM projects, and the latest situation and technologies on energy saving and renewable energy.

Before the training, orientation was given to the participants for better understanding of how Yokkaichi city solved its pollution issues, Yokkaichi city itself, the background of the ICETT establishment, rules for using the Internet and basic items including responsibilities to be shared by the participants. The curriculum was explained, as well, to make sure that the participants would have a clear picture of the training.

(2) Organizations supporting the training

Twenty five organizations supported the training; ten public organizations including the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure and Transport, Forestry Agency, Japan Bank for International Cooperation and Mie University, seven businesses in major industries (electricity, paper manufacturing, automobile and others) for the sessions on energy and resource-saving technologies, and other incorporated



Group photo taken after the closing ceremony

foundations including Energy Conservation Center, Japan, and RITE.

(3) Schedule

The course schedule must have been quite tough for the training participants. During the 46 days in the midsummer heat, from mid June to the end of July, the participants had 27 lectures and field trips to 10 cities and towns, moved to Tokyo and Kyoto for the lectures and made three presentations; a) the country and job report, b) Project Design Document (CDM-PDD), and c) the action plan.

However, they remained cheerful and active during the course, partly because most of them were about 30 years old which is rather young, or because more than half of them were from Latin America.

A visit to Expo 2005, Aichi, was included in the course schedule, since it was being held at that time. At the Expo, the training participants joined the "A Tour of Energy Sources of the Future" of New Energy and Industrial Technology Development Organization (NEDO) to observe how the various fuel cells and electric storage systems were utilized. They observed the solar energy systems and various other energy saving systems on the Expo site. Each of them also dropped by the pavilions of their respective countries to talk to the staff there and had a very good time. Some pavilion staff even gave gifts to the course staff.



Visit to the biomass power plant

(4) Training result

At the end of the course, to make sure that each participant fully understood the lectures, they were required to draft a CDM-PDD regarding "renewable energy connected to the power grid" in groups of three. Three of them from different countries and with different job responsibilities and experience, worked together on the various tasks including calculation of GHG emission reduction, evaluation of the economic impact, and monitoring planning. Through drafting the CDM-PDD, they seemed to understand that various data were required and how difficult it was to make it. They got together after dinner to draft the CDM-PDD and sometimes continued discussion till late at night. They spent a week in completing their CDM-PDD, made a presentation and got technical advice from the lecturers.

Each group worked very hard and drafted a unique CDM-PDD. Group A of the participants, from Brazil, Chili and Peru, worked on a virtual country called BraChiRu. Group B got data by e-mail from the staff of their countries to set the conditions similar to the actual situation, and Group C even carried out Environment Impact Assessment.

As the deliverable part of the training, each training participant

made a presentation of their action plan which was a specific plan to be carried out back in their countries. Since the situation differs from country to country, what can actually be done by an individual participant may be limited. Some of them, however, can be realized by an individual in two steps, of short-term and long-term. Some can be put into practice by urging their organization to take action. It is hoped that all of them will be put into action. All of the action plans addressed some measures to solve the problem of public awareness on global warming issues at the citizens' level.



Country report presentation

4. Extra-curricular activities and exchange with the local communities

The tea ceremony was organized for the training participants to experience part of the Japanese culture. Thanks to the tea ceremony master with a good command of English from JICA, the participants learned the manner for serving and drinking tea which they had read about in their guide book.

In addition, they visited or stayed with Japanese families to experience Japanese daily life at the weekend in the latter half of the course, in cooperation with those concerned. The participants were very pleased with the hospitality extended by the host families, and told the ICETT staff how much they had enjoyed staying there while showing photographs.

In conclusion, the training participants were able to achieve the training objectives and to experience the part of the Japanese culture, thanks to the government agencies, businesses and citizens in the cities they visited. We thank all for supporting the program and would appreciate it if we could get the same kind support again for the training next year.



Visit to wind power plant / Hisai-Sakakibara Wind Farm

Human Capacity Development Project for Improvement of Productivity and Environment in China (IPEC)

International Research Promotion Initiative on Global Environment for FY 2005 (Subsidized by METI)

Outline

ICETT has engaged in the Human Capacity Development Project for Improvement of Productivity and Environment in China (IPEC) since April 2005. This project was designed to make a contribution to the sustainable environmental

improvement in Gansu province through promoting Cleaner Production (CP)¹. The project focuses on fostering trainers for promoting and disseminating CP. In addition, it provides a demonstration for advertising the benefits of CP, carries out and plans the programs for facilitating cooperation between public and private sectors to continue the effectiveness of the projects.

Background

China enacted its Cleaner Production Promotion Law in 2003. Since then, it has disseminated and promoted CP, as an effective tool for environmental conservation, while improving productivity. It also has improved the CP promotion environment by establishing a National CP Center and CP centers at the provincial level. However, since it covers a vast area, the degree of CP dissemination differs from province to province. Some provinces have less disseminated CP partly because the local governments and the enterprises do not fully understand CP and there is also a shortage of human resources and information. When implementing CP in China, each company is audited in its CP and the company staff work together with external CP auditors to find solutions for improvement. Some provinces, however, have inadequate human resources to conduct the audit, which hampers CP dissemination.

