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INTERNATIONAL CENTER FOR ENVIRONMENTAL TECHNOLOGY TRANSFER

Seminar

Environmental Conservation Measures in Thailand

Period: September 4 (Thursday) - 5 (Friday), 1997
Venue: Kamolthip Ballroom, Siam City Hotel Bangkok
Participants: 120 persons (including former ICETT trainees, environmental administrators, research institution and related organization representatives, corporate personnel in environment-related functions)
Factory visit site: SHARP APPLIANCES (Thailand) Ltd.
Factory visit participants: 58 persons

Introduction

Global environmental problems have increased in gravity due to rapid socioeconomic development and expansion; global solutions to this trans-national challenge are now being sought. The International Center for Environmental Technology Transfer (ICETT) organizes technological assistance projects, seminars, personnel training programs and the like, to improve the environment in various countries by drawing on environmental conservation technology and know-how in the possession of Japan, particularly Yokkaichi City, Mie Prefecture. The total number of Thai participants in ICETT training programs has thus far reached 157 persons (of which 33 completed training in Japan, and 124 in Thailand). The ICETT has also carried out a variety of joint collaborative projects with Thai environment-related personnel.

During the above-stated period, the ICETT organized the seminar "Environmental Conservation Measures in Thailand" with support from the Japan Environment Corporation/Japan Fund for Global Environment and with 120 participants, to train personnel engaged in the region's environment-related affairs.

*The Seminar was conducted for administrators, private corporate engineers, experts and specialists mainly from Bangkok, Thailand, with special cooperation from the ICETT Thailand Alumni Association, as well as support from Thai and Japanese governmental ministers and agencies, and other associations and organizations.

(1) Opening Ceremony

Dr. Chokchai Aksaraman, President of the Federation of Thai Industries, expressed his gratitude for the Seminar, and his expectations regarding the Seminar, specifically what one was to learn from the current program: (1) the situation of environmental management in Japan; (2) background of environmental conservation; and (3) advanced technology related to environmental conservation. Mr. Koji Fujiwara, Managing Director of ICETT, greeted the attendants and discussed recent international trends concerning the global environment. He also mentioned that the current Seminar was the first event jointly organized by the ICETT and the association of former ICETT trainees, and expressed his expectation of a successful outcome.

(2) "Introduction to Energy Saving and Cleaner Production Technologies of Japanese Enterprises"
Lecturer: Mr. Hiromichi Asano. Manager. Global Environment Department. Plant Engineering Division. Toyota Motor Corporation

Approaches to cleaner production at Toyota Motor Corporation were introduced. Toyota adopted the "Toyota Environment Charter" as part of the company's 1992 global environmental policy. As well, the company's global environmental efforts were reinforced, and an in-house environmental conservation promotion system was established. These activities are all aimed toward Toyota's becoming a world-class environmentally advanced corporation. The company's environmental management system (ISO 14001), activities for reducing wastewater, waste materials and energy consumption, recycling promotion and environmental conservation technology were also introduced.

* At Toyota, goals for environmental activities include the acquisition of ISO 14001 certification by the end of fiscal 1999, implementation of the same system in the company's overseas operations, carbon dioxide emission reduction around the year 2000 and the promotion of vehicle recycling.

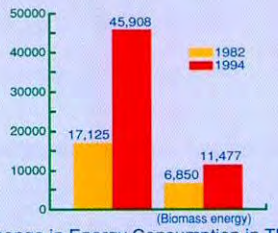
As an example of cleaner production, efforts related to air, wastewater, waste material and energy at one of Toyota's painting plants were introduced, with illustrations of technological development aimed at reducing the consumption of toxic substances and at treating such materials.

(3) "Case of Energy Conservation and Cleaner Production Technology in Thailand and Prospects for Japan's Environmental Technology Cooperation"
Lecturer: Dr. Pongpisit Viseshakul. Director. National Energy Policy Office. Office of the Prime Minister

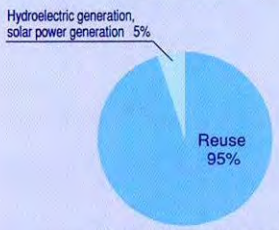
In compliance with the 7th National Economic and Social Development Plan, Thailand in 1992 adopted the Energy Conservation Programme (ECP). As part of such energy conservation efforts, the development of biomass is viewed as a major task. To reduce energy consumption,

enhance energy use efficiency and promote reuse, environmental investment incentives and financial assistance programs are actively applied.

