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# NEWSLETTER

No.66

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October 2008

**THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS**

## Dear Waste Management Experts

In the midst of the worldwide financial turmoil, we are facing significant uncertainties, such as the large fluctuation in commodity prices. When the economy is good, we tend to grow optimistic and become less organized. As the economic slowdown becomes more apparent, this tends to lead to budget cuts in city governments, and identifying critical operations and sound resource allocation becomes more important. In this era of uncertainty, understanding the present situation becomes exceedingly important.

In this issue of our newsletter, Japan's New Action Plan towards a Global Zero Waste Society is explained, which promotes the establishment of a sound material-cycle society in Asia with prospects for worldwide expansion.

Also, this issue features reports on the Situation of Solid Waste Management in San Paulo, Brazil and the Result of the 4<sup>th</sup> Expert Meeting on Solid Waste Management in Asia and Pacific Islands (SWAPI).

In addition, you will also find activities presented for better solid waste management.

Lastly, mark you calendar for the upcoming 5<sup>th</sup> SWAPI meeting which will be held November 12-13 in Korea, followed by the JSWME annual conference November 19-21.

(Taisuke Watanabe)

## Latest Trends in International 3R Promotion and Japan's Initiatives and Activities

To promote the establishment of a sound material-cycle society worldwide, the Reduce, Reuse, and Recycle ("3R") Initiative was proposed by Japan and was agreed upon at the G8 Sea Island Summit in 2004. Since then, Japan has been taking the lead in disseminating the concept of the "3Rs", helping people understand the need for sound material-cycle society, and sharing 3R-related policies and practices among G8 countries and major

developing countries in Asia through organizing a series of policy dialogues among ministers and senior officials.

At the G8 Environment Ministers Meeting in Kobe, in May 2008, the 3Rs was discussed among ministers as one of the main agenda items and "the Kobe 3R Action Plan"--which provides a list of goals and actions that each of the G8 members can take to promote the 3Rs--was adopted by the G8 Environment Ministers. More specifically, the each G8 country will take, among others, the following actions: 1) Reducing the use of disposable plastic bags and other single-use consumer products, 2) Setting targets as appropriate taking account of resource productivity, 3) Facilitating the import of hazardous wastes from developing countries which do not have environmentally appropriate waste management capacity to G8 and other developed countries, and 4) Supporting capacity development in developing countries and reflect the concept of the 3Rs in development projects in developing countries. This Action Plan was endorsed by the G8 Leaders at the Hokkaido Toyako Summit in July 2008.

In addition, "the New Action Plan for Global Zero Waste Societies" was announced by Japan during the G8 Environment Ministers Meeting in Kobe in May 2008. In this Action Plan, Japan expressed its support for the integrated promotion of environmentally sound waste management and the 3Rs based on country-specific needs, and the prevention of illegal trade in waste. Japan is also taking steps to create a vision for East Asia in order to establish a sound material-cycle society in Asia as a whole through increased dialogue and academic cooperation. Furthermore Japan will strengthen partnerships with the other G8 countries, international organizations and networks to establish such society worldwide. To further accelerate those efforts, Japan will launch the "Asia 3R Promotion Forum" in mid-2009, and thus promote the collaboration among central and local governments, international organizations, academic institutions and the private sector, and the creation of a set of good practices.

(Takeshi Sekiya)

**Technical Assistance Activates in Sao Paulo City,  
Brazil through the Individual Expert Dispatch Scheme  
of JICA**

**1. Background of the Project**

For three years, since 2004, the Osaka City government in Japan implemented a technical cooperation project to establish a suitable Solid Waste Management (SWM) system in Sao Paulo City based on the official request from the city's Public Service Bureau (SES) to Japan through the Government of Brazil.

Afterwards, due to the change of political conditions, JICA decided in December 2006 to review the contents of the noted assistance and carried out a supplemental study on SWM in the city and dispatched two JICA experts on SWM. The expected output of the dispatch of JICA experts was to strengthen the capability—i.e., the “capacity development” (CD)—of SES for solid waste management. Thus, CD was carried out by providing technical advice using On-the-Job Training (OJT) methods through an IEC campaign for 3R. Using this context, the JICA experts prepared the pilot project as follows:

- 1) Understand the importance for preparation and implementation of an Action Plan;
- 2) Engage 3R activities in the pilot areas.

**2. Current Conditions of SWM in Sao Paulo City**

The City of Sao Paulo has a municipal area of 1,523 km<sup>2</sup> with a population of 10.9 million as of 2006, of which the metropolitan area in the city development plan is 900 km<sup>2</sup>. The city has 31 sub-administration areas divided into two zones for solid waste management. SWM of the two zones is carried out by private companies. The City is namely responsible for SWM, but has made concession contracts with two private firms for all of the field work related to SWM. Thus, the City only carries out management and inspection of those firms' activities.