Objectives and outline of the project

Considering the above-mentioned situation, ICETT decided to organize the project focusing on human resource development for CP promotion as support for sustainable environmental improvement. Given the fact that many enterprises do not know about or fully understand CP, although they are very important players for CP promotion, ICETT believed it was necessary to clarify the benefits of CP in the project and to incorporate some activities in the program for inducing the needs of CP on the side of the enterprises. Based on the above idea, after discussion with its Chinese counterpart, CESTT (The Centre for Environmentally Sound Technology Transfer), ICETT decided to launch the project in Gansu for the following reasons; Gansu met the requirements; 1) strongly desirous of promoting CP at the provincial level, 2) CP being urgently needed and 3) little assistance provided from foreign countries in the environmental field so far. Gansu has a strong inter-governmental relationship. Therefore, the project in Gansu was expected to be effectively carried out.

After due discussion with CESTT and Gansu governmental agencies, ICETT has carried on the project to achieve the following five goals while focusing on sustainability of project outcomes.

- To improve local key institutions' capacity to promote cleaner production at factory level,
- To build consensus on CP benefits for economy and the environment among relevant government organizations,
- To strengthen commitment and leadership of top managers to implement CP in their factory,
- To enhance availability of CP information and materials, and
- To strengthen cooperative relationships among stakeholders in the target province.

The project focused on the trainers' training and demonstration to induce the CP needs of the private sector, since it is year 1 of the project. More effort has been put into the training including on-site training in model companies to help the candidate trainers understand the CP concept and CP audit method.

Chinese experts were invited as the lecturers of the CP training so that characteristics of both China and Japan were fully reflected to the projects.

Activities and results so far

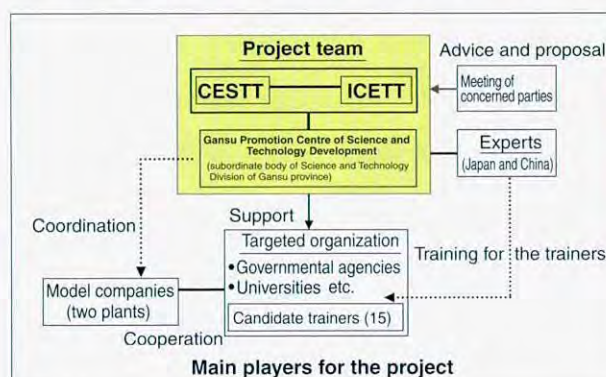
(1) Survey to choose model companies



ICETT and CESTT conducted a joint survey to select enterprises which could be model companies for CP promotion in Gansu, and which would support the training (on-site training). Five companies (two cement plants, a chemical fertilizer plant, a coal mine and a power plant providing electricity and heat) were assessed and judged on the criteria such as motivation of the management and the environmental management level. As a result, one of the cement plants (Gansu Qilianshan Cement Co., Ltd.) and the chemical fertilizer plant (Liuhua Group Co. Ltd. Gansu) were selected as the model companies.

(2) Key stakeholder's meeting

Representatives of the organizations to which 15 candidate trainers belonged, and the provincial governmental officials were invited to hold a meeting, where the project objectives and plan were explained followed by the discussion of the strategy for implementing the project. (The candidate trainers were selected from the Design and Research Institute of



Environmental Science under the provincial government, Energy Efficiency Corporation, universities and private companies.)

(3) Training 1: Deep understanding of CP

Training 1 focused on the CP concept and the basic procedure of CP audit, and provided numerous opportunities for hands-on experience. To help the participants to enhance their ability to put the lesson into practice, the training consisted of three-day classroom training and two-day on-site training at the model plants. For the on-site training, the candidate trainers were divided into two groups (one at the cement plant and the other at the chemical fertilizer plant), to learn collecting and analyzing data on the power and water consumption and raw material under the instruction of the lecturer. The candidate trainers enhanced their understanding about CP promotion at the enterprises, by practicing what they learned in the lectures.

¹ Proposed by UNEP (UN Environmental Program) in 1989. It claims that "comprehensive environmental conservation strategies need to be continuously applied to production process, production and services in order to enhance the effectiveness and reduce the risks to be posed to human beings and environment."

(4) Training 2: Learning the procedures for identifying solution for better productivity and environmental conservation

The participants reviewed the data analysis method necessary for identifying solutions, and learned the procedure to specify the focused improvement area based on the analysis, and the procedure to identify solutions for improvement. In the on-site training, they actually identified the solution for betterment, together with CP teams of the model companies. To help the candidate trainers to identify an effective solution, two Japanese experts (one from a cement company and the other from a chemical fertilizer company) joined them to present various efforts made for higher productivity and environmental conservation in the industry in Japan. They also gave hints for identifying problems and presented some Japanese case studies.

The candidate trainers wanted to know about more case studies on CP audit and improvement. At the same time, they made comments and asked questions regarding difficulties in encouraging various companies (including state-run companies, joint ventures and private companies) to promote CP, and the ways to make them fully understand the benefits of CP.

(5) Preparing the teaching material

In order to support the trainers to engage in their activities after the training, the candidate trainers are making

materials or guidebooks to be utilized when they offer the training, or conduct the CP audit in the future, based on what they learned during the training. (To be completed next year)

Future plan (Implementing the solution for improvement, and disseminating and maintaining the project achievement)

(1) The specific solution will be identified based on the solution found in the Training 2, and put into practice in the model companies, and then its result will be monitored.

