



# NEWSLETTER

No.75

*This Newsletter is a quarterly e-publication.*

January 2011

**JAPAN SOCIETY OF MATERIAL CYCLE AND WASTE MANAGEMENT**

## Asian economic growth and the Japan Society of Material Cycles and Waste Management



Twenty years has now passed since the inauguration of the Japan Society of Waste Management Experts in 1990. Looking back, this was a time when waste issues such as illegal

dumping were becoming social problems. Meanwhile, the recycling movement was just taking root. For waste-related problems, this was a chaotic period when the 'light' of material-cycles appeared. In Japan, the first specific recycling law, the Containers and Packaging Recycling Law was enacted in 1995; however, debate surrounding it had been growing since this period. At the time, our senior members formed the waste management society out of the need for thorough academic research and information exchanges in this field. After 20 years the societal background has changed vastly, and in December 2008 the society's name changed to the Japan Society of Material Cycles and Waste Management. In line with social trends, it has been reorganized as a general incorporated association and the utmost effort made towards transparency. As such, there have been many changes in our situation in the last 20 years, one of these being internationalization. The Japanese government has strengthened its emphasis on Asia including the establishment of an Asian 3R forum.

Economic growth has been exponential in Asia in the 21<sup>st</sup> century, with the region leading global economic growth. Some are also of the opinion that this economic growth will continue for another 20 years, peaking in the

first half of the 2030s. In the past there were areas where waste disposal was merely the dumping that made mountains of garbage. There are also many areas that have only just begun waste management and material-cycle measures. It will be necessary in the low-carbon society of the future to reduce our reliance on waste management and move towards forming a material-cycle society.

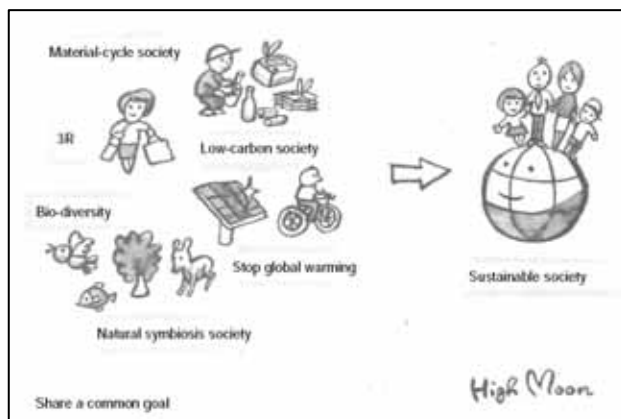
The Japan Society of Material Cycles and Waste Management must also form a solid academic platform in Asia. Our society has been publishing an official English journal, the Journal of Material Cycles and Waste Management, since 1999. Further expanding this publication is one of our goals herein. In June 2010, this journal gained international recognition when it received an official impact factor, which is an index of article citations for evaluating academic journals. It can be considered an indicator for evaluating if a journal has been published continuously and if quality has been maintained. This is an important opportunity to get more submissions internationally, and work must be undertaken to establish a framework for smooth peer review on the internet, as an editing system of higher transparency, to enable the evaluation of each others articles. With this in mind, a major goal in 2011 is to maintain and improve the academic foundation of our society.

When it came to building cooperation with relevant parties, twenty years ago the focus was mainly on waste issues, however, it has now expanded to recycling and material cycles. We must now broaden our scope to material cycles, while maintaining our focus on waste. This fiscal year, the board has been joined by Susumu

Yoshida, Vