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CTI Workshop Projects

●Energy environment CO_2 fixation / effective use program ●CO_2 fixation / effective use technology project ●International cooperation promotion project for the global environment ●International strategy research project for global environment / Feasibility study project for international cooperation related to technology transfer

1. Project objective and outline

Developed countries participating in the CTI (Climate Technology Initiative), which is a framework for voluntary development and dissemination of technology contributing to the reduction of emissions of greenhouse gases, are promoting technology transfer by multilateral cooperation to vigorously promote the transfer and dissemination of global environmental technology in cooperation with developing countries. This is one of the objectives of the CTI. To contribute to this program, the International Center for Environmental Technology Transfer (ICETT) has been hosting Asian administrative officers and engineers for personnel development with the cooperation of international organizations and developed countries as well as Japan.

Developed countries in CTI are thus studying a wide range of approaches to transfer technology by multilateral cooperation. They have found that multilateral cooperation in personnel development program for energy conservation is an effective approach. Accordingly, ICETT, assisted by New Energy and Industrial Technology Development Organization (NEDO), has been planning and holding multilateral workshops (see Annex 1).

In 1998, ICETT held an international workshop for personnel development under the theme of energy conservation: the first program of this type in the world. The outcome of the seminar was reported at the CTI session at the 4th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 4). ICETT also held a CIT international workshop on energy conservation the following year. We then reviewed our programs and held international workshops extending the duration to two weeks in 2000 and 2001. In addition to energy conservation, cleaner production was added to the workshop program.

In 2002, new themes which are strongly needed in developing countries and which are thought to be important for the future were added to the workshop, in addition to energy conservation measures and technology, environmental management systems, and cleaner production. New themes were "Green productivity in the context of increased productivity" and "Zero emissions." Officers and engineers from developing countries in Asia were invited to this personnel development workshop.

Annex 1
[Record of CTI projects and workshops worldwide]

1998	
Oct. 5～10	The 1st energy conservation workshop in Asia (NEDO-ICETT, Japan)
1999	
Sept. 19～26	The 2nd energy conservation workshop in Asia (NEDO-ICETT, Japan)
2000	
May15～20	Training course for technology related to the south Mediterranean climate (Naples, Italy)
Aug.10～11	Workshop on energy conservation and labeling for Latin America (Mexico City, Mexico)
Sept.10～23	The 3rd energy conservation workshop in Asia (NEDO-ICETT, Japan)
2001	
Mar. 22～23	Training course for environmental standards and labeling for Latin America and Caribbean countries (Buenos Aires, Argentina)
May 29～30	Seminar on effective approaches to transferring technology/methods related to climate change (Szentendre, Hungary)
Aug.6 ～7	Workshop on action plan for promoting clean technology investment in the South African region (Gaborone, Botswana)
Oct.7～27	The 4th energy conservation workshop in Asia (NEDO-ICETT, Japan)
Nov. 7	IEA/CIT – China joint workshop for energy conservation standards, labeling, and reduction of standby power requirement (Beijing, China)
Nov.29	IEA/CTI workshop on a framework for energy restrictions in Central Europe (Budapest, Hungary)
2002	
Sept.20～ Oct. 2	The 5th energy conservation workshop in Asia (NEDO-ICETT, Japan)
Sept.27～28	Industrial seminar on clean technology transfer in Asia (Beijing, China)
Sept.24～26	CTI/UNDP/GEF (Global Environmental Facility) workshop on technology transfer strategy and information (Beijing, China)
Oct. 10～11	Promotion of development of recyclable energy/distributed (type) power generation in Baltic countries (Riga, Latvia)

2. Project in 2002

The project in 2002 was characterized by programs for more effective personnel development for reducing emissions of greenhouse gases. Specifically, for each environmental conservation theme, we increased the number of case studies and incorporated studies on the solutions to problems experienced in

developing countries. In addition, we enhanced cooperation with engineers in developing countries, including past participants, who have a shared understanding of the importance of energy conservation and cleaner production. To foster self-supporting efforts in personnel development activities, an overseas workshop was held in Indonesia as a follow-up program to this project. Similar workshops are scheduled to be held in Vietnam and the Philippines.

2.1 Workshop in Japan

ICETT implemented a capacity building project, the "Energy Conservation Workshop in Asia" from Sunday, October 20 to Saturday, November 2, 2002. The workshop was realized with the cooperation of international organizations such as the Asia Productivity Organization (APO) and ENVIROLINK, as well as Japanese specialists. Companies collaborating in the workshop by accepting the site observation were: Hitachi, Ltd.; The Energy Conservation Center, Japan; Toyohashi University of Technology; Brother Industries, Ltd. (Annex 2); Honda Motor Co., Ltd.'s Suzuka Plant; and Mitsubishi Chemical Corporation's Yokkaichi Plant. At the workshop, 15 participants from five Asian countries (China, Indonesia, Thailand, the Philippines, and Vietnam) studied energy conservation technology, energy efficiency improvement, green productivity, zero emissions, and environmental management.

Annex 2 Visiting Brother Industries, Ltd.: Case study of zero emissions technology (new visiting site)

The workshop started with the opening ceremony (Annex 3), and was followed by the technical sessions. In these sessions, participants were given case studies to learn about energy conservation technology, energy efficiency improvement, green productivity, zero emissions, and environmental management. With respect to capacity building, we reconfirmed that trainees' "self-support efforts" are crucial, taking into account activities to be held in other countries, and should not be limited to personnel development projects. In particular, we consider it necessary to stress the importance of linking programs: Japan <ICETT> Workshop ⇔ Overseas workshop ⇔ Fact-finding Survey, in order to implement a continuous project in a methodical fashion.

We also confirmed the importance of the approach of "training" and "cooperation" by "participation (by all or by country)" in an interactive style instead of the one-way lecture training in which information flows from teacher to students. In particular, we planned many "discussion sessions" after every "lecture" and "site observation" to provide "time to think" together with trainees and to "work in groups." This led all trainees to participate actively with awareness of the issues in each technical session. Another characteristic of the workshop in 2002 was that we received an enthusiastic response from each country in the CDM guidance session, requesting that they want to know more details about CDM and its future directions.

Annex 3
Workshop participants

2.2 CTI workshop in Indonesia

The CTI follow-up workshop was held in Indonesia.

Theme:	Energy conservation and technology dissemination in Indonesia
Period:	September 24 and 25, 2002
Outline:	In 2002, CTI alumni in Indonesia planned and managed a workshop for officers of the Indonesian central government, engineers in corporations, and alumni of the CTI international workshop (held by

ICETT) over the past four years. The number of participants in the workshop was first estimated to be 50, but the actual number present was 38 due to fewer participants from the central government as a result of the terrorist bomb explosions at the Hotel Indonesia and the American Embassy in Jakarta, as well as a power failure in Jakarta. Out of these participants, 23 people also participated in the workshop for opinion exchange and the creation of an action plan (Annex 4). As a result of the workshop, the following requests and tasks were proposed.

Annex 4
Workshop (action plan) participants

(1) Establishment of forum

This was an epoch-making opportunity for specialists in energy conservation in administrative organs and corporations to gather. The participants proposed to hold this kind of meeting on a regular basis to allow opinion exchange.

(2) Training for the top management (CEOs)

Some commented that, in Indonesian industries, a more effective way of promoting practical energy conservation might be to implement capacity building for the top management (CEOs) of corporations, rather than for engineers and administrative officers involved in energy conservation. In this case, the training would be held either in Japan or Indonesia. Some also commented that it would be necessary to set up a scheme for selecting especially motivated participants (CEOs).

2.3 CTI workshop in Vietnam (Scheduled)

A workshop on energy conservation and environmental management systems is planned to be held on December 11 and 12, 2002 in Hanoi, Vietnam. As in Indonesia, the workshop is scheduled to be planned and managed by CTI alumni in Vietnam, and is targeted at officers in the Vietnam central government, engineers in corporations, and alumni of CTI international workshops (held by ICETT) over the past three years. The program is planned to include cleaner production and ISO 14001. We will wait to see how the trend in Vietnam goes related to CDM which other countries are now working on.

2.4 CTI International Workshop in the Philippines (Scheduled)

An international workshop on energy conservation is planned to be held on January 22 and 23, 2003 in Metro Manila, the Philippines. At present, CTI alumni at the Ministry of Natural Resource are taking the initiative in planning and managing themes for the workshop's technical sessions, the lecturers, and site observations.