(2) The training will continue to help the candidate trainers to enhance their ability to promote and disseminate CP. In addition, the training courses will be offered for enhancing teaching skill of the trainers and on the measures for higher productivity and environmental improvement (including 5S activities and sub-group activities).

(3) The trainer's continuous activities require cooperation between the organization the trainer belongs to and the provincial government, and better understanding on the part of the private sector regarding productivity improvement and environmental conservation. For that reason, ICETT will support the trainers' organizations to make the action plan. ICETT also plans to hold workshops for governmental officials and company managements.



Candidate trainers in active discussion



On-site training by the Japanese experts

Basic data of Gansu Province

Area: 454,300km²

Population : 26,187,800 (as of the end of 2004)

Industry: Heavy industry and State-run companies account for a large percentage. Rich in mineral resources, especially nonferrous ores.

Access: About a 2-hour flight from Beijing

Others: Located in the upper stream basin of the Yellow river. Being the traffic center leading to the Silk Road in ancient times. Dun Huang, which used to be a thriving hub of the Silk Road is located at the western end of Gansu province.

Excerpt from <http://www.chinavi.jp/gansu.html>

JICA Group Training on

"Environmental Management Technology in Chemical Industries II" in 2005 (First course)

1. Introduction

In FY 2005, a six-week training course was held from June 13 to July 22 for administrative officers and local government officers in charge of chemical issues, commissioned by JICA (The first course of the second phase). Ten representatives from Bhutan, Chile, China, Cuba, Romania, Thailand, Macedonia, Mexico and Tunisia participated in the training.

2. Objectives

The training course started in FY 2000. It covers technological trends in the chemical industry including the petrochemical industry, and environmental management technologies. It was designed to help the training participants to learn about the idea of eco-development and how to realize it, in order to make contributions to both promotion of the chemical industry and environmental

conservation in the developing countries. In addition, the training course presented the efforts made by Japan and other countries regarding the safe management of chemical substances, and information on chemical management. The course encouraged the participants to make a contribution to dealing with the environmental issues in their own countries by fully understanding the situation in the chemical industry and the latest challenges.

3. Outline of the training

Curriculum

The training was divided into five sessions as follows:

1. Orientation and outline of the environmental countermeasures in the chemical industry
2. Chemical substance risk management technology
3. Environmental management technology of the private companies
4. Latest technologies for the chemical management
5. Wrap-up

The training course presented Yokkaichi Pollution as an example to help the training participants to understand why prevention of pollution is needed and why the environmental countermeasures are necessary. In this regard, Mr. Ryosuke Tsurumaki, former president of Showa Shell Sekiyu K.K. (Petroleum Company), was invited to give a lecture, since he had a hard time in solving the Yokkaichi Pollution. He said, "at that time everyone regarded the economic growth from industrial development as a good thing. Because of the over-emphasis on industrial development, most Japanese did not consider the environmental issues. However, if the Japanese government, the businesses, administration and the Japanese people had not changed their minds and started to care about the environmental issues, after the businesses lost the Yokkaichi Pollution Lawsuit, we would not have had any of the technological advancement and economic growth which we now benefit from. Sustainable development, or pursuing economic growth while preserving the natural environment, is a most important and necessary concept." The training participants listened in rapt attention to him talking about the Yokkaichi Pollution which had a substantial influence on the policies and laws in Japan.

The training participants looked at various latest-model analyzers at the analyzing company they visited. In particular, they saw the measuring and analyzing instruments for dioxin for the first time, which are not available in their countries. Three or four participants at a time went through the air room to see the high precision analyzing instrument. It seemed quite interesting for them.

During the time of visiting various organizations and businesses, and listening to the lectures at ICETT, one of the training participants remarked, "Japan has now been successful in environmental management because of the passion of the people involved in it, not because of the excellent technologies." His comment was quite impressive. It implied that the participants took the training quite seriously, looking at things not only from a superficial

viewpoint, but also in depth. In this regards, special thanks go to those concerned for giving the lectures and a chance for the field trips that encouraged the participants to have such a deep insight.

Extra curriculum and exchange with the local community

After visiting the analyzing company on June 23 (Thu), the training participants had a good time with the employees there by chatting, listening to "shamisen" music and playing games, thanks to the manager.

They also enjoyed a tea ceremony in the Japanese style room at ICETT on June 24 (Fri). They had green tea and traditional Japanese confectionery, while sitting straight upright on the Japanese "tatami" mats.

The training participants joined in the event held at Tsubaki Elementary school on June 26 (Sun) and had fun with the elementary school kids. They brought some materials like maps and their family photos to explain about their countries to the kids. All of them seemed to very much enjoy meeting with the kids and they talked about how pleasant it had been from time to time after the event.

On June 30 (Thu), the training participants went to Expo 2005, Aichi. They experienced the "A Tour of Energy Source of the Future" by NEDO, visited the pavilions of their countries and neighboring countries to have a good time with the pavilion staff in their mother tongues.

The training participants stayed with Japanese families on July 2 (Sat) and 3 (Sun). One of them was taught calligraphy by her host family and wrote a thank-you letter in calligraphy-like style. Despite the very short home stay, they enjoyed the usual Japanese daily life.

Some of them went to Kyoto by themselves on their day off. They left JR Yokkaichi for Kyoto via Kameoka, Tsuge and Kusatsu. It took three and a half hours. They were well advised not to miss the trains which run quite punctually in Japan, since they needed to change trains more than once.