* In Thailand, in addition to the ECP, the Department of Energy Development and Promotion (DEDP) and the National Energy Policy Office (NEPO) are working on the introduction and diffusion of new technologies for energy conservation.



Change in Energy Consumption in Thailand
(unit: 10^3 heavy oil equivalent ton)



Biomass Energy Sources

Biomass Energy Domestic Demand

(4) "Environmental Pollution Load Abatement Measures (e.g. ISO 14001) in Japan" Lecturer: Mr. Tamotsu Yoshimi, Senior Manager, Facilities Engineering & Operation Department, Yokkaichi Works, Toshiba Corporation

The environment management system "Plan-Do-Check-Action (PDCA)," adopted by Toshiba Corporation, and "Toshiba's Basic Environmental Conservation Policy," adopted at Yokkaichi Works, were introduced. Consciousness-raising for all employees, the establishment of voluntary standards, the promotion of energy conservation measures and cooperation with the local community were explained in detail. Particularly in connection with environment management, which is Toshiba's and Yokkaichi Works' priority, Toshiba's system for the management, including ISO 14001 certification, was presented.

(5) "Environmental Policy on Financial Incentives to Promote Environmental Investment and Assistance in Thailand" Lecturer: Ms. Nisanat Sathirakul, Director, Environmental Fund Office, Office of Environmental Policy and Planning of Thailand

To better deal with pollution and environmental problems facing Thailand and other developing countries, it is necessary to devise measures linked with industrial and economic activities, such as environmental investment incentives. Possible approaches to realizing sustainable development and effective environmental management were proposed, including the appropriation of a portion of the national budget for environmental measures and programs, in consideration of the concerned State's economic status; as well as environmental conservation measures linked with issues concerning population and industrial technology. Also emphasized were the importance of raising environmental consciousness among the general public regarding improvement of the local environment and the need for keeping in mind the prevention of forest destruction, air pollution and water quality deterioration.

* The Environmental Fund plays an important role in investment and aid provision in the environmental area, providing financial assistance and low-interest loans to support environmental projects by governmental and non-governmental organizations, private corporations, etc.

(6) Discussions

After the lectures, a question-and-answer session was held for Seminar participants, opinions were exchanged on environmental management systems in Japan and other topics.

(7) Factory Visit and Case Study SHARP APPLIANCES Co. Ltd.

This factory manufactures refrigerators, home-use facsimiles, VCRs, air conditioners and so forth. The factory carries out environmental conservation measures, including the electrolytic collection of heavy metals from water used for washing, and reuse of purified water. Factory visit participants learned about implementation, management, planning and problems regarding environmental measures. The factory is equipped with a medium-size activated sludge treatment unit.

Conclusion

For this Seminar, advance local coordination, conducted twice, helped the organizer learn the specific needs of participants. During the Seminar, sufficient time was allocated for response to participants' questions. A high degree of interest in advanced environmental ideas, such as ISO 14001, was confirmed, as was the need for diffusion of treatment technology and active implementation of projects related to air, wastewater and waste materials.

Forum

Yokkaichi City 100th Anniversary Commemorative Celebration

"Yokkaichi Global Citizens' Forum on the Environmemt" International Cooperation Session

Symposium

Date : October 18(Saturday), 1997
Venue : ICETT Training Rooms 3 and 4
No. of participants: 66 persons, including
13 general citizens (applied to the open invitation by Yokkaichi Centennial Project Div., Mayor's Office)
18 general citizens (applied to the ICETT via mass media)
30 ICETT trainees (9 JICA trainees from Europe, 13 trainees from Indonesia and 2 ICLEI trainees from India)
5 overseas guests and panelists (excluding 1 trainee from Europe)

Introduction

In 1997, Yokkaichi City celebrated the 100th anniversary of its municipal system. Throughout its 100-year history, Yokkaichi has dealt with pollution problems mainly affecting air, and in the process has accumulated abundant experience and knowledge related to pollution prevention measures, technology and know-how. Now that environmental issues have assumed global importance, as one of the City's centennial projects, Yokkaichi City has organized the Yokkaichi Global Citizens' Forum on the Environment, reporting on and discussing environmental issues with the participation of general citizens and ICETT trainees.

The Symposium was held in Yokkaichi City, which is constructing, founded on its precious history, a global network with participants involved in environmental conservation across the world, to discuss the current status and future challenges of environmental activities. The event proved truly significant and important, reconfirming the participants' commitment to protecting and passing on to future generations our precious Home.

(1) Keynote Lectures

Mr. Takatsugu Kondo, Director of Planning Division of the ICETT, serving as Symposium MC, introduced panelists. Then, Mr. Koshin Kura, Executive Director of the ICETT, delivered a keynote lecture, as summarized below:

Mr. Kura first thanked guests and panelists for their attendance, and then mentioned recent international movements concerning global environmental problems, including the United Nations Conference on the Environment and Development and the Third Session of the Conference of the Parties to the Climate Change Convention("COP3")in Kyoto. Pointing out that the current Symposium was highly significant in being the first event concerning the present and future environmental situations in developing countries to be held with the participation of Yokkaichi citizens and environmental specialists working all over the world, Mr. Kura expressed his hope for successful results from the Symposium. He also stated that the event is expected to renew motivation for domestic and international environmental conservation activities, now that one of the ICETT's activities, personnel training, has developed to count 1,639 trainees from 37 countries.

Next, Mr. Hajime Sasaki, Senior Liaison Officer of the United Nations Environment Programme International Environment Technology Center (UNEP-IETC), talked on the theme "How to transfer optimal technology to developing countries," with an example of environmental technology transfer concerning urban environment and fresh water.

* The IETC, one of UNP's organizations, commenced projects in January 1991, mainly concerning environmental technology transfer to developing countries, personnel training and collaboration with its affiliated organizations.

(2)"Global Warming Alleviation Policies of the Energy Industry in Thailand" Lecturer: Dr. Weerawat Chantanakome, Director, Energy and Environment Program, Thailand Environment Institute (TEI)

This lecture concerned the Thailand energy industry's global warming alleviation policies, which are supported by the ICETT; specifically, a carbon dioxide emission control policy plan and the enhancement of energy use, which are still at the proposal stage. The possibility of Thailand's future environmental conservation measures was discussed in terms of what was being promoted, examined

and expected, from the two standpoints of carbon dioxide emission control and energy policies.

* Thailand's energy policy measure guidelines include "Base Case Scenario," "Mitigation Scenario" and "National Scenario" : first, policies are to be implemented to reduce carbon dioxide emissions, followed by carbon dioxide reduction measures to be carried out with regard to both the supply and demand sides of the Thai economy and application of the same policies to various industrial fields.

(3) "Solution to the Problem of Wastewater Treatment at Crumb Rubber Factories in Indonesia"
Lecturer: Mr. Tjia Erwin Tunas, Vice President, GAPKINDO (Rubber Association of Indonesia)

Indonesia has the world's second largest natural rubber output. At Crumb Rubber Factories, raw rubber cutting, cleansing and drying are carried out. This lecture introduced an activated sludge treatment method employed at Crumb Rubber Factories that enables effective wastewater treatment. At the Factories, water in the adjacent river is used for cleansing in the rubber production process. Since some factories do not treat cleansing water, water quality in nearby rivers is bad. Given the huge amount of daily average wastewater discharge of 2,000 - 3,000m^3 per factory, the need for appropriate wastewater treatment was emphasized.

* Under Indonesian law, strict wastewater standards adopted in 1988 require adequate wastewater treatment. At the Factories, costly maintenance and use of chemicals, as well as solid waste remaining after treatment pose serious problems.

(4) "Air Pollution in European Countries"
Lecturer: Mr. Anton Planinsek, Director, Institute of Hydrometeorology, Slovenia

Representing ICETT trainees from Europe, the lecturer reported on the training in air pollution prevention technology in East European countries, and talked about the air pollution situation in the region. Following the collapse of the Soviet Union, former East Europe concentrated on industrial development, mainly in heavy chemical industries, making light of environmental protection. In 1995, despite adoption of the General Environmental Protection Program prepared by respective countries as their National Environmental Action Plan, air pollution by thermal power plants fueled with high-sulfur coal and its negative impact on human health have emerged as serious problems in Poland, the Czech Republic and the eastern part of Germany (the region collectively referred to as the "Black Triangle").

In connection with the lecture "Environmental Trends in Europe and Germany" by Professor Rolf Schmid, who participated in a training program in September, environmental situations in Bulgaria, Macedonia, Rumania and Slovenia were compared, and additional comments were given. In Bulgaria, the air pollutant emission level has become lower than in 1990, thanks to environmental conservation policies; however, urban-type air pollution, that is, air pollution by NOx due to the increased number of automobiles, has spread. In Macedonia, which became independent in 1991, the government and parliament consider environmental issues extensively. In Rumania, an increase in NOx and SOx emissions from factories is a major cause of air pollution. In Slovenia, industrial development has resulted in marked environmental pollution due to sulfur dioxides released from thermal power plants and the like.

(5) "Environmental Conservation Activities by Community Residents"
Lecturer: Mr. Suekazu Yoshiyama, Representative of Yokkaichi City Citzens

The lecturer reported on the environmental conservation activities carried out by community residents to protect the Chishaku Canal, which flows in the Sakura District in Yokkaichi City.

The Chishaku Canal is an irrigation canal drawn from spring water in Komono-cho (town), Mie-gun (county) and flowing from a spring called Kani-ike. Stretching 1,784 m in total length, it is a clear stream whose water is among the 100 best streams, selected by the Environment Agency. The lecturer stated that the Canal's water quality is maintained through environmental conservation activities by community residents, such as periodic cleanup, and emphasized that environmental consciousness on the part of every single citizen is essential.

(6) Discussions

Following the lectures, a question-and-answer session was provided, for questions and comments from the audience, and discussions were held on themes proposed by participants (carbon dioxide emission reduction and the global environment: environmental situations in European countries; environmental conservation activities by community residents).

Conclusion

Advance careful preparations enabled the participation of many, including general citizens, overseas guests and ICETT trainees, in the Forum. The need for international cooperation was confirmed, and valuable contributions were made to community-level exchange and awareness-raising activities. It is hoped that active participation in similar events in the future will lead to further international cooperation through various joint and collaborative projects with Yokkaichi City.

OTO-BAPPENAS-JIF Training Course : Training Course on Environmental Management in Indonesia

Within its work programme, ICETT, which launched a comprehensive project on *FY 1997's Training Course on Environmental Management in Indonesia*, was to enhance a practical level of human resource development (HRD) in Indonesia in the field of environmental conservation and management. The overall objectives of the project are to:

(1) provide a practical session and workshop for administrative officials in Indonesia, in order to stimulate the practical capability of government/governmental agencies; and

(2) assist in preparing administrative arrangements for action plan guidelines, which would enable governmental officials to formulate a coherent and coordinated action plan for the improvement of the environment in Indonesia.

Recognizing the importance of HRD in Indonesia, ICETT was requested by the Overseas Training Office, National Planning Board (OTO-BAPPENAS) of the Government of Indonesia, through the Japan-Indonesia Science and Technology Forum (JIF), to implement the training courses on environmental conservation for Indonesian government officials in FY1991. Since then, ICETT has implemented four training courses in FY1992, FY1993 and FY1994, targeted for Indonesian government officials, academic staff, medical doctors and engineering experts. In FY1997, ICETT implemented the *Training Course on Environmental Management in Indonesia* for governmental officials from central and local governments. This course was financially assisted by JIF under the guidance of OTO-BAPPENAS.

The aim of this training course was to enhance HRD in the field of environmental management in Indonesia, with the overall purpose of improving the quality of the environment. The course was designed to stimulate the practical capabilities of government officials, with emphasis on environmental management in Indonesia.

To achieve the above-mentioned objectives and motivate the participants, ICETT provided a forum, workshop, tutorial, lectures, discussion and site-visits with research fellows, academic staff and government officials from various Japanese or international environmental institutions.

Furthermore, the methodological workshop for action plan guidelines was highlighted. In carrying out the action plan, participants methodologically completed action plans of (1) four Working Groups and (2) each participant. To help all participants make use of the results of their study at their workplaces, further technical advice and action plans are needed building on what participants have learned in the *Training Course on Environmental Management in Indonesia* at ICETT.

Forum

In Commemoration of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change

The International Environmental Information Exchange Forum in Mie Prefecture ("MIE Forum")

Date: December 6 (Saturday), 1997
Place: Hall No.3, Yokkaichi-shi Bunka Kaikan (Civic Center)
No. of participants: 120

Introduction

Mie Prefecture, in cooperation with ICETT, organized the International Environmental Information Exchange Forum in Mie Prefecture and invited guests from abroad, to introduce activities by ICETT and exchange opinions on relevant subjects, in an effort to support the Third Conference of the Parties to the United Nations Framework Convention on Climate Change held in Kyoto in December 1997.

Presentation 1: Japan's Technical Cooperation in Environmental Protection and the Activities of ICETT as Its Execution Organ
Mr. Koshin Kura, Executive Director, ICETT

In response to the energy consumption increase in Japan's civil sector, proposals were presented for energy conservation. Domestic and international activities by ICETT, including training and technological development, were introduced.

