



# NEWSLETTER

No.43

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**THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS**

## The Benefits of Actively Involving Citizen Groups

- New Year Greetings -

JSWME President, Hiroshi Takatsuki



Best wishes for a happy new year.

This year, our society (The Japan Society of Waste Management Experts) expects to enhance local activities through several local branches that were set up last year. I especially hope that we will be able to further develop cooperation with citizen groups. Our society has a unique system that promotes

ordinary citizen's participation by discounting the regular membership fee. This reflects our society's policy that community understanding is vital in solving waste problems.

Needless to say, an active partnership among citizens, administration and enterprises is essential in dealing with environmental problems. In order to establish an effective partnership, it is necessary to build mutual confidence through the free exchange of information. From this viewpoint I hope that each sector will take full advantage of our society's potential for such useful information exchange.

If an ordinary citizen becomes a member of our society, he or she can obtain up-to-date information concerning waste management from around the world and have further opportunity to network with experts in this field. On the other hand, members who are researchers will benefit by being able to encounter specific local problems through exchanging information with citizen activists, thereby obtaining insights that cannot be gained through virtual information on the Internet, etc.

Such exchange will be facilitated by our society's research group concerned with citizen/consumer's activities, and our unique magazine for ordinary citizens, called "C&G".

I sincerely believe that it will be to everyone's advantage to make strong efforts to recruit as many new citizen members to our society as possible.

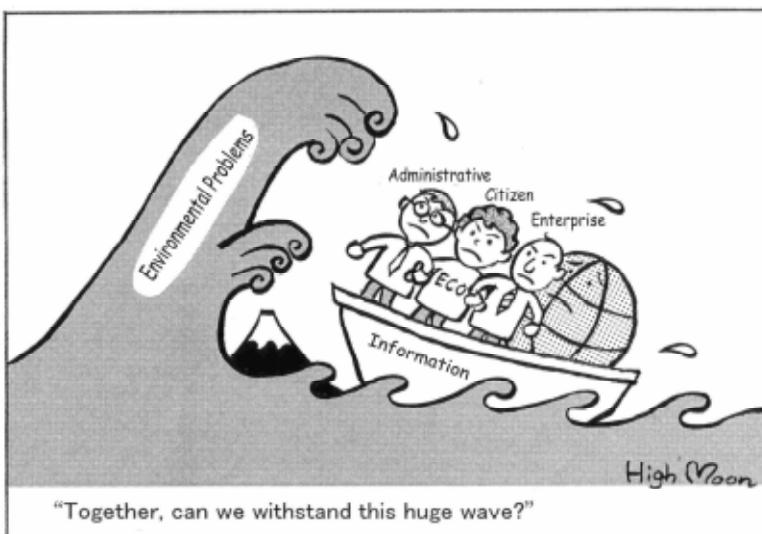
## JICA Group Training by JESC

-Thirty-three Years Success in the Field of the Solid Waste Management-

The Japan Environmental Sanitation Center (JESC) was established as a corporation of public utilities authorized by the Ministry of Environment and Ministry of Health in 1954. JESC conducts several supplementary works of the national and local government such as the provision of technical guidance and training to engineers for enlightenment popularization and environmental preservation. Supporting works for the training of participants from developing countries conducted by JICA (Japan International Cooperation Agency) is one of the activities.

JICA executes training, the dispatch of the experts, the procurement of equipment under the grant aid scheme etc., for developing countries in a variety of fields such as agriculture, civil works, medicine and the environment. JESC supports JICA in the training program and dispatch of the experts. As of today, we have seven training courses annually.

The group training course for solid waste was established as the "Solid Waste Management Course" in 1969. The following year, JESC became involved in the administration of this course by request of the Ministry of Health, and has been concerned with the training program for solid waste management until now.



Comments by High Moon: "Information sharing is essential to establish effective partnership."

Illustrated by Prof. Hiroshi Takatsuki (Taka-tsuki literally means "High Moon".)



Photo: Training in a landfill site

The course, now known as the “Integrated Solid Waste Management Course,” has aimed to improve the capacity of the staffs engaging in the planning of solid waste management in the central and/or local governments. The policies, management plan, institutions, methodology of the treatment, recycling technology, hazardous waste treatment technology, etc. of Japan are introduced in the course. Exercises and group discussions on waste collection improvement and lectures on low cost technology for final disposal are favorite subjects with the trainees.