The training participants bought tickets and went to see the Nagoya Grand Sumo Tournament which was held during the training course, since they really wanted to see that before leaving Japan. They wrote to the ICETT staff after going back to their country, saying that the sumo wrestlers were quite powerful and the bouts had been interesting.

Results of the training

The training participants from Asia, South America and Africa, exchanged information about their respective countries and made some suggestions. Through the training they also learned about problems which have not yet occurred but may well happen in their countries. In addition, it was a great thing that some participants realized that not only the devices and technologies but also the attitude of the people to a project was important for its success.

Conclusion

There was a concern that the training would cover more



Commemorative photo



Field visit



Enjoying tea ceremony

issues than expected since the training participants were from nine countries. The participants, however, discussed and gave advice to each other to find the solution. The fact that the participants were administrative officers, company employees and researchers, had a good impact on the training. The participants from businesses considered the economic aspects, giving the other participants a different

viewpoint to raise an issue. Regarding the exchanges, although the technological training was the primary objective, it was recognized that the mutual understanding of their countries that took place among the participants through the opinion exchanges was also important. Despite the six-week training, which was rather long, in the midsummer with lots of humidity, the training was successfully concluded with no one falling sick, thanks to everyone involved in the training.



Discussion session



Environmental Cooperation Program for Asia commissioned by Mie Prefecture Environmental Management Training Course for Local Governmental Officers of Viet Nam

1. Introduction

ICETT has engaged in the Environmental Cooperation Program for Asia, ECPA for short, since 1998, commissioned by Mie Prefecture. A training course in Japan, the mainstay of this project, was held from September 2 to 23 in 2005.

Mie prefecture supports environmental improvement planning and human resource development of Asian local governments, which have addressed the environmental issues caused by recent rapid economic growth and urbanization. Since last year, Mie Prefecture has offered a training course in Japan mainly for Ha Dong town of Ha Tay province near Hanoi in the Socialist Republic of Viet Nam, conducted an on-site survey and given guidance for environmental improvement in Ha Dong town. The training in Japan was planned to support the formulation of a basic environment plan, and capacity building for those who will be leaders for environmental conservation. With the project last year, Ha Dong town made a Basic environment plan, which was a major challenge, and an Action plan based on it. They also started to work on specific environmental improvement activities including the pilot activity of garbage separation while considering recycling, and a simple water quality measurement. This year, they are trying to put the Action plan into practice, with the aim of having an environmentally advanced local government based on collaboration between it and its citizens.

The training course this year was attended by ten in total; representatives and environmental management leaders from Ha Dong town and five other cities/towns in Viet Nam which have worked hard on environmental improvement, and representatives of the Association of Cities of Viet Nam.

2. Objectives

The training was designed to encourage the participants to consider effective measures for promoting environmental improvement activities in their own cities/towns. To that end, the course also helped them acquire knowledge about priority issues (environmental learning and domestic wastewater/solid waste treatment), through lectures, field trips and Japanese case studies. They were expected to produce specific

environmental improvement plans and put them into practice after going back to their own country.

3. Outline of the training

Training was divided into four sessions; 1) establishment of the local government unique environmental policy, 2) solid waste treatment policy and technology, 3) wastewater treatment policy and technology, and 4) environmental learning and activities involving the residents. During the course, the training participants traveled to Tokyo as a study tour. The outline of each session was as follows:

Session 1: Establishment of the local government unique environmental policy

The keynote lecture was given regarding environmental management and its planning methodology. Then, each participant presented their job report so that all concerned parties were aware of the environmental issues of each city. A lecture on the Japanese local governmental system, different from that in Viet Nam, was given, followed by lectures on Japanese environmental laws, Basic environment plans unique to each local government in Japan, industrial pollution control, environmental education policies and others. A person representing the patients with pollution-related diseases in Yokkaichi city told about the damage from pollution at that time, pollution litigation and other valuable stories based on



Commemorative photo after the opening ceremony

his actual experience.

Session 2: Solid waste treatment policy and technology

Lectures were given on the solid waste treatment policy of the local government with the key words of garbage separation and recycling. The training participants visited recycling and solid waste treatment plants to learn about solid waste treatment technologies, and met the residents and NPO members to learn about their activities regarding garbage separation and recycling. They also traveled to Tokyo to visit the Central Breakwater Landfill Disposal Site and learn about solid waste treatment in the megalopolis.

Session 3: Wastewater treatment policy and technology

The training participants listened to a lecture on domestic wastewater treatment by the local government, followed by a



Garden party on a day off

field trip to wastewater treatment plants, including a sewage treatment center, for deeper understanding of what they had learned in the lecture. Taking the Shimanto river as an example, government officials from Kochi prefecture gave a lecture on collaboration between the administration and the local community for river quality conservation. They visited a river water treatment experiment site, a wastewater treatment facility in an industrial plant and a designated public sewage system for treating industrial wastewater.

Session 4: Environmental learning and activities involving the residents

The training participants learned about the importance of encouraging people to have greater awareness of environmental issues and to be involved in administrative action, and environmental learning, which will be necessary for environmental improvement activities in Viet Nam. Furthermore, they were given a lecture on the role of the environmental study center which is under consideration for building in Ha Dong town, and some important points to be noted for its launch. They visited the environmental study facility which used to be an elementary school.