3. Future prospects

The main theme of past workshops was "Energy conservation policy and energy conservation technology." In addition to this theme, we believe that "Environmental management systems," "Cleaner production/green productivity," and "CDM," which are drawing attention in developing countries, will be the key to future capacity building. In particular, with respect to CDM which was discussed in the CTI workshop in 2002, we first need to identify the degree of understanding of CDM in each country. We believe it is important to then explain clearly the CDM system through capacity-building opportunities, such as workshops, to develop highly effective projects as CDM or JI that will lead to reduced emissions of greenhouse gases and stronger sink for them.

This workshop, which was the fifth of its kind, included in the program zero emissions, green productivity, and CDM as global warming preventive measures. This shows our view that "reduction of pollutants," "increased productivity," and "projects for reducing greenhouse gas emissions in other countries" are important themes for the future capacity building project.

JICA Training Course

Environmental Management Technology for the Petrochemical Industry

1. Introduction

ICETT provided technical training in 2002 for 6 weeks from June 24 through August 2 on consignment from JICA. Eight trainees from 6 countries (China, Indonesia, Myanmar, Saudi Arabia, Syria and Brazil) participated in the training. Looking at their backgrounds, four of the participants were administrative officers, three were from national corporations and 1 was from a private company. There were 4 men and 4 women.

The training was intended to give them an opportunity to learn about Japan's past experiences and our present situation so that they could utilize this knowledge and information to improve the environment in their own countries. For this purpose, we introduced our experience with the air pollution known as "Yokkaichi Pollution" which was caused by the petrochemical industry, and explained how local communities, companies and the administration worked to solve the problems this pollution presented. In addition, we provided them with information regarding what factors promoted legislation, what kind of pollution prevention technologies were available, and our latest systems for environmental management.

2. Summary of training

(1) Curriculum

We had 30 days for this technical training, during which we had various induction courses, 37 lectures, site tours, country report briefings, a meeting to report action plans, as well as trips to Tokyo and Kyoto for training and exchange with local people. We provided the trainees with a comprehensive curriculum that allowed them to have not only technical training but also gain an understanding of the Japanese culture and viewpoints underlying our efforts for environmental problems.

Lecturers were mainly from the private sector due to the nature of the courses. We asked a total of 56 lecturers including active and retired employees of the petrochemical industry (43) and administrative staff to give lectures, and consequently quite a high level of specialized lectures from each field were provided.

We constructed an entire curriculum in the order of learning the history of industrial pollution in Japan, processes for relieving the sufferers, what kind of legislation was in effect for the environment, pollution prevention technologies, and our latest systems for environmental conservation and our viewpoints. We are sure that the trainees understood what roles the companies, local communities and the administration played and also how important and economical it is to prevent pollution in advance rather than try to solve problems related to it later.

(2) Training

Each country had wide-ranging problems. For example, China is following the same path as Japan did in the past. In Indonesia and Saudi Arabia, there is an industrial complex developed by advanced countries and small companies surrounding the complex, and the governments are not keeping up with recent developments. Brazil has so much land that there are many potential problems. In Syria and Myanmar, petrochemical industries are expected to develop in the future. The situation of each country is different but their attitudes towards tackling the environmental problems are the same. We hope that our experiences will help them make their environment better.

The trainees seemed to be surprised at the more-serious-than-expected consequences of pollution, and were impressed by the initiative of local communities and local governments to push the central government into action, and companies' responses to such actions. They seemed to understand how Japan and other advanced nations tackled environmental problems and what advanced management systems were used, but they wondered if their situations allowed for the coexistence of economy and the environment. Having such

thoughts running through their minds, they made their specific action plans as a result of the training and their ideas showed what they would do after they return home upon completion of the training.

(3) Training trips

For the purpose of giving the trainees an opportunity to have a look at a petrochemical complex in a city (Chiba) other than Yokkaichi city and to show them our capital, we visited Tokyo. We also went to Kyoto to visit a manufacturer of analyzing equipment and a plastic recycling factory. Through walking around our representative cultural cities, Tokyo and Kyoto, we expected them to grasp something particular to Japan. Most of the trainees were used to crowded streets but were bewildered by walking so fast. They liked the Akihabara area, which is a convenient place to buy electronics.

(4) Site tours

We visited petrochemical plants in Yokkaichi. They were impressed by the proximity of plants and residential areas in the Shiohama industrial area, the sophistication of wastewater treatment at one industrial waste final disposal site and the cleanliness and the small number of workers at the Fujiwara factory of Taiheiyo Cement Co., Ltd.