The accumulated number of course participants is three hundred and fifty one as of the end of 2002. Trainees have been dispatched from a total of 57 countries, 17 from Asia and Central and South America respectively. Others are from the Middle East, Africa, Oceania and East Europe.

This course has a thirty-three year history and is the first technical assistance course in the field of solid waste management implemented by the Japanese Government. In recent years, the similar training courses have been held in Tokyo, Nagoya, Osaka, Hiroshima, Kita Kyusyu and Okinawa absorbing the local characteristics. There have been 10 courses held by JICA alone in 2002, so that the opportunity for applicants to participate has increased.



Photo: Training at a wastewater treatment plant

JESC has accepted two additional courses, one is the “Solid Waste Management Course” intended for Central American

countries and the other is the “Politics on Solid Waste Management Course” for East European’s. In most of the courses conducted by JICA, the trainees are required to be proficient in English. However, the trainees can take the course for Central America in Spanish.

It has been reported that the increasing generation of the waste due to the concentration of population in urban areas, industrialization, etc. has deteriorated the sanitary local infrastructure and caused a health hazard . The trainees that have completed the course organized by JICA are playing an active part in improving living conditions around the world.

(Masumi Furusawa)

**Report of the International Session  
in 13th Annual Research Conference of JSWME**

JSWME held its 13th annual research conference from November 28 to 30 at the International Conference Hall in Kyoto. One thousand three hundred and ninety-six persons in total participated. The overseas participants including 33 from Korea totaled 36 persons. The number of research papers contributed was 427 including 22 papers for the international session. The papers were divided into six sessions based on the subjects. Poster presentations, which introduced 103 papers including 14 papers for the international session, were also made. The oral presentation session was held on the 29th in the morning. The session room was almost full, and thus active and fruitful discussions were made.



Photo: Scenery of the International Session

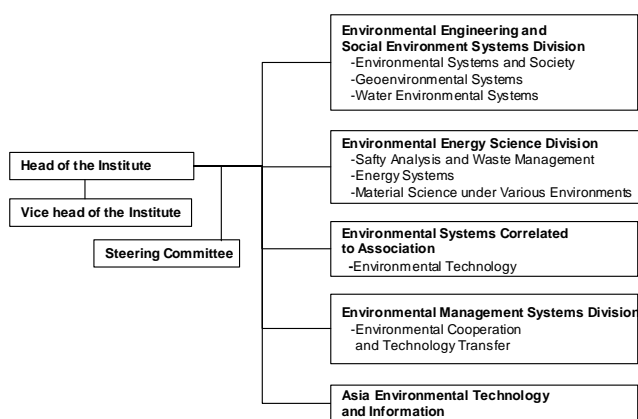
The conference organizing committee arranged three attractive tours to the following sites: 1) A fermentation facility and a Japanese sake museum, 2) A municipal waste incineration facility and Kurama temple and 3) A landfill facility and Daigo temple. Thanks to the autumn leaves, it was one of the best seasons to stay in Kyoto to get a touch of ancient Japanese culture.

The annual conference in 2003 is scheduled to be held from October 22 to 24 in Tsukuba. JSWME hopes to have more participants and looks forward to meeting you there.

(Hironori Ozaki)

## Introduction of Institute of Environmental Systems, Graduate School of Engineering, Kyushu University

Institute of Environmental Systems (IES) was established in 1988 in order to respond the pressing social needs to solve both regional and global environmental problems. It comprised of two research sections, namely the Section of Environmental Systems and Society and the Section of Geoenvironmental Systems, and after ten years, in 1998, it was extensively reorganized to have four research divisions with six new research sections (Water Environment, Safety Analysis and Waste Management, Energy Systems, Material Science under Various Environments, Environmental Systems Correlated to Association, and Environmental Cooperation and Technology Transfer) and a center of Asia environmental technology and information.



Organization of IES

### Purpose of Study at IES

We attempt to deal with today's complex and wide ranged environmental problems with particular attention to the following research fields.