Throughout the four sessions, the training participants held overall discussions and group meetings to make environmental improvement plans, which were their task to be fulfilled. On the final day, they gave presentation on the Action plans drawn up as a result of the training.

4. Other activities

The training participants made a courtesy call to Mr. Akihiko



Field visit

Noro, Governor of Mie Prefecture. Mr. Noro seemed to feel an affinity with Ha Dong town, as he was told that the town preserves the traditional silk textile industry, while his home town, Matsusaka city, also produces indigo dyed textiles. He encouraged the participants to fully utilize what they had learned during the training, in Viet Nam. The training participants also visited EXPO 2005 AICHI JAPAN, the Imperial Place and Asakusa in Tokyo during the study tour. On their day off, they went up Mount Gozaisho and joined a house party hosted by one of the ICETT staff. Through those pleasant events, they were able to see various aspects of Japan.

5. Results of the training

After repeated voluntary discussions based on the Basic environment plan for Ha Dong town made last year, the training participants drafted effective and viable plans for each of their cities of origin. These plans were highly evaluated by the commentators attending the presentation session. The training participants were expected to draw up Basic environment plans or environmental improvement plans based on the draft and put them into practice, after going back to their country. Some cities/towns have already inched forward in this respect.

6. Conclusion

As with the training last year, participants from the manager class were invited. They fully understood the situation in their own cities/towns, which was quite useful for them to make effective plans. Since their interest was not limited to environmental issues, they sometimes asked questions unrelated to the lectures, but the lecturers were happy with such active involvement from them. Too many lectures and field visits in the short period of time made the schedule very tight, and two participants fell sick, while the others suffered exhaustion and sometimes lost concentration to a certain extent. While they wanted to have the training schedule without time constraints, they were satisfied with the contents of the training, and wanted the project to be continued in one way or another in the following year and beyond. Experts will be sent to Ha Dong town to give technological assistance and for a seminar there as a part of the project.

In conclusion, special thanks go to the lecturers, the interpreters and those concerned for their kind cooperation.



Lecture session



Courtesy call to Governor of Mie Prefecture

Urban Waste Management for South American Countries commissioned by JICA

Outline

Urban Waste Management for South American Countries commissioned by JICA was offered from September 21 to October 28, 2005. This was the second training course given by ICETT, instead of the former Japan Environment Corporation. The training was attended by 10 officials from three countries, Colombia, Ecuador, and Venezuela. They were representatives of governmental agencies or public corporations responsible for urban waste management.

Currently, waste management has become a very serious problem in South American countries. Given the people's low level of awareness of waste separation, and inappropriate control and treatment of infectious waste, developing human resources for comprehensive waste management in urban government administration has become a major requirement. People are not aware of separating waste when disposing of it. Collected waste is often dumped openly in the landfill.

The purpose of the training was to help the training participants to deepen their understanding of the establishment of a recycling society, by learning about Japanese government policies on environmental issues, and the system, laws and technologies of waste management. It was also planned to encourage the participants to consider how to conduct and manage waste disposal in their countries, how to educate the citizens about it, and to enhance their ability to draw up waste management plans and put them into practice.

Outline of the training and its results

The training was supposed to cover waste management as a whole. In the introductory session, a lecture was given on Japanese administration, policies, laws and regulations. This was done so that the training participants would understand the differences in the administrative system between Japan and their countries of origin. Field trips and lectures were carefully arranged so that the participants learned about waste management step by step. The training was divided into four sessions: 1) Outline of waste management measures in Japan, 2) the concept and technologies of waste management in Japan (waste separation and collection, incineration, intermediate treatment, reclamation and recycling), 3) recycling activities/educational activities for the citizens and 4) wrap-up.

In Japan, a lot of domestic waste is deposited at designated collection points. In the countries of the training participants, however, most areas have not established such a waste collection system. The participants experienced waste collection in Komono town as one of the site visits. They worked together with the sanitary workers to pick up waste at the station and put it into the collection truck, then they visited



Visit to the infectious waste treatment plant

incineration plant. The training participants took a great interest in the well-ordered hygienic station and considered if they could introduce this system in their countries. The training participants visited the hospital in the city to see the medical waste management. Some of them were quite interested in it, since infectious waste management and sanitary management are not appropriately carried out in their countries. They asked questions about the treatment of special infectious waste. During the study tour to Kitakyushu, Fukuoka, Hiroshima, Osaka and Kyoto, they visited various environmental facilities including the Eco-town Project and the effective utilization of the landfill site after disposal. Through these lectures and study tour, they learned about Japanese policies and systems, and environmental activities and technologies of private companies. They also learned about collaboration with local governments, businesses and citizens. They were able to deepen their understanding of the specific measures for waste reduction and recycling, which have been carried out in Japan.



Discussion

The training participants were divided into groups by issue for discussion in the last part of the training. They analyzed what they learned and understood in the training, and exchanged their opinions. They recognized that the people in Japan were highly aware of environmental issues and involved in environmental activities. Based on what they learned, participants mentioned that they wanted to work hard to build a social system for launching 3 R, to reduce waste treatment cost and create an environment where people would easily join in the environmental activities. For the wrap-up, each training participant made a presentation on the action plan, based on the information and knowledge they had acquired through the training, citing what challenges they wanted to tackle in their countries, and showing a specific plan. The training was concluded by the presentation session. Each training participant listened to each lecture with keen interest, and felt something congenial with the rather small facilities they visited since the system seemed viable for their countries. They also had interest in the system and facility closer to the citizens, and seemed to consider if they could introduce such things in their countries.