Presentation 2: Indonesian Policy and Strategy on Climate Change
Dr. RTM. Sutamihardja, Special Assistant Minister for Global Environment, The Office of the State Minister for Environment, Indonesia

The possible effects of global warming in Indonesia were discussed, including the disappearance of islands, damage to agriculture and forestry and decreased tourism revenues. The need for long-term evaluation of climatic monitoring results and nationwide information and opinion exchange was mentioned.

Presentation 3: Energy and Environmental Technology: Thailand's Experience in the Environmental Research and Training Center (ERTC)
Dr. Monthip S. Tabucanon, Director, ERTC, Thailand

The importation of electricity from neighboring countries, necessitated by Thailand's rapid industrial development and the management of electric power demand, were explained. The enactment of the energy conservation law, environmental awareness education in elementary and secondary schools and activities at the ERTC were introduced, as were efforts at constructing international networks.

Presentation 4: Demand-Side Management in Southeast Asia: Current Status and Lessons Learned
Dr. Peter T. du Pont, Managing Director, Asia Office, The International Institute for Energy Conservation (IIEC), USA

Activities by IIEC, including development support, were introduced, together with some successful cases in Thailand. The effectiveness of energy conservation measures was indicated with numerical indices; also addressed was the importance of policy making, implementation and evaluation, and information exchange among related parties in Southeast Asian countries.

Presentation 5: USA's Technical Cooperation Efforts on Climate Change in the Asian Pacific Region
Dr. Ata Qureshi, Vice President and Director, Global Environmental Programs, The Climate Institute, USA

Past activities by The Climate Institute, and Japan's achievements, were introduced. Measures responding to energy consumption increase caused by Asia's population increase were presented. The need for cooperation by both the governmental and private sectors, and budget increase for dealing with climatic changes, was emphasized.

Conclusion

At the Forum, active efforts by various organizations and the current status in respective countries were introduced, along with future prospects and measures in response to various problems. Opinions were exchanged on major issues. Consensus was established on the need to promote development of innovative energy conservation technologies, energy-saving and recycling activities by the general pubic and technological transfer to developing countries. The Forum was concluded with expectations for further efforts in environmental preservation and recyclable energy development by all individuals and organizations toward the goal of alleviating climatic change.

Cultural Exchange with Yokkaichi Citizens

On December 7, 1997, as part of ICETT's public awareness and cultural exchange activities, ICETT held a cultural exchange event with the Yokkaichi-Sakura local community and participants from the Japan International Cooperation Agency (JICA) in the People's Republic of China.

The Chinese visitors, in cooperation with the Sakura Food and Lifestyle Improvement Group (*Sakura Shoku Seikatsu Kaizen Suishin Iinkai*) of the Yokkaichi-Sakura local community, cooked Chinese steamed dumplings (*Sui Gyoza*) at the Sakura Citizen Center (*Sakura-Shimin-Center*). Participants and Yokkaichi citizens enjoyed cooking and eating the dumplings.

(1) Unlike Japanese men, Chinese men help their wives cook dumplings.
(2) All family members gather to chat and eat dumplings.
(3) Dumplings must be eaten before they get cold.
(4) Dumplings are seasoned amply with garlic and ginger.

The participants had the opportunity to talk to Japanese people while cooking and eating the dumplings, while Yokkaichi citizens had the chance to eat Chinese dumpling, as part of ICETT's cultural exchange events.

Recipe (4 persons)

Minced pork	200g
Dried shrimp	15g
Chinese cabbage	120g
Leek	5 pieces
Strong flour	100g
Weak flour	100g
Spring onion, salt, garlic and ginger	

Request for Submissions to the Readers' Column

ICETT is publishing this newsletter in an effort to establish a network of ICETT alumni. This issue has been compiled from information gathered by ICETT. We invite readers to contribute information, requests, opinions regarding the ICETT training programs in which they have participated, and suggestions for this newsletter. (Submissions within 1,200 words.) Those whose opinions are selected for publication in the newsletter will receive a small token of our appreciation.

(As we would like to stay in touch with our alumni, please keep us informed of any change of address.)

ICETT

INTERNATIONAL CENTER FOR ENVIRONMENTAL TECHNOLOGY TRANSFER
3690-1, Sakura-cho, Yokkaichi, Mie, 512-1211, Japan Tel: +81(593)29-3500 Fax: +81(593)29-8115
E-mail address: info@icett.or.jp Web site address: http://www.icett.or.jp
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