



NEWSLETTER

No.19

This Newsletter is published four times a year, printed on recycled paper.

January 1997

THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS

A Happy New Year, Dear Waste Management Experts!

1997 is expected to be the beginning of a new era of waste management in Japan. This coming April, the newly enacted Packaging Waste Recycling Law will be put into effect. PET bottles and glass bins are going to be separately collected by the municipalities and put into recycling by industries. Control of dioxins is also facing new age. Japan's Dioxins Prevention Guideline is now under amendment. Moreover, restrengthening of the environmental protection regulation regarding waste management is getting to be another hot issue.

This first NEWSLETTER in 1997 starts with the review of the two important conferences held in the last fall, ISWA Yokohama Congress and JSWME's annual conference in Fukuoka. As the two articles stipulate, it is recognized that Japan and other Asian countries should play a more important role in the solution of waste management problems. We hope our NEWSLETTER does contribute to that purpose, too.

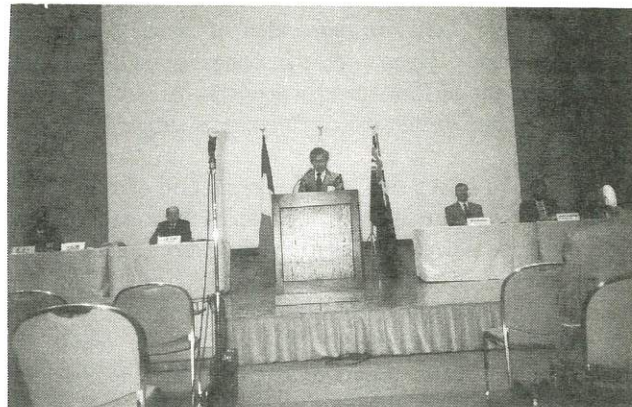
(by Hiroki Hashizume)

Fruitful ISWA Yokohama Congress Closed

—Masaru Tanaka, Vice-chairman, Host Committee,
for 7th ISWA International Congress—

Three years ago, after it was decided that an International Congress of ISWA would be held in Japan, a Host Committee and Promotion Committee for that congress were set up, and preparations for the congress were carried out for many years under the leadership of Dr. Sachiho Naito, chairman of the Host Committee. The Yokohama Congress was the first-ever ISWA International Congress held in Asia. Valuable academic presentations concerning waste management, which is a global issue now, were given by participants from many countries and eagerly discussed during the congress. This congress, which was the 7th in the past series of ISWA International Congresses, lasted 5 days including a special day for technical tours, from Oct. 28, 1996. It was quite a fruitful conference featuring high-level discussions. The Host Committee is very glad that it was rewarded for its long preparations.

A total of 1,292 individuals from 59 countries and areas attended this congress. The attendance – 262 from



Summary Report by Dr. Tanaka at the Closing Ceremony of the ISWA Congress in Yokohama

abroad, in particular 53 from 18 Asian countries excluding Japan – was the largest in the whole series of ISWA International Congresses and is a milestone in the history of ISWA. The total number of presented treatises including 100 at the poster session was as large as 173.

The Yokohama Congress has four major features. Firstly it was held in Asia, and many scientific presentations on waste management problems in Asia and solutions to these were given by researchers in Asian countries and discussed. A total of 116 presentations were given by Asian researchers – 96 by Japanese researchers and 20 by those in other Asian countries. All these presentations were quite meaningful since these information was from Asian sources. Secondly, many presentations and discussions at the congress were concerned with plans and measures for the "control of waste generation" and the "promotion of recycling". This indicates that global-scale waste management is a common need throughout the world. Thirdly, many presentations concerning waste treatment/disposal were particularly about both the latest technical developments and these propagation techniques – that were given by the Japanese representatives, and related topics were also presented. Thus the congress was a good opportunity to make the current conditions in Japan known to the world.

Lastly, the presentations were also given on techniques for reducing the environmental loads originating in recycling or treatment/disposal to almost zero. As for incineration, various matters associated with dioxins and other pollutants were discussed while special attention

was directed to measures against a leachate as a significant subject related to landfilling.

The subjects covered at individual sessions are outlined below. At the General Assembly, much interest was drawn to presentations regarding ISWA's future activities, the present waste management and tasks, the environmental education and typical economic waste generation control measures such as the introduction of a landfill tax. What are demanded of Asian countries – which includes Japan – is the contribution toward the future growth of ISWA and where the focus of attention was during the discussion of the general subjects.

As indicated in Agenda 21, the "reduction of waste" and the recovery and recycling" is an absolutely essential part of the global-scale solidarity for waste management. Reports on efforts for and problems related to the recovery of substances and the recovery of energy were made at these sessions. On the other hand, the construction and improvement of the incineration facilities and landfill sites are required for the proper management of those waste substances needing disposal. The results of many latest research and development activities were reported at the "New Development in Waste Treatment and Disposal" Sessions. Some chemical recycling techniques for plastics and certain melting techniques for the incineration of residue were specially noted as renovating techniques. Construction of a particular facility is impracticable without the understanding and cooperation by local residents. Therefore, it is mandatory to reduce the environmental loads and carry out economical and efficient clean-up activities in such a way as to attain the optimum balance between the risk and the cost. Many people are associated with waste management in various way. Fundamentally, the discharger of waste is responsible for treatment/disposal of the waste he discharges (Polluter Pays Principle). At the "Policy, Planning and Strategy" Sessions, however, attention was directed to the question of who is to bear the cost and to what extent he should bear it. In future, the business enterprises, consumers and administrative authorities should join hands to meet their common need and proper waste management. Participants from many foreign countries were interested in the high-temperature melting technique and environmental load reduction techniques developed in Japan, an extensively employed semi-aerobic landfilling technique and the Johkasou Systems discussed during the "Johkasou System" Session.

A working group which was to deal with the waste management problems in developing countries was formed within ISWA. This was a very significant step to opening up the prospect of additional support for the ISWA from such countries. New thoughts and new ideas about the cooperation with developing countries which were brought forward, and they all cast light on the ISWA's role. Japan International Cooperation Agency's

cooperation was helpful in inducing many environmental engineers of developing countries to participate in the activity, and this provided a good opportunity to give support in the discussion of the related subjects.

ISWA's "Working Group Report" included a report by one selected member of each working group, and consequently, many tasks were proposed. Working group activities were carried on primarily by the Americans and Europeans, but it was keenly realized that the Asian countries, which account for 50% of the total world population, should strive to acquire a larger share of the activities. Asian countries are making a fast advance at present, and accordingly, the quantity of waste is rapidly increasing in those countries. A wide variety of waste is discharge due to enhanced industrial activities. More information should be issued from Japan and from other parts of Asia. Every participant in the congress should think seriously about the demanded commitment in waste management in the present-day world and about the practical contributions.

Being committed in waste management, each of us earnestly hopes that ISWA will make continued efforts to overcome the difficulties blocking us today by working together with all the countries of the world and will contribute thereby to world peace.

Symposium on the Partnership among Asian Countries

The Seventh Annual conference of the Japan Society of Waste Management Experts was held in Fukuoka City for 3 days from Oct. 7 to Oct. 9, 1996. The total number of participants at this conference was 1,402, which exceeded the research presentation meeting in 1995 by 131 participants, which had been the largest attendance ever in the whole sequence of the society's annual conferences. A total of 306 presentations were given at the conference in 1996, and that number exceeded the previous all time high of 253 at the fourth conference.

Dr. Kap-Soo Doh and other leading members of the Korea Solid Waste Engineering Society, with which a cooperation agreement was concluded by the Japan Society of Waste Management Experts in May, 1996, who was invited to the presentation session at the Fukuoka conference. The presidents, vice-presidents and directors concerned with these two societies assembled at the conference and exchanged their views about future exchange programs between the two societies. It was agreed between the two sides that further discussions would be conducted on the exchange of publications, introduction of an English-language session into the joint research presentation meeting of the two societies and publication of an English-language organ.