Cultural exchange

The training participants enjoyed eating out at night in the district of Hakata famous for its food stalls. We took a walk from the hotel and found the food stall area. All the food stalls were very crowded and it was difficult to find a stall large enough for 12 of us. But somehow we succeeded and enjoyed Yakitori-Japanese kabob and noodles. In Hiroshima, since we had some time before taking Shinkansen, the bullet

train on to Osaka, after visiting the incineration plant, we visited Hiroshima Peace Memorial Museum. Unfortunately though they had only a limited time there, the training participants from South America were very much interested in the museum. They seemed to be very moved to see the tragic history. While walking in the town, some of them took a picture of textured paving blocks for visually impaired people. They were impressed, since they do not have such things in their countries. The training participants expressed their appreciation in turn to the lecturers at the end of each lecture. They gave some folk craft articles to the lecturers as a small token of their gratitude, which was fully appreciated by the lecturers. The gifts made for a friendly atmosphere between the lecturers and the participants.

For two of the training participants whose birthday fell during the training, a birthday party was held at the weekend happy hour, with a hand-made pig figurine stuffed with sweets, following the South American custom.



Food stall

Conclusion

The action plans presented by the training participants in

the last session of the training were highly evaluated by the lecturers, who held high expectation for each plan to be put into practice. Some plans required cooperation among the training participants and each of them was fully viable for the participants with their capacity in the current position. The training course was concluded thanks to the kind support of the lecturers and the businesses that gave the training participants the chance to do a field visit. Some companies accepted the people from overseas countries for the first time in this way, but all those concerned were very kind to the training participants, who were impressed by their hospitality. The training course gave the participants chances not only to learn the environmental technologies, but also to understand the cultural and social differences, and learn about the Japanese history. ICETT will work hard on the training projects which should lead to better relations among the various countries and make a contribution to world environmental issues.

Taking this opportunity, ICETT would like to express deep appreciation to those involved in the training for their kind support.



Welcoming

"Human capacity development for Tianjin in China" commissioned by Yokkaichi City -Industrial wastewater management and water pollution prevention technology-

1. Background

This training project was first offered in 1993 as a human capacity development program by ICETT. The project was commissioned by Yokkaichi City, which established a friendship city relationship with Tianjin City of the People's Republic of China in 1980. The purpose of this course is to enhance the environmental administrative capability of the Environmental Protection Bureau of Tianjin City and to train the officials of the bureau and engineers. The tenth training course was held this year.

In northern China where Tianjin City is located, securing water supplies is now a serious problem due to population concentration and vigorous economic activities with fewer water resources. In addition to the natural conditions of flat landscape and low-rainfall, recent rapid industrial and economic development, as well as urbanization, have increased the amount of contaminants and toxic substances discharged within the region, which have caused water pollution.

Given this situation, after repeated discussions with Tianjin City, it was agreed to offer the training program focusing on "water" for three years, starting this year. For the first year of the training, the training program was focused on industrial wastewater management and water pollution prevention technologies, and was held for eighteen days from October 12 to 29 in 2005. ICETT accepted six administrative officers from the Environmental Protection Bureau of Tianjin City.

2. Objectives of the training

The training was offered to six administrative officers selected from the participants of the "Seminar on Environmental Protection for Tianjin" held in Tianjin City for three days from August 23 to 25, with the same theme as this training. During the training course, lectures were given on the Japanese regulation measures for wastewater and the latest water pollution prevention technologies developed by ICETT and private companies. Field trips were made to wastewater treatment facilities in various fields including an oil refinery, an IT company and a foodstuff producer. The training was planned to help the training participants deepen



Kasumi Kyodo Jigyo Co., Ltd.: On-site training at the wastewater treatment plant

the understanding of the knowledge and information they got in the Seminar on Environmental Protection for Tianjin, from the practical aspects, so that they could contribute to promoting industrial wastewater management technologies in Tianjin City.

3. Outline of the training

The training was divided into three sessions; 1) outline, 2) case studies and 3) wrap-up. Each session is detailed as follows;

Session I: Outline

Session I started with a discussion on the "environment and social system", using the KJ method, so that the training participants were able to recognize the relationship between environmental issues and the social system, and search for solutions. A lecture was given on "the wastewater policies of the Japanese government" to help them to understand about the history of pollution in Japan and the measures and policies to be taken. Session I was planned to give them the opportunity to find some clues for solving the problems they had by learning about the experiences Japan had been through, through the lectures and discussion.

Session II: Case studies

During session II, the training participants visited the wastewater treatment facilities of an oil refinery, an IT company and a foodstuff producer. They also visited the joint wastewater treatment facility of the industrial complex to learn about the efforts and technologies for wastewater treatment in the Japanese private sector. They also visited Kurita Global Technology Center of Kurita Water Industries Ltd., which is a leading company in the field of water treatment, to learn about the latest technologies in the Japanese private sector. They also learned about the advanced water treatment technologies developed by private companies and ICETT.

Session III: Wrap-up

The training participants made a final report to wrap up the training. It covered the action plans to be carried out by each

participant after going back to their country. Each made a presentation in front of the lecturers and the municipal officers of Yokkaichi city which commissioned the training, followed by a discussion to bring the training to a conclusion.