**2.1 Generated Waste Amount and Composition**

The total amount of solid waste generated in the city was about 15,700 tons/day as of July 2006. The composition of the waste was as follows: approximately 12,000 tons (76%) of municipal waste, 3,500 tons (22 %) of construction and demolition waste, 70 tons (0.5 %) of recycle waste, and 100 tons (0.7 %) of medical waste, as shown in Figure 2.1.

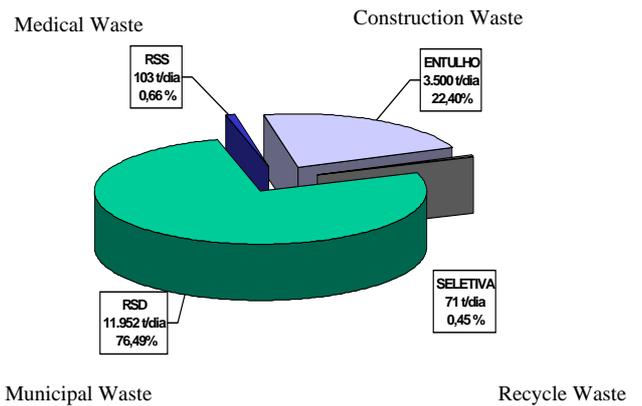


Fig. 2.1: Waste Composition

**2.2 Segregation and Recycling**

There were fifteen recycle centers in the city with around 920 workers for recycling activities. The total amount of recyclable materials was estimated at around 800t/year which was only 0.45% of the total waste generated. Operation and business activities of those centers were conducted by the City in cooperation with NGOs. In addition, some private companies also assisted these activities.



Picture 2.1: Recycling Center



Picture 2.2 Compress Machine

## 2.2 Collection, Transportation and Final Disposal

The collection services were provided by nearly 600 collection vehicles and 9,500 workers through contracted firms utilizing three transfer stations in the city, as shown in the following pictures. The segregation of municipal waste was not promoted well and collected as mixed waste. Thus, the JICA experts identified that many residents did not know enough about 3R activities and identified this as one of the city's critical issues pertaining to SWM.



Picture 2.3: Collection Vehicle



Picture 2.4: Transfer Station

There are three disposal sites for municipal waste, two of which are located in the city area. However, all of the sites have nearly reached full capacity and, therefore, the private firms contracted must identify a new site based on the concession contract. Among them, BANDEIRANDES disposal site is a sanitary landfill in which a power-generation facility was set up to produce electric power using methane gas collected from the landfill. The power generation project in the landfill is a CDM project conducted by a German investor.



Picture 3-5: BANDEIRANDES Final Disposal Site



Picture 3.6: Power Generation Facility

## 3. 3R Activities in Sao Paulo City

As mentioned above, since the City has never implemented any IEC campaigns for 3R activities, the JICA experts planned and implemented those activities during the dispatch which also provided the SES counterparts with good experience and knowledge on 3R. One of the activities conducted by the JICA experts in cooperation with the SES was Environmental Education in Schools in a pilot area where they prepared a training program for school teachers and developed environmental education materials. At the end of the program, 472 teachers (about 77% of the total number of teachers) received the training. Furthermore, the program assisted teachers and students to prepare texts which were then provided to all teachers and students, together with one set of banners to each school in the pilot area.

## 4. Future Activities

The JICA Experts evaluated that SWM in Sao Paulo City has been systematic and well organized by the private

companies contracted. However, they are also having the same trouble identifying a new landfill site, an SWM issue similarly seen in other urban cities as well. As such, waste diversion will be the most important focus of SWM. Therefore, the city will have to turn their attention to 3R activities through IEC campaigns. Fortunately, Osaka City has been working with Sao Paulo as its sister city, and plans to assist in related activities for three more years through the JICA grass roots assistance program scheme. The JICA Experts expect both Osaka and Sao Paulo will continue to cooperate on conducting 3R activities and contribute to the improvement of SWM in Sao Paulo City.

(Takashi Goto)

**The 4<sup>th</sup> Expert Meeting on SWM in Asia and Pacific Islands (SWAPI) held in Yokohama City**

1. Background

The 4<sup>th</sup> Expert Meeting on Solid Waste Management in Asia and Pacific Islands (hosted by an Executive Committee, including JSWME) was held with the aim to form a network of waste management experts in Asia and Pacific region at the JICA Yokohama International Center, 16–18th July 2008. Experts gathered from 12 countries and regions, and there were 110 guests at the open seminar.

At the expert meeting, speakers gave presentations about how waste management experts were organized in each country and region. Various types of organizations are gradually being created based on the situation of each country and region, such as academic societies in Japan and Korea and associations made up of relevant individuals of waste management and their networks.