In the afternoon of the final day of the conference, the Symposium on Partnership among Asian Countries toward Responsible Solid Waste Management was held with lecturers from Korea, China and Malaysia participating in it. This symposium was held before a large crowd. Prof. Hanashima, Fukuoka Univ. (ex-president of the society) proposed to hold an international conference on sanitary landfill for Asian countries in Fukuoka around the year 2000, as the first step towards establishing a partnership. This proposal was discussed by the panelists, and the Appeal from Fukuoka presented below was adopted in all the panelists' and coordinators' joint names (WonTak Um, Korea, Dr. Quan Hao, China, Kamariah Mohd. Noor, Malaysia, Dr. Ryota Shinohara, Japan, Dr. Yasushi Matsufuji, Japan and Dr. Kunitoshi Sakurai, Japan). Participation by many Asian countries in the future is expected. Fukuoka University is accessible by contacting Prof. Y. Matsufuji (Tel.: +81-92-863-8238 and FAX.: +81-92-863-8248). (by Kunitoshi Sakurai)

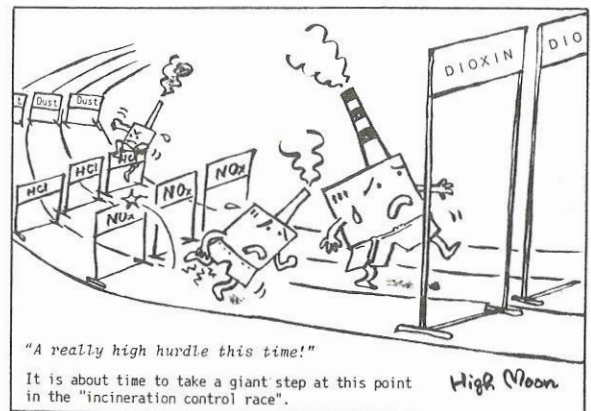


Symposium on the Partnership among Asian Countries

APPEAL FROM FUKUOKA
- TOWARD RESPONSIBLE SOLID WASTE
MANAGEMENT IN ASIA -

1. All people on the Earth should pay due respect to the ideas, creeds, and historical backgrounds of others, deepen mutual understanding by increasing interaction between people in every field, and recognize the seriousness of global environmental problems in order to establish a sustainable society on this planet worthy of passing on to future generations. With this philosophy in mind, we participated as panelists and a coordinator in the Symposium on Partnership among Asian Countries toward Responsible Solid Waste Management held as a part of the 7th Annual Conference of the Japan Society of Waste Management Experts and exchanged opinions on possible international cooperation among Asian countries toward responsible solid waste management in Asia.

2. We unanimously concluded that the growing problems of solid waste management in Asian countries – the products of the rapid economic development in the region – will jeopardize not only the sustainable development of each country in question but also that of the Asian region and the world as a whole, if they are not properly addressed.
3. We also unanimously concluded that isolated efforts to overcome these problems at the national level would not be cost-effective and that these problems can be overcome only if concerted efforts are made at regional and global levels.
4. Through the symposium we confirmed that each country has its own valuable experiences and that it is of vital importance to establish a partnership among Asian countries so that each may learn from each other and share their experience in order to more efficiently and effectively address the ever increasing solid waste management problems.
5. Being convinced of the strategic importance of the establishment of a partnership for responsible solid waste management in Asia, we strongly feel it is necessary to establish a forum where experts on solid waste management in the Asian region can periodically meet to exchange their opinions and experiences. It is therefore our belief that the International Conference on Sanitary Landfill which Fukuoka University has proposed holding in Fukuoka City around the year 2000 and periodically thereafter in locations within Asia would present a very good opportunity to create such a forum. We will make every possible effort to ensure the success of that conference, and would like to ask for the participation of all persons and institutions in the Asian region working with these problems.



by Courtesy of Prof. Hiroshi Takatsuki
(translated by JSWME, taken from Monthly "The Waste", Aug. '96)

Short Term Measures for Dioxins Prevention in Japan

Introduction

A wide spread concern about dioxins was first noted in Japan when dioxins were detected in the fly ash from waste incinerators in 1983. In May, 1984, the Ministry of Health and Welfare specified a limit value of 100pg/kg/day, in respect of 2, 3, 7, 8-TCDD by way of a risk assessment guideline for the dioxins in waste management, which was considered helpful in assessing the dioxin problem in the context of waste management.

In December, 1990, the ministry specified a target value of 0.5ng-TEQ/Nm³, for newly built continuous incinerators exhaust gas. The Dioxins Prevention Guide Line '90 incorporating set of specific technical requirements was worked out, and some preventive measures were taken. In October 1996 the Ministry of Health and Welfare made public the Interim Report in order to revise the Guideline 90 based on the dioxin's Tolerable Daily Intake of 10pg-TEQ/kg/day recently proposed by a specialized research group and along with the latest development of dioxin reduction technologies.

Execution of short term measures

If a waste incinerator which may possibly emit gas causing dioxins intake exceeding the TDI is present in the vicinity, some short term measures for dioxin reduction must be taken. It is estimated with some safety margin that intakes from the air and from the food are 0.18pg-TEQ/kg/day and 5.9pg-TEQ/kg/day respectively. With the hypothesis that the two intakes increase in proportion to the quantity of dioxins from an incinerator, the marginal exhaust gas concentration of dioxins that the total intake does not exceed 10pg-TEQ/kg/day is calculated to be 80ng-TEQ/Nm³. In the case of an incinerator emitting an exhaust gas at a rate above 80ng-TEQ/Nm³, the short term measures needed to include proper combustion control, change-over from the intermittent operation to the continuous operation, modification of the facility and the disuse or discarding of the facility.

Prospect

The recently proposed short term measures for the existing incinerators featured the promotion of the introduction of a large-scale wide-area incineration system, since the dioxin concentration in the exhaust gas from an intermittently operated, small-scale incinerator is higher than that in the gas from a continuously operated incinerator. In April this year, the Packaging Waste Recycling Law will be put in force to push forward the shift from incineration/landfilling to recycling. Accordingly, the present waste incineration system supported by approx. 1,850 incinerators varied in scale, at its turning point now.

(by Hiroki Hashizume)

Journal of the Japan Society of Waste Management Experts Vol.7 No.5 (Sep. '96)

The volume contains the following technical papers.
(written in Japanese with English abstract)

Vol. 7, No. 5 (Sep. '96)

Effects of Raising Temperature in Early Stage of Thermophilic Composting on Composting Stimulation with Various Kinds of Seeds

by Kiyohiko Nakasaki, Minoru Kataoka and Hidekazu Kuratomi

Numerical Simulation of Self-Purification Capacity in a Recirculatory Semi-Aerobic Landfill Layer with Solid Waste

by Takayuki Shimaoka, Mineki Suematsu, Sangchul Park and Masataka Hanashima

Experimental Study on Method to Test Puncture Resistance of Liner Sheets

by Toshiro Oshikata and Masataka Hanashima

Design of Leakage Detection Monitoring Networks for Environmental Risk Management by Electric Potential Distortion Method

by Tohru Furuichi, Toshiro Oshikata, Masaaki Ebihara, Masaru Tanaka and Masataka Hanashima

Lab-scale Chemical Remediation of PCB-contaminated Soil using the BCD Process

by Shin Taniguchi, Akira Miyamura, Akihiro Ebihara, Akihiko Murakami and Masaaki Hosomi

Studies on Proper Promotion of a Sea Area Final Disposal Site Project Based on Economic Feasibility

by Shigemori Takahama, Tohru Furuichi and Hiroshi Habara

NEWSLETTER NO.19

Published by
Prof. Kenji Fujita, President,
The Japan Society of Waste Management Experts
Edited by
Dr. Masaru Tanaka, Chairman,
International Relations Committee

Buzen-ya Bldg. Shiba 5-1-9, Minato-ku Tokyo 108, Japan
Phone (+ 81) 3-3769-5099; Fax. (+ 81) 3-3769-1492
January 1, 1997