4. Conclusion

The training this year lasted 18 days, 3 days longer than last year. Compared to the last one, the schedule was not so tight. Since this year marked the 25th anniversary of the friendship city agreement between Tianjin and Yokkaichi city, the training participants were invited to the 25th anniversary ceremony on October 16 (Sun). They not only participated in the training, but also deepened the friendship between the two cities at the citizens' level. Like the one last year, the training addressed the same theme as the Seminar on Environmental Protection for Tianjin. In this regard, the training included field trips so that the participants could deepen their understanding of the information and knowledge about Japan during the seminar. Since all the six participants were selected from the participants of the seminar in Tianjin, they wrote a comment on the training to the effect that it was a very practical training, because they could understand further what they had learned in the seminar, by visiting various places during the training in Japan. This meant that the training objectives had been met.

To be honest, there was some confusion this time. At the end of September, suddenly, two out of six participants were changed for reasons on the side of Tianjin City. Unfortunately, since "Kokkeisetsu", a week-long national holiday celebrating national foundation, started on October 1, the visa issuing procedure was delayed for the two changed training participants. For that reason, two of them arrived October 14, two days behind schedule. Fortunately, no lectures or field visits were scheduled on the first two days, and there was no problem for the training itself. Closer communication with Tianjin City is needed for future project planning and management to prevent such confusion from re-occurring.

In conclusion, ICETT appreciates those concerned for supporting the training.



Ceremony for the 25th anniversary of friendship city agreement: photo with Mr. Tetsuo Inoue, Mayor of Yokkaichi City



Job report presentation

Seminar on Environmental Protection for Tianjin City in China, commissioned by Yokkaichi City

Background

Yokkaichi City established a friendship city relationship with Tianjin City of the People's Republic of China in 1980. For 25 years since then, the two cities have worked together in various fields including education, culture and economy. Collaboration in the field of environmental protection was added in 1985.

A seminar project in Tianjin City started in 2001, and the fifth seminar was held this year. The "Environment management system" was held for the first time in 2001,

"Air pollution prevention measures (soot-caused pollution countermeasure technologies/automobile emission countermeasures) in 2002, "Recycling society/sustainable development in urban areas" in 2003 and "Promoting environmental education" in 2004 were chosen as the main subject of the seminars, which were held in Tianjin City.

After discussions with Tianjin City, "Wastewater management and water pollution prevention technology" was chosen as the main subject of the seminar for three years. The theme of seminar this year focused on industrial wastewater management.

Objectives of the seminar

The average annual rainfall in China is 660mm, which is a small amount. In particular, the northern part of China, where the population has concentrated and vigorous economic activities are observed with limited water resources, securing water resources is a serious problem.

The water environment in Tianjin City is characterized by a water shortage worsening year by year, despite the numerous rivers running in the city. Water resources amounted to 570million m³ in total in 1999, 310million m³ in 2000, 570million m³ in 2001 and 370million m³ in 2002, which are far below 1816 million m³, the annual average for the long term. Water resource per capita in Tianjin is 160m³, which is just 7% of the national average. Tianjin City is one of the cities and provinces with the lowest water resource per capita. In its water level the city ranks 111th in the world among 149 nations. In addition, recent rapid industrial and economic development, as well as urbanization, have increased the amount of contaminants and toxic substances discharged in the region, which has caused water pollution.

Given such a rather unusual situation, the seminar this year was planned for the administrative officers responsible for environmental protection and the private company employees in charge of environmental management. The seminar focused on industrial waste pollution countermeasure technologies. The objective of the seminar was to help Tianjin City to solve the problems by enhancing the water pollution prevention technologies for businesses or facilities with problems in wastewater treatment.

Outline of the seminar

1. **Theme:** Industrial wastewater management and water pollution prevention technology
2. **Period:** August 23 (Tues) to 25 (Thurs) 2005
3. **Participants:** 53 administrative officers of the Environmental Protection Bureau and private company employees in charge of environmental management in Tianjin City.
4. **Venue:** Hi-Tech Building (No.6, Meiyuan Road, Hi-Tech Industry Park, Tianjin)

Seminar program

The seminar was divided into five sessions; 1) report on water management in Tianjin, 2) Japanese laws and regulations, 3) Japanese wastewater treatment technologies, 4) case study of wastewater treatment by a Japanese company, and 5) general questions and answers.

Seminar in details

In session 1, "report on the water management and water pollution prevention measures in Tianjin", the lecturer of Tianjin City gave a presentation on the outline of the water environment, pollutants in industrial wastewater, environmental management and supervision for the industrial water pollutant (declaration system of pollutant emission, standardization of polluted water outlet, on-line monitoring and measurement of focused water pollutant source/focused water pollutant, operation inspection of a polluted water treatment facility, quarterly supervised measurement of focused water pollutant source, collection of polluted water treatment cost and charges for emission over the upper limit of emission, severe regulation over the newly found pollutant source, focused water pollutant total emission control, pollutant emission approval system and reinforced supervision of polluted water treatment plants).

In session 2, "Japanese laws and regulations for water pollution prevention", presentations were given on the historical background of the pollution, the Water Pollution Control Law, soil environment, environmental standard of the Basic Environment Law and total volume control. In particular, it was emphasized that the citizens' movement on the pollution case led to legislative control of the pollution.