1. Comprehensive system analysis on the relationship between human activity and the environment
2. Realization of a material cycles oriented society and symbiotic social systems for people and the environment
3. Prediction of future environmental situation
4. Development of tools for land and urban planning to harmonize economic development and environmental preservation
5. Development and utilization of the environmentally safe resources and energies
6. Development of technology that contributes to the resolution of environmental problems in the Asian region

### Mission of IES

Execution of interdisciplinary leading research

1. Information outreach as an environmental information

2. center of the Asian region
3. Improvement of the research systems which correspond to international needs
4. Capacity building of young researchers who are dedicated to solving global environmental problems
5. Contribution as a cooperative research base in the Asian region
6. Evaluation and improvement of the environmental technologies



Photo: A Picture of IES

### Studies on Waste Management at IES

Most waste related environmental issues originate from the modern social system of mass-production, mass-consumption and mass-disposal. Long-term sustainability will not be achieved as long as today's social system remains unchanged. Aiming at the realization of a material cycles oriented society, we are working on developing appropriate technologies and systems to be employed in the process of waste generation, recycling, treatment and final disposal. The outline of our current research is as follows.

1. Forecasting of the property of waste and incinerated residue in the future

As a result of the promotion of recycling, the property of collected municipal solid waste and its incinerated residue will greatly change in the future. We aim to forecast it and propose a proper treatment and final disposal system of the future incinerated residue.

2. Reduction of environmental load of incinerated residue

In order to utilize the incinerated residue as construction material, we carry out a research on its material property, long-term leachability under various environmental conditions and methodology to reduce its environmental load. It is reported that about 40% of surface soil in Japan is derived from volcanic ash. If we regard a waste incinerator furnace as an artificial volcano, the incineration residue can be also made into soil by soil formation factors. We focus on the stabilization mechanism of the incineration residue to develop technology by which its environmental load is reduced economically with minimum energy input.

### 3. Advanced landfill method

Geotechnically, the physically separated incineration residue can be used as alternative material for construction. We are exploring an advanced landfill method which promotes the stabilization of the landfill site and allows the efficient utilization of the land after landfill closure. It will be especially useful at landfills on reclaimed land where soil stabilization is slow.

### 4. Application of remote sensing for waste management

For proper and extended landfill management in Japan, China and Korea, this study aims to develop a new monitoring method using remote sensing data obtained by both satellite and ground level remote sensing. We are also trying to apply satellite remote sensing to detect illegal waste dumping sites.

### 5. Evaluation and prediction of resource and energy consumption in Asian mega-cities

In Asian mega-cities such as Beijing and Shanghai, economies continue to shift toward a mass-consumption and mass-disposal system. Such a change is expected to have a major impact on the global environment. In this study, we aim to predict the future situation of resource and energy consumption in the Asian mega-cities, and try to search for a viable pattern of sustainable consumption.

(Takayuki Shimaoka)

**The 2<sup>nd</sup> Asia Pacific Landfill Symposium  
(APLAS Seoul 2002)**

The 2<sup>nd</sup> Asia Pacific Landfill Symposium (APLAS Seoul 2002) was held through September 25-27, 2002 at JW Marriott Hotel and the National Institute of Environmental Research in Seoul with 256 participants from 21 countries. It was organized by the Korea Society of Waste Management (KSWM) in response to the "appeal" from Fukuoka where the APLAS was held in October 2000.

APLAS is now getting attention as a session for experts and researchers to present their findings and for discussion about appropriate landfill management to prevent environmental pollution. A deep interest in waste disposal was exemplified by the 127 reports presented, which far exceeded the previous gathering, and the increase in the number of entrants and participating countries.

In the opening ceremony, Prof. Lee, Jung Jun, chairman of KSWM, greeted the attendants, after which Dr. Kim, Myung Ja, Minister of Environment, accentuated the importance of efforts to tackle the waste problems in the developing Asia Pacific zone in her complementary speech. Dr. Masataka Hanashima, who is an emeritus professor of the Fukuoka University and the previous president of JSWME, gave an invited lecture on the history of research on landfills in Japan as well as the findings as of today and new landfill technology. This was followed by lectures from speakers invited from both home and abroad.



Photo: Opening Ceremony of the APLAS

Extensively researched papers in various fields relevant to waste disposal, such as landfill policy, planning and management, leachate treatment, special waste and landfill closure and utilization, were presented in the general session on the first day, and in the theme and poster sessions on the second and third days. These presentations focused on the latest technology and problems. Thirty-two enterprises and institutes made presentations in the international exhibition for waste management and recycling held in parallel. After the closing ceremony on the last day, participants who wanted to join a facility tour visited the Sudokwon landfill site, which is one of the largest in the world, and the closed Nanji-do landfill site which is changing into eco-friendly park, and they were deeply impressed by the highly efficient landfill management in Korea.

