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NEWSLETTER

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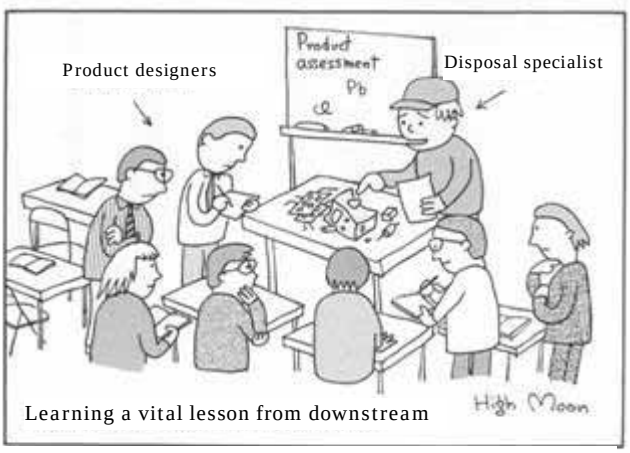
THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS

New Year Greeting from JSWME President, Professor Hiroshi Takatsuki:

Expectation for Product Assessment

Season's Greetings to all the readers of the JSWME Newsletter. I hope you all have an enjoyable festive season.

The flow of products is from the producers to the consumers who use and discard goods, and ends with collection and final disposal by the municipality. Among these three parties, the producers play a decisive role in terms of waste management. They can no longer be negligent of their products even after discarded. Such increasing producers' responsibility is well represented by several facts: the society is getting interested in corporate ethics through the experience of BSE problems and the concealment of troubles at nuclear power plants; many private firms have introduced EMS (environmental management system) and started to produce environmentally-friendly goods and recycle wastes in order to respond to the requirements in the international trade market; and the establishment of several recycling laws require the producers to produce goods that can be easily recycled.



Note: Planning for ease of eventual disposal is vital in avoiding environmental impact downstream.
Illustrated by Prof. Hiroshi Takatsuki (Taka-tsuki literally means "High Moon".)

Under such circumstances, I would expect the producers to execute product assessment. The concept of product assessment is to produce goods of little environmental impact by predicting the environmental impact possibly posed by the goods throughout their life cycles. In practice, it is becoming a general approach to use recyclable materials and simplify the product structure so that it can be easily dismantled. The product assessment that I consider here, however, has a broader strategy including producing goods of longer lifetime, preventing the use of toxic substances as much as possible, and shifting the business style from selling to leasing or lending whereby the goods return to the producers without becoming waste. In this light, product assessment will be the real solution to the waste issue in a sustainable society.

In reality, product assessment cannot be realized only by the voluntary attempt of the producers. It is also necessary for the consumers to show preference to the goods developed through product assessment and for the government to establish an institutional and social system that encourages product assessment.

(Hiroshi Takatsuki)

Recycling System of Personal Computers Used by Households

The number of personal computers (PCs) used by households was estimated at more than 24 million in 2001 in Japan, indicating that more than half of all households have a PC. It is also presumed that the amount of used PCs discharged from households is about 9,000 tons a year, and it will exceed 20,000 tons in 2006.

Used personal computers discharged from offices have been voluntarily collected and recycled by manufacturers since 2001 based on the law for promotion of the effective utilization of resources. On the other hand, the recycling of used PCs from households needed the establishment of a cost-efficient collection and recycling mechanism that could sufficiently attain the cooperation of the general public. After intensive discussions on this matter, PCs from households were finally designated as

"products that should be voluntarily collected and recycled by manufacturers" in the above-mentioned law. The system started in October 2003.

The cost of collection and recycling is included in the sale price of PCs that are sold since then, and any additional cost will not be needed when they are discharged. As for the PCs sold before, however, the cost of collection and recycling should be borne by the users on discharging them.

The target recycling rate (rate of parts to be recycled to the total weight of the product) in FY2003 is set for each type of PC: 50% for desk-top PCs, 20% for notebook PCs, and 55% for CRT monitors. The figures are the same with targets set for PCs from offices.

The PC manufacturers that recycle PCs should follow the waste management and public cleansing law, which stipulates that anyone who treats or recycles waste must obtain permission to do so as a business. The PC recycling system, however, allows the manufacturers to recycle PCs without such permission since PCs are categorized as "area-wide recycling products" whose recycling should be encouraged by exempting the manufacturers who recycle them from the strict administrative procedures.