Also discussed was the formation of SWAPI (Society of Solid Waste Management Experts in Asia & Pacific Islands) and its activities. As a result of the discussion, participants pledged their support to form a network of the associations in each country and region, conduct research activities (on methods to examine waste management data, hazardous waste, utilization of biomass and others), and engage in publication on these matters. This was followed by discussion on the principal strategy concerning activities and establishment of an international advisory committee to manage SWAPI until the organization is fully consolidated. The advisory committee is composed of 8 members with representatives from Japan, Korea and China and so on. Dr. Masaru Tanaka, Professor of Tottori University of Environmental Studies, was elected as the chairman of the advisory committee and the international committee of JSWME was put in charge of the secretariat. Finally,

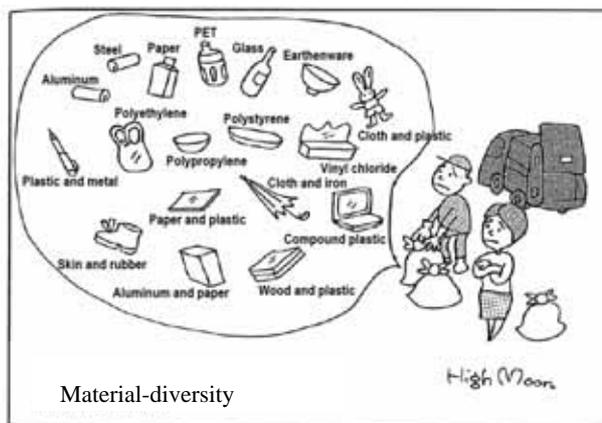
all of these discussions and agreements were officially concluded by the chairman.

The open seminar on the 17<sup>th</sup> covered the themes of *Significant Cooperation among Stakeholders toward Establishing Sound Material-Cycle Society, Roles of Waste Management for Combating Global Warming, and Reliable Data on Solid Waste Management*, followed by country-specific cases and a panel discussion.

The 5th conference will be held on the 12th and 13th of November 2008 in Incheon, Korea and hosted by the Korea Society of Waste Management as they commemorate their 25th anniversary.



(Haruo Matsumura, SWAPI Executive Committee)



Comments by High Moon:

Material-diversity for products gives variety to wastes, which makes processing difficult.

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Vol. 19, No.4 (July, 2008)**

Preface

*The way to Recycling Society*

Akira Koizumi

Special Issues: Food Waste

*Present Situation of Waste Generation from Food:  
Food-waste Related Issues for Japanese Food*

**Industries Revisions to the Food Recycling Law**

Akikuni Ushikubo

**Amendment to the Food Recycling Law and Promotion of "Recycle Loop"**

Eiji Tanimura

**Control of Food Waste Generation**

Koichi Takahashi

**A Case Study of Biogas Power Generation using Methane Fermentation of Food Waste**

Nobuyoshi Asano

**Calendar of Forthcoming Events**

**October**

22-24 APLAS Sapporo 2008 Executive Committee, in Sapporo, Hokkaido, JAPAN. (Details: <http://www.eng.hokudai.ac.jp/labo/aplas/>)

**November**

12-13 The 5th SWAPI meeting, in Korea.

19-21 JSWME 19th Annual Conference, in Kyoto.

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Waste Management Experts  
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Paper

**A Study of the WEEE (Waste of Electrical and Electric Equipment) Recycling and Export in Korea**

Song Woo Chung and Fumikazu Yoshida

**Changes in the Composition of Gases Emitted from a Final Landfill Site Major Components and Non-methan Hydrocarbons (C2-C6)**

Masanao Nagamori, Yusaku Ono, Kiyoshi Kawamura, Masato Yamada, Tomonori Ishigaki and Yoshiro Ono

**High Performance Aerobic Digestion of Organic Sludge using a Pilo-scale Mesh-filtration Bioreactor**

Yuki Kamimoto, Yoshiaki Kiso, Tatsuo Oguchi, Hongying Hu and Takuya Hosotani

**High Efficiency Dry Process Anaerobic Digestion of Organic Fraction of Municipal Solid Waste using Hypertherman lBiological Hydrolysis**

Jun Tsubota, Koji Kuroki, Feng Hong, Juhoon Cheon and Hiroshi Tsuno

**Study on Resource Recovery of Non-combustible/Bulky Waste before and after Electric Appliances Recycling Act**

Boyang Li, Takaya Higuchi, Masao Ukita, Tsuyoshi Imai and Masahiko Sekine

Note

**Bass Model-Predictions on Waste Product Numbers: Case Study on Discarded Color TVs Post-Analog Broadcasting**

Yasunari Matsuno, Hiroyuki Yamada and Yoshihiro Adachi

Current Members of JSWME as of June 30, 2008  
(The figures in parenthesis indicate the difference from August, 2008)

Regular Members	2,915	(18)
Students	263	(8)
Non-Japanese Member	80	(-)
Public Institutions	100	(-)
Supporting Members	134	(-)
Individuals of NPOs	5	(-)
Total	3,497	(26)

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