APLAS is held once every two years. The next will be held in the city of Kita Kyusyu, Japan in 2004. JSWME will be one of the organizers along with the municipality of Kita Kyusyu. We look forward to seeing you at the next APLAS.

(Hideo Azuma and Masayoshi Nakanishi)

**- International Symposium Information -**

- 1) June 23-24, 2003: International Workshop on Odor Measurement (Beppu, Japan), <http://www.orea.or.jp>
- 2) October 2-3, 2003: Ninth International Waste Management and Landfill Symposium (Sardinia, Italy) <http://sardiniasymposium.it>

**Journal of the Japan Society of  
Waste Management Experts, Vol.13, No.6  
(November 2002)**

The latest issues of the Journal of JSWME contain the following articles. They are written in Japanese with the

abstract in English.

## **Waste Management Research**

### **Preface**

#### ***A Scope of Waste 'ology'***

Kazuo Yamamoto

**Special Issues: Approach to the Theory of Waste Management Planning – Activity of Research and Development Committee (Waste Management Planning Group) -**

#### ***Fifteen Years History of Committee on Waste Management Planning and Future Plan for Waste Management***

Kiyoshi Seo

Keynote Report

#### ***Systematizing of Waste Management***

Toru Furuichi

Reports of Research Groups

#### ***Policy of Waste Reduction and Resource Recovery through Waste Management Planning***

Osamu Hashimoto

#### ***Evaluation of Waste Management Planning***

Naoto Usui

#### ***Public Information and Environmental Education/Study***

Masahiro Ido

#### ***Waste Management Plan as an Exemplary Project to be Conducted by Local Governments***

Mitsuyoshi Nishikawa

#### ***Solid Waste Management Planning and Public Participation***

Osamu Yamamoto and Takashi Nishitani

**Report**

#### ***Abstract of Scientific Research Project 2001 Subsidized by JSWME***

Research and Development Committee

## **Journal of the Japan Society of Waste Management Experts**

**Review Paper**

#### ***Current Status and Future Prospects of Leaching Tests for Hydrophobic Organic Pollutants***

Yong-Jin Kim and Masahiro Osako

**Papers**

#### ***Examination of the Low Environmental Load Wide Area Waste Treatment System***

Kazuko Nakano, Hiroyuki Miura, Yasuhiko Wada and Masanao Taniguchi

#### ***Effect of the Main Composition of Solid Waste Incineration Ash on Melting Characteristics and Qualities of Melted Slag***

Atsuhiko Yoshino, Kiyoshi Momonoi and Toshiya Komatsu

#### ***Risk Evaluation of Poly Aromatic Hydrocarbons and MCF7 Cell Growth Activity at a Landfill Site***

Yoshiro Ono, Saeko Kanoh, Katashi Kenmotsu and Hideo Okamura

#### ***Studies on the Improvement of an Electric Garbage Processor – Base Materials for an Electric Garbage Processor which Facilitates a Microbiological Degradation -***

Minoru Takemoto, Yoshiko Tsukamoto and Shunrokuro Fujiwara

#### ***Recovery of Vanadium and Nickel from Heavy Oil Ash***

Naganori Rokukawa

#### ***Filtration of Activated Sludge Using a Rotary Membrane Separator with a Micro Strainer***

Takao Fujii, Akiyoshi Sakoda and Motoyuki Suzuki

#### ***A Study of Economic Instruments Promoting Re-use of Collected Recyclable Materials***

Hazuki Ishida and Keisaku Higashida

#### ***Emission Characteristics of Ammonia and Methyl Mercaptan in the High-temperature Microbial Decomposition Treatment Process of Organic Wastes***

Masahiro Osako

#### ***Factors Influencing Illegal Dumping in Communities with Variable Rate Programs***

Hajime Yamakawa, Kazuhiro Ueta and Yutaka Terashima

Current Members of JSWME	As of 27 December 2002 (Values in parenthesis are differences from 30 September 2002)
Regular Members	3,679 (71)
Students	293 (29)
Non-Japanese Member	76 (7)
Public Institutions	115 (1)
Total	4,163 (108)

### **NEWS LETTER NO.43**

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