In session 3, as the "outline of the Japanese water

pollution prevention technology", concept of the industrial wastewater treatment and the wastewater treatment technologies (precipitation separation, coagulation sedimentation, oil water separation, dissolved air flotation method, filtering device, neutralizing/PH adjustment, oxidization/reduction, activated carbon adsorption, ion exchanging, reverse osmosis membrane, electro-dialysis, biological processing, and aerobic UASB treatment method), the latest water treatment (wastewater treatment by microbe high density immobilization and standalone advanced wastewater treatment) were presented.

In session 4, "wastewater management and pollution prevention in the food industry", a case study of Imuraya Confectionery Co., Ltd. was presented. Production activity and service water, wastewater treatment facility, activated sludge method, wastewater burden reduction, improved production yield, water saving for production, installation and maintenance of machinery and equipment, abnormality of drain facility, activated sludge analysis and improved treatment facility were explained. In addition, their projects on the solid waste recycling as feed stuff, biogas and RPF (=Refuse Paper & Plastic Fuel) were also presented.

In session 5, another case study on Toyota Motor Corporation was presented, one of the major businesses in Japan. The presentation covered their wastewater management and water pollution prevention technology based on the environmental management system of ISO14001. The lecture emphasized that full commitment of the company to environmental protection was needed.

With the closing ceremony attended by an official mission of Yokkaichi City including Mr. Tetsuo Inoue, Mayor of Yokkaichi City (Vice Chairman of the Executive Board of ICETT), Mr. Shutaro Sasaoka, Deputy Speaker of Yokkaichi City Assembly, Mr. Chen Zhifeng Deputy Mayor of Tianjin City and Mr. Xing Zhengang, Director of Environmental Protection Bureau, the seminar was successfully concluded.



Photo of the seminar



Global 100 Eco-Tech Award given to "an ICETT training participant"

《Background》

The "Global 100 Eco-Tech Award" is a message to the Century of the Environment from Expo 2005, Aichi, which disseminated various items of information on the global environmental conservation technologies that had been used for sustainable co-existence with the natural environment in the various parts of the world.

One hundred Global Eco-Tech Award winning technologies are the crystallization of the wisdom of the human being for solving global environmental problems. Many of the unique environmental projects from the developing nations were selected for the award. Promising environmental technologies and projects overseas were awarded regarding "technologies for preventing global warming and securing energy", "technologies for effective resource recycling", "technologies using biomass resources", "technologies using timber resources", "natural environmental protection and regeneration technologies", "technologies for environmental pollutant" and "technologies for drinking water and waster resources" which will contribute to sustainable development in developing countries.

《Global 100 Eco-Tech Award given and ICETT training projects》

ICETT regards its training projects as important public relations and education projects. This paper features the technology given the award as a successful case in which the ICETT training participant voluntarily worked on. As the part of the project that the winner participated in, a workshop was held at Clark Field in the Philippines for the international organizations specialized in environment and energy issues, the central and local governments, related businesses and supporting organizations.

ICETT has implemented the training projects, highlighting capacity development for Cleaner Production (CP), Environmental Management System (EMS) and Clean Development Mechanism (CDM), in order to promote smooth technology transfer by businesses, in addition to the technology transfer itself. The workshop, a part of the training project is usually 3 to 4 days long in a lodging style and by theme. Experts both at home and from abroad gave advice. For the first two days, the government officials and experts made presentations, followed by a discussion by all the participants and group discussion. On the last day, the participants visited a selected model company and had an on-site discussion.

During the series of workshops, the purpose of the Eco-Tech Award was explained. Among the 24 workshop participants, Gerald P. Bron who completed the ICETT training course earnestly explained about a "Biogas system for domestic use". He applied for the award in cooperation with the Environmental management bureau of Department of Environment and Natural Resources. Subsequently, he received the award.

《Biogas system for domestic use》

The system given the award is quite simple, as shown in the picture on the right. The system was designed to generate fuel gas sufficient for typical household use in the Philippines, by using 50 liters of poultry manure.

Pressure of the fuel gas is automatically maintained in an appropriate manner, by the spindle on the bag. This system is highly likely to replace the LPG which is currently used in households.

《Development of the derivative project》

After given the award, Mr. Gerald P. Bron participated in the seminar hosted by the Inter-Agency Committee on Climate Change of Environmental management bureau of the Department of Environment and Natural Resources to learn about CDM. He has tried to expand his project and collect information for putting it in the Japanese CDM scheme. Especially, after receiving the award, he talked to the Clean Energy Finance Committee of Mitsubishi Securities (currently Mitsubishi UFJ Securities) and the World Bank (Community Development Carbon Fund) to expand his project. He participated in the award ceremony by himself and has motivated himself to learn more.

Evolution of the Philippine BioDigester



Substantial research, testing and validation went into developing the Philippine BioDigester.

(Biogas system for domestic use)

《Conclusion》

One of the workshop participants has been sufficiently interested in the dissemination, research and development of global environmental protection technologies to make a contribution to the environmental conservation, while making self-supporting efforts. This is one of the successful results of the ICETT education activities. It gives great pleasure to ICETT to know that a training program participant maintains his interest in environmental issues including CP, EMS and CDM, and was given an Eco-Tech Award. In addition, it is hoped that he continues to be actively involved in the network of environment related organizations both at home and abroad, and to make further contribution to the global warming prevention by his self-supporting efforts with this award as the springboard.



Award ceremony

ICETT

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