3. Extracurricular activities and exchange with local people

Our ICETT facility is located at the foot of the Suzuka Mountains. The trainees had free time after class, but there was nothing but nature surrounding them. There were no shops and no means of transportation. They could go for a bike ride or take a walk, but they did not seem to feel like going out because of the many hills and the boiling mid-summer weather. So they engaged in writing daily reports, searching for information on the Internet, communicating with their country through e-mail and also chatting with each other.

Once or twice a week, they had classes to study Japanese after the regular technical training finished, and they tried to find an opportunity to use Japanese to test their conversation skills.

We ran a shuttle bus to and from Yokkaichi station on weekends so the trainees could go shopping and/or sightseeing. They sometimes stopped by a shopping center on their way back from the site in Yokkaichi city. Their favorite place was the ¥100 store.

In addition, we had a meeting to promote friendship with members of the local Sakura English Club (on July 14), as well as a performance of samisen strings in the Fujimoto style and folk songs (on the evening of July 22 – introduced in the local Chunichi). They also had a chance to visit and stay with Japanese families. Through this warmhearted support from the local people, the trainees were able to truly experience Japanese culture.

4. News coverage by an NHK broadcasting station

This year is the 30th anniversary of the verdict of the Yokkaichi pollution trial. The day the verdict was handed down, July 24, happened to fall during our training period, and thus our training was televised on NHK news under the heading of "Pollution trial, and thereafter" (July 23). The coverage started with an interview with Mr. Kura, Executive Director of ICETT, and was followed by a lecture on "measures to prevent water pollution," a site tour of Kasumi Kyodo Jigyo Co., Ltd. where the joint waste water treatment facility for the Kasumi complex was located, an interview with a lecturer and trainees, and finally how they had a lecture and a site tour. Additionally, as a part of the visual materials provided by the Japanese government to the Environment Summit having scheduled to be held in South Africa in coming August, they filmed us to show how trainees from foreign counties participate in our training.

JICA's country-specific training
"Regional Environmental Monitoring in Egypt"

1. Introduction

In Egypt, unregulated industrialization and civilization have been promoted recently and as a result these developments have caused serious water pollution and air pollution. To cope with this situation, Egyptian government enacted the Environment Law in 1994 to set the environmental quality standard. The environmental quality standard was put into effect in February 1998, and the Environment Agency was designated as the implementing organization of the Environment Law to assume responsibility to inspect the compliance with the standard. The Environment Law required the Environment Agency to continuously monitor whether the enterprises satisfied the regulatory standard. However, the Agency had engaged mainly in the coordination with other related organizations and thus had no adequate monitoring system. So it became necessary to establish the effective monitoring system as soon as possible. For this purpose, Egyptian government established Cairo Central Center (CCC) and its regional branch office (RBO) under the Environment Agency as the facility with both capabilities of a standard laboratory and a training center. Our training "Regional Environmental Monitoring in Egypt" was initially launched in 2000 with the aim of improving the technical skills of RBO staff. From September 9 through to November 8, 2002, the 3rd year since the start, we provided practical training for monitoring to six administrative officers from the regional branch office of the Egyptian Environment Agency.

2. Summary of training

The training consisted of the following 4 sessions:

Session I
"Environmental administrative measures"

This session was an induction to the training. First of all, we provided a keynote address concerning the history of pollution in Japan and the environmental administrative measures. The trainees studied Japan's changing measures for the environment in time series from the past to the present for the purpose of recognizing the current situation of Japan and the importance of environmental monitoring as an effective way to prevent pollution. Egypt seems to be in the economic slump at the moment but pollution is getting serious. By learning Japan's administrative measures during the years of steep economic growth as negative examples, they could consider what the administration in Egypt should do for the environment. During this session, they visited the Mie Prefectural Environmental Study Information Center to observe the environmental monitoring system there and study how the system worked in Mie prefecture. The trainees were surprised to know that each company set up a monitoring system to closely communicate with the administration and help the administration monitor to prevent pollution.