(Kimio Matsumoto)

Japan's ODA on Solid Waste Management

Waste Collection Improvement by Bell Collection with Public Cooperation in Sri Lanka

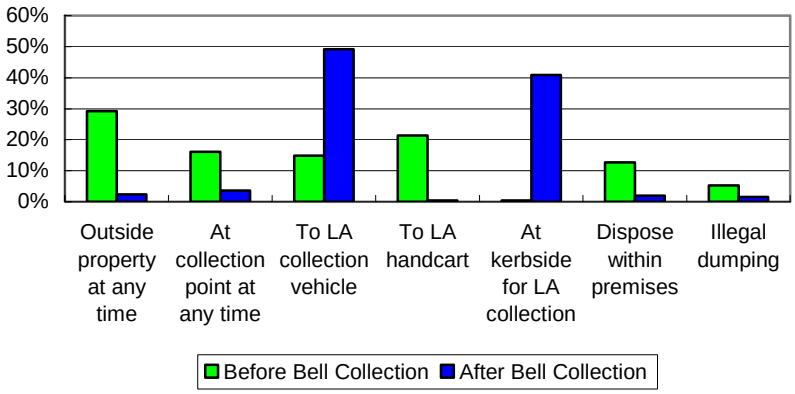
JICA (Japan International Cooperation Agency) executed a study targeting the improvement of waste problems in Sri Lanka from May 2002 until Nov. 2003. During the study, practical and cost affordable improvement measures were implemented as pilot projects in seven selected model towns and the lessons learnt through these experiences were disseminated to other towns by guidelines. This Newsletter reports on the pilot projects targeting the reduction of scattered garbage on roads, which is dominant in many towns in Sri Lanka.

We often attribute garbage scattering to lack of waste collection capacity. If that is the case, the amount of garbage scattered in towns should increase. However, the fact that most scattered garbage in the model towns sometimes disappears implies that lack of waste collection capacity cannot be the main cause. Instead, it was found to be mainly due to lack of a proper waste storage system and the large time gap between the discharging of garbage and the collecting of garbage.

Kandy, Sri Lanka: People are very cooperative if they are clearly informed of what they should do.

However, due to the low level of the average income, people cannot afford to buy disposable garbage bags; in addition, waste containers left on roads are often stolen. Taking the current difficult social conditions into consideration, for the waste discharge system we proposed the bell collection method as a measure to help promote the discharging of garbage at the appropriate time for collection. In this method, waste collection vehicles play music to inform residents they are approaching. When people hear the music, they take their garbage out and give it directly to the collection workers. The system was likely to be applicable because someone is always at home in local towns. As a result of bell collection, which was actively supported by people, the scattered garbage on roads was greatly decreased.

Change of Garbage Discharge Manner



LA: Local Authority

A few weeks after starting bell collection, however, people began using the system in a different way. People started to place their garbage outside on their own, and came out to collect the empty containers after hearing the collection truck pass (i.e. they used the bell to inform them when to collect their containers rather than when to take out their garbage). In other words, people naturally shifted from the bell collection method to the curbside collection method.

As shown in the figure above, the peoples' garbage discharge manners were greatly improved by the introduction of bell collection. Since being introduction, 50% of people have been using the bell collection method and 50% of the people have been using the curb side collection method. The percentage of people who discharge garbage improperly has decreased from 50% to less than 10%.

Although the importance of a discharge and storage system in the management of solid waste is not realized in developed countries due to little scattered garbage, it has been greatly contributing to the current solid waste management. We should keep in mind that the discharge and storage system is just as important as recycling, composting, etc. and it is vital especially in terms of sanitation, which is the primary objective of solid waste management. Its priority is still very high in many developed countries where scattered waste is dominant.

(Akira Doi)

Japanese Municipalities on the Move (17)
New Recycling Facility in Yokosuka City "Aicle" and its Waste Reduction Effect

In response to the complete enforcement of the packaging waste recycling law, Yokosuka city opened a recycling facility nicknamed "Aicle", which has the capacity to handle 220 tons/day, the largest capacity in Japan. Aicle receives such sorts of waste as cans, glass bottles, PET bottles, plastic packaging, cardboard, and paper packaging that should be separately collected for recycling under the law. Aicle also has an information center and craft workshops where citizens can experience, consider and learn about waste recycling.

In parallel to the establishment of Aicle, the city changed its separate collection rules by segregating waste into more categories, and also started to recycle paper waste that is not used as packaging. In order to reduce the burden on the citizens in waste segregation, cans, bottles and PETs can be placed together into a waste bag. Paper waste such as cardboard and paper packaging is mainly collected by community groups.

Change in Waste Composition in Yokosuka City
(thousand tons/year)

Waste Types	FY2000	FY2001	Changes (%)
Combustible waste	142.2	116.6	−18
Non-combustible waste	25.7	6.1	−76
Recyclable waste	2.1	19.6	818
Bulky waste	3.4	2.8	−19
Others	1.7	1.5	−15
Total	175.2	146.6	−16

Waste is fed to Aicle from its second floor and is discharged from the first floor after being sorted into different materials and compressed into a smaller volume. Aicle is the first facility in Japan where an automatic container system is employed for reception, storage and conveying purposes. Cans, bottles and PETs collected by waste collection vehicles are unloaded to and stored in 115 15.2m^3 steel containers which are shelved in Aicle, and conveyed to the separation facility under computer control. The odor problem is not significant because the containers can be completely emptied each time without any portion of waste remaining for a long time. The system also has an advantage in that bottles are less easily broken than in the case of a system using a pit and cranes because the waste drop is shorter.

Since Aicle started to operate, Yokosuka's combustible waste has been reduced by 18%, and non-combustible waste by 76%. Recovered waste, on the other hand, has increased more than 8-fold. The reduction of non-combustible waste is largely attributed to the separate collection of PETs and plastic packaging, which used to be categorized as non-combustible and are now collected as recyclable waste. Paper waste, which was a major item of combustible waste, is now collected as a recyclable, and the proportion of kitchen waste in combustible waste has increased.

(Motoaki Saito)

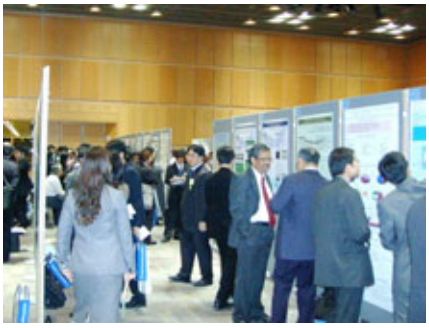
Recycling Facility "Aicle" in Yokosuka City

Report of the International Session in the 14th Annual Research Conference of JSWME

JSWME held its 14th annual research conference from October 22 to 24 at Tsukuba International Congress Center in Tsukuba, in which all the English research works were presented in poster format. The International Relations Committee of JSWME used to mainly organize an all-day English oral presentation session, but the number of research works accepted in the oral session was limited. Poster presentations, as expected, introduced as many as 38 papers, including 25 papers from Korea.

Instead of the oral presentation session, we held a "Japan-Korea Symposium" to discuss the various issues on EPR (extended producer responsibility) found in both countries (see the next article).

The waste types reported on were as follows: the most papers were on household waste (13 papers), followed by papers on hazardous waste, liquid waste and plastic waste (5 papers each), and there were two papers on food waste. In terms of technical classification, intermediate



Poster Presentation

treatment such as incineration and composting was studied in 11 papers, followed by landfill (8 papers) and thermal treatment (6 papers).

The posters were reviewed by the participants and "Emission of Mercury and Other Heavy Metals from Small & Medium Size MSW Incinerators in Korea" by Bu-Shik Moon from University of Seoul won the award. Congratulations!

(Takashi Miyagawa)

Japan-Korea Symposium on EPR

On October 22, the first day of JSWME's 14th Research Conference, JSWME organized a Japan-Korea Symposium, which was the first of its kind for the society. The core issue of the symposium is whether or not EPR (Extended Producer Responsibility) is a trump to solve solid waste management problems, and the current conditions and difficulties regarding EPR in both countries were presented. There were about 80 participants, far more than expected, who actively raised important questions and contributed to the fruitful discussion.

The symposium started with an opening address by Dr. Yokota, chairman of the international committee of JSWME. Mr. Atsuhiko Sano, president of the Community Policy Institute, then presented a key-note speech about the international trend of EPR. This was followed by the presentations of four panelists, Dr. Tanaka Masaru, professor of Okayama University; Dr. Tadashi Otsuka, professor of Waseda University; Dr. Kim Sung-Bong from the Ministry of Environment; and Dr. Lee-Hi-Sun from the Korea Environment Institute, who reported the current situation and problems of EPR in each country.

Japan-Korea Symposium on EPR

The latter half of the program was a Q&A session, where the panelists took questions from the audience. The Japanese audience was most interested in the fund deposit system of Korea. Questions by the foreign audience were mostly about the roles played by the government and the manufacturers in Japan. How to motivate the private sector to fulfill EPR was pointed out as a common problem in both countries.

(Ryoko Sugiyama)

Journal of the Japan Society of Waste Management Experts, Vol.14, No. 6 (November 2003)

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

Urban Mine - From Dream to Design -
Masami Tsunekawa

Special Issues: Examination of the Optimal State of a Recycling System and Technology

The Concept of the Recycle System Technology Research Group and its Activities
Yoshiyuki Yamada

Current Recycling Systems and Technological Trends
Shunsuke Aoyama

Study of the Lease/Rental System Application with regard to a Recycling-based Society
Yasuhiro Arai and Fuminobu Tezuka

Current situation of Plastic Container and Other Waste Recycling
Kazufumi Aoyama

A Study on a Building Method of a Local Recycling System - Analyzing Key Issues through Case Studies in the Context of Environmental Communication -
Koichi Nishimiya

Review of LCA Case Studies on Recycling
Rokuta Inaba

Report

Report of Research Promotion Project '02 Subsidized by JSWME
Research and Development Committee

Journal of the Japan Society of Waste Management Experts

Paper

An Estimation of Required Sampling Weights of Multicomposition Wastes and a Statistical Determination Method of Test Results Considering Variability
Tomohiro Tasaki and Kohei Urano

Influences of PH and Anions on Insolubility of Lead Ion by the Molten Slag
Yukio Fujita, Takayuki Shimaoka and Seizou Kenmoku

Contingent Valuation Approach to The Environmental Benefits from Waste Management
Hiroshi Kanzaki and Yukio Terakado

Spontaneous Hydrogen Production from Wheat Bran
Fumiaki Taguchi and Reiko Yano

Experimental Studies on Leaching and Separation of Incineration Ash in Sea Area Landfill Site
Daisaburo Koga, Takayuki Shimaoka, Kentaro Miyawaki, Yasukazu Todaand Masataka Hanashima

Mass Balance of Heavy Metals at the Facilities for the Treatment of Construction and Demolition Waste Wood
Yoichi Watanabe, Yasundo Kurata, Yusaku Ono and Masaaki Hosomi

GOMIC Part 5 Published

Each country faces different garbage problems, but citizens awareness and understanding will one common necessity in solving them. The GOMIC series is intended to promote citizens awareness concerning garbage problems through cartoon format, some of which have been introduced in this Newsletter. GOMIC is a kind of compound word, combining GOMI, a common Japanese expression for garbage, and COMIC.

The author is Prof. Hiroshi Takatsuki (known by his pen-name, High Moon) the president of JSWME. It can be purchased for 1,000 yen from:

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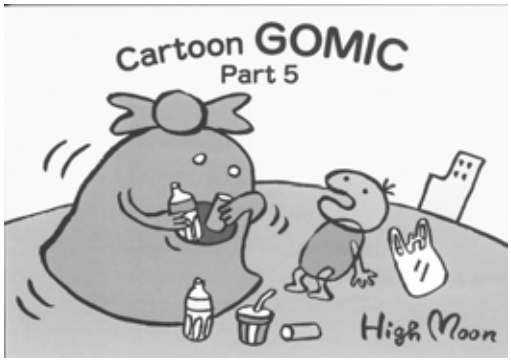

Current Members of JSWME As of 28 November 2003 (Values in parenthesis are differences from 30 September 2003)		
Regular Members	3,655	(18)
Students	307	(6)
Non-Japanese Member	79	(1)
Public Institutions	114	(0)
Supporting Members	192	(-1)
Individuals of NPOs	4	(2)
Total	4,351	(26)

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