Session II
"Practical training for monitoring water and air quality"

At the Public Health and Environmental Research Division of Mie Prefectural Science and Technological Promotion Center (PHERD), they separated to 2 groups, water quality group and air quality group, and had the practical training for

monitoring. For monitoring, some basic duties like cleaning of test tubes are very important to analyze data accurately. This year the members of water quality group were well aware of the importance of such basic duties and took the lead in cleaning test tubes. The members of air quality group received instruction from a researcher about how to sample effectively with less cost, and they were delighted to get that useful information. We would like to express our gratitude for the kind instructions the PHERD researchers gave to Egyptian trainees, sharing time from their busy schedule. The trainees said that they would share all useful knowledge they obtained with their colleagues after they return home. One of the purposes of this training is to improve individual technical skill. However it seems difficult for an individual to get over various problems by himself, so it should be better to share information with other staff and join forces to solve the problems we are faced with. From this point of view, I thought it quite meaningful to transfer the technologies during this training as well as to invite trainees' attention to the importance of sharing information.

Session III
"Environmental pollution prevention technologies"

This session is intended to study the viewpoints of practical environmental management through a site tour to actually observe the pollution prevention technologies and apply the knowledge to the transfer of those technologies to Egypt. This session consisted of a general lecture about the technologies to prevent water pollution and air pollution first, and next the lecture of cleaner production in order to develop a flexible way of considering environmental management. During our visit to the private companies, all staff in the companies were very kind to us. They were willing to meet the trainees' requests and answer any sensitive questions with chosen and understandable words. Trainees were mostly Islamic, so it was required to secure the place for them to pray. Any company respected their region and prepared a meeting room for them. It was very helpful. For me a Japanese it was rather difficult to understand their obstinacy, but I learnt that religion was more important to them than job and/or training.

Session IV
"General overview"

During this session, we reviewed the training. The trainees drew up and reported action plans concerning how to put the knowledge and lessons learnt in Japan into action after they return home. Many of them pointed out the problems with hardware i.e. insufficient maintenance of equipment. They said that they had these daily problems but they would be able to solve the problems. Rather, it would be necessary to enhance the people's awareness of the environmental conservation. For this reason, they said that they would like to educate people by media and other means in their own countries. They also referred to how system should be organized to operate the Environment Law efficiently.

3. After the training

I think that the training for 2 months was very hard to them. To get them home safe and develop their likings for Japan was another very important implicit purpose. For this purpose, the training staff like me has to try to satisfy their requests even after classes and try not to get them bored on weekends. This duty is a spiritual trial and tribulations. I would like to thank the staff of Yokkaichi International Association, people of host families and many other people who helped us. In particular, a staff of JICE helped us a lot. Thanks to everyone's support and kindness, they returned home with a great deal of satisfaction. I received this message from them, "I wish you are fine. Please take rest to be fine. I know you are tired from our long training course. Thank you very much." Lastly, we would like to express our gratitude for the assistance and cooperation JICA and all other people concerned gave to us. Your continued support next year would be very much appreciated.

Mie Prefecture Consigned Project:

Henan Industrial Pollution Control Technology Training

1. Introduction

Mie Prefecture in Japan and Henan in the Republic of China signed a friendship treaty in November 1986. In the intervening sixteen years, a wide range of exchange programs, including education, culture, economy, and technology have been implemented. With respect to the exchange of technology related to environmental conservation, training in Japan and overseas seminars have been ongoing since 1993.

Mie Prefecture has consigned ICETT to provide training in Japan for officers employed by Henan Environmental Protection Agency. Technical training sessions centering on industrial pollution control technology, specifically for air pollution, water pollution and urban environmental conservation, have been held 7 times between 1993 and 2001 with 38 trainees in all taking part. Also, in 2002, training in industrial pollution control technology (air and water quality control) was provided to 3 officers of Henan Environmental Protection Office for 19 days between November 4th and 22nd.

In addition, in 2002, a follow-up survey was conducted in Henan for 7 days from July 28th to August 3rd to investigate outcomes of training in Japan so far and environmental measures taken in Henan. The survey results were fed back to the planning process for the training in Japan.

2. Training in Japan

(1) Outline and programs

Training consisted of four sessions: (1) Lectures (History of pollution in Yokkaichi City which observed its 30th anniversary in 2002, pollution control agreement and case studies, pollution control policies in Japan and the respective roles of corporations and citizens, the Basic Environment Law and administrative actions concerning the aquatic environment, environmental policy in Mie, and ISO activities in local areas); (2) Site visits (to the Yokkaichi Port Authority, Chemical Instrument Center at Nagoya University; the Agricultural Research Division of Mie Prefectural Science and Technology Promotion Center; Mie Prefecture Environmental Education Information Center; and Mie Prefectural Sewerage Corporation (South Purification Center); (3) Observation of corporations (Food manufacturing, the plating industry, the forging and casting industry, hotels (including on-site survey exercises), resort facilities; and (4) Summary (discussion with officers of Mie Department of Environmental Protection, presentation of final report).

In the lectures, the history of pollution control in Yokkaichi, which observed its 30th anniversary in 2002, the importance of pollution control agreements and related case studies, and the development of pollution control policies in Japan and the roles of corporations and citizens were described, centering on historical background, actual situations, and the role of government, corporations, and citizens. The outline of the Basic Environment Law and Water Pollution Control Law, and their relationship; and the environmental policy of Mie Prefecture were also covered in the lectures. Moreover, the experience in obtaining ISO 14001 certification and actual situation of the Mie Prefectural Government, and its future actions were explained, including site visits to the recycling center and large-scale shredding operations in the Prefectural Office area.

During the site visits, the Yokkaichi Port Authority gave a brief explanation of Yokkaichi Port in an observatory room in the Port Building, where a panoramic view of the Port can be enjoyed, and trainees observed the measuring equipment used at Nagoya University's Chemical Instrument Center attached to the Department of Science. At the food manufacturer, trainees observed manufacturing processes of Chinese steamed meat buns and bean-jam buns under rigorous quality control, and wastewater treatment facility. At the plating company, trainees observed the environmental management system and wastewater treatment facility at the corporation's manufacturing facility. To learn about environmental policy in local government, trainees experienced on-site surveys at two companies in Mie (the wastewater treatment facility at the forging and casting manufacturer's factory, and at a tourist hotel). They also visited environmental conservation facilities in a theme park, including a wastewater reuse and wastewater treatment facility, waste treatment facility, and industrially-owned power generator, and were given a description of the environmental management system at each facility.

In a discussion with officers at Mie Department of Environmental Protection, trainees posed questions on operations directly related to themselves including methods for incorporating citizens' views during the planning and modifying processes of regulations, and forest GIS simulation and its development methods. Trainees further exchanged opinions with Mie officers on the comprehensive treatment of both domestic and industrial wastewater. In the presentation of the final report, three trainees gave their impressions of the training sessions, and each presented an individual action plan after they returned home. Their action plans included training report meetings and presentations for officers at the Henan Environmental Protection Agency as a short-term initiative. Their mid- and long-term programs included application of legal policies to local areas, comprehensive activities for obtaining ISO14001 certification, development and application of Geographic Information System (GIS), and pollution control measures at hotels and theme parks. Much of what they studied during the training sessions was included in their action plan.

(2) Training summary

In 2002, the trainees had to follow a rather tight schedule, with a large part of the training focused on observation of management of prefectural and corporate facilities in Mie Prefecture compressed into a brief allotted time. Enthusiastic Q&A sessions and discussions were held after each lecture and at each site, and trainees were mostly satisfied with the lectures and sites they visited. We believe that what they have learned during the training sessions will be used effectively in policies and projects in Henan.

During the training sessions, the trainees showed particular interest in strategies unique to Japan such as pollution control agreements, restriction on total water volume, and actions for obtaining ISO 14001 certification by Mie Prefectural Government and their specific activities. Observation of wastewater treatment and sewage treatment plant in a resort facility and hotel was also well received.

Referring to the results of the follow-up survey described in the next section, the training aimed at providing comprehensive technology related to water, including wastewater treatment at a resort facility and sewage treatment plant, as well as industrial pollution control technology. This was also regarded as highly useful.

A part of this training program was shared with the "Training for the Pollution Control Officer System" given by JICA China. This enabled the Henan trainees to discuss with JICA trainees who are officers of the China Environmental Protection Agency and officers of Environmental Protection Agencies in other states and cities in China during training. Outside their formal training schedule, they used their time profitably, exchanging opinions in cafeterias and hotel lobbies.

3. Follow-up survey

(1) Objective and outline

Since 1993, ICETT has hosted 38 trainees, cosigned by Mie Prefecture, who are officers of Environmental Protection Agency in Henan, in a total of 7 sessions. Since the first three-year plan and training program in 1998, the training period has been shortened, and the number of trainees has also been reduced. The training program and subjects also centered on joint training with JICA trainees. This resulted in the inclusion of training in subjects which were not suited to Henan's specific situation and needs.

In response to this initial loss of focus, ICETT decided to interview former trainees to investigate training outcome and how training is applied in the policies they implement after they return, aiming at feeding back the research results and their requests to the planning process of future training approaches and programs. For this purpose, ICETT, accompanied by one officer from Mie Prefecture's Department of Environmental Protection, visited Henan (Zhengzhou, Ruoyang, and Kaifeng Cities) for seven days from July 28 to August 3, 2002, to implement a follow-up survey.

(2) Survey details

The survey was implemented according to the following time schedule: (1) A courtesy visit to the Environmental Protection Agency of Henan and an interview with 3 former trainees from the past two years, now at the Environment Protection Agency; (2) An interview with two former trainees at the Environmental Protection Agency of Zhengzhou City and site visits in the city; (3) An interview with one former trainee at the Environmental Protection Agency of Ruoyang City and a site visit to a wastewater treatment facility; (4) An interview with one former trainee at the Environmental Protection Agency of Kaifeng City and a site visit to a wastewater treatment facility of a detergent factory; and (5) An interview with an officer at the Environmental Protection Agency of Henan, and an interview with trainee candidates for 2002.

The interviews revealed that they are strongly interested in environmental monitoring systems and the Japanese factory pollution control officer system, as well as water pollution control technology and environmental management systems. Many of the trainees praised the training related to these subjects, stating that it has proved extremely useful in their subsequent operations. In addition, the 2001 trainees are implementing measures that utilize training outcomes in promoting ISO14001 activities to an increasing number of factories in Henan. Trainees have also realized the need for restrictions on the total volume of water and air pollution in Henan, and were motivated, through the training, to set stringent standards and put them into practice.

Henan is an inland, and four major water systems are under the control of the Henan government, such as the Huan He and the Changjiang. Due to these regional characteristics, formulating general strategies to maintain the quality of water flowing into four major river basins is an important task. In the 15th general environmental plan (2000 – 2005) for Henan, they plan to promote the construction of sewage disposal plants in 38 cities,

exceeding prefectural requirements. Those interviewed also commented that they are particularly interested in subjects related to water in training on pollution control technology.

(3) Survey summary

The chief outcome gained from this particular survey was that we were able to confirm that Henan needs comprehensive environmental measures to protect its "water resources." Although we were to some extent aware of the environmental situation and environmental measures taken in Henan, through country job reports submitted every year by trainees, we were able to more closely identify the actual situation of application of environmental protection measures in Henan through direct interviews with former trainees and site visits. We recognized the need to include the survey results and requests from trainees when planning training programs for 2002 and after.

A commission granted from the Overseas Environmental Cooperation Center (OECC) for the "International Environmental Promotion Model Project" covered the expenses incurred by the survey.

4. Conclusion

The industrial pollution control technology training for Henan in 2002 aimed to provide training in comprehensive technology related to "water resources" in addition to the conventional training on industrial pollution control technology based on follow-up survey results and requests from the Environmental Protection Agency of Henan. The training covered numerous subjects, including recent environmental administration initiatives such as programs to encourage ISO14001 certification. We also tried to include company and facility observations as much as possible so as to base the training on on-site observation.

Since this year's training was mostly well received by trainees, we felt the need to plan a training program that will be useful for planning and implementing measures for improving the environment in Henan after the trainees return home.

ICETT will continue to cooperate with Mie and Henan on environmental technology and contribute to protecting the environment of Henan and the Earth through training in Japan and overseas surveys.

JICA Training Course for Hungary

Management of Atmospheric Environment/ Measurement of Environmental Pollutant

Period

August 12-16, 2002

Backgrounds and the purpose of the training course

Before the political system changed, Hungarian people had considered that a controlling of the nature and a general development of natural resources should be the main purposes of their social system. As a result, national debt became exorbitant and the environmental destruction became serious in wide-ranging aspects including water contamination, soil contamination, air pollution and deforestation.

Now Hungary is preparing for becoming a member of European Union (EU), and the country is required to overcome the hurdles concerning the approach to EU policy, lawful harmonization with EU and the procedures to join EU. Environmental measures in Hungary are aimed at the coordination of the "sustainable development" as an international requirement with the current and the future national development policies.

Air in Hungary is contaminated as stated below;

1) The number of pollution sources, which had emitted a large amount of pollutants for past decades, has decreased. However, the air quality is still unsatisfactory. To be specific, 3.9% of the land is contaminated, 9.3% is a little contaminated and almost half of people live in the area corresponding to 13% of the land. In particular;
2) For the past decade, the emission of sulfur oxide and nitrogen oxide has decreased. But the emission rate of nitrogen oxide from transportation has increased, so the areas near the road with heavy traffic as well as the densely populated areas are more affected by automobile exhaust gas. Particularly, in summer season, ozone of high concentration is frequently monitored. As environmental problems, which gives the influence on human health;
3) The mortality rate due to soot and dust in air has increased by 3 – 5%, and the morbidity of respiratory illness has increased by 7 – 10%. The average life of Hungarian as of 1998 is 66.1 years old for men and 75.2 years old for women, and 70.7 years old on the average.

Under these circumstances, two trainers (an associate professor and a senior lecturer of Institute of Natural Sciences, Dunaújváros Polytechnic) provided a general training from June 10 through to August 31. ICETT was in charge of a part of this training scheduled for 5 days. This training is intended to improve the ability of the human resources for environmental education and start the mini-project activities effectively after they return to their country.

Summary of activities

Our training consisted of; 1) Backgrounds of Yokkaichi Air Pollution and how we prevented the pollution; 2) Air quality standard (Areawide total pollutant load control); 3) Environmental monitoring system; 4) The method and appropriate analyzing system to monitor the hazardous air pollutants; 5) How we are conserving the environment and monitoring air pollutants at our

petrochemical complexes; 6) Technologies to prevent air pollution due to gaseous chlorine; 7) Visit to a monitoring station; and 8) Analyzer maintenance.

In the class, we confirmed our present status and problems we are face with, and then learnt new knowledge and technologies. During the visit to the factories and complex, we confirmed how these technologies are actually applied on site.

Progress

This time, the timeframe of our training was quite limited. However, we found at our final review meeting that each related lecture and site tour as well as frequent Q&A session to exchange opinions produced ample results.

Lastly, we would like to express our gratitude for the assistance and cooperation the lecturers and all other people concerned gave to us during Bon vacation in mid-summer.

The Seasons of Japan

Omizutori

There are numerous festivals in Japan, many of mysterious origin and significance. There are also many festivals using fire, for example the Daimonji Yaki, where in summer giant characters and symbols are written in flames on the mountains that encircle Kyoto, and the Fire Festival in Kurama, north of Kyoto. Since it is now winter in Japan, I will describe a fire festival held during the coldest part of winter: Omizutori, in Nigatsu-do at Todaiji Temple in Nara. The official name of Omizutori is Shuni-e. A priest named Jitchu, a disciple of Priest Ryoben, the founder of Todaiji Temple, is said to have started this event in 752. Since then, Omizutori has taken place every year without a break, making the 2001 festival the 1250th. Since it is very famous, the festival is shown on the TV news every year. I personally like this festival very much, partly because it announces the beginning of spring in Nara. We believe that Omizutori brings spring to Nara - and, frequently, the weather does in fact suddenly turn warmer around the time of the Festival.

The Shuni-e ceremony lasts for two weeks from March 1st. However, in the lunar calendar, it was held from February 1st. This is why the event came to be called Shuni-e, which means "the ceremony of the second month (February) of the year". The name Nigatsu-do (the Hall of the Second Month) was also given for this reason.

Omizutori is the main ceremony during Shuni-e, and it takes place at midnight on March 12th (actually around 1:30 a.m. on the 13th). This is the ceremony in which "scented water" is taken from a well called Wakasai Well and offered to Kannon, the Goddess of Mercy. Large flaring torches (taimatsu) are lit every day to illuminate a group of priests called Rengyoshu, fascinating visitors to the Festival. This is why Shuni-e is also called "Omizutori" or "Otaimatsu." Large burning torches in the dark, the sound of priests running, resounding prayers, and the secret ceremony of scooping up sacred water. These events create a unique ritual atmosphere. The showers of sparks from the pine torches that fall on the audience are said to bring good health throughout the year.

The ceremony of Shuni-e, dedicated to the Eleven-headed Kannon, is a prayer for peace, good harvests, and happiness. The priests also pray to confess the sins of the public. Omizutori is a sacred ceremony that extends over 1 month for the preliminary ceremony and main ceremony, but actually over 3 months in total, including the preparatory period.

It is really worth seeing.

Omizutori at Nigatsu-do, Todaiji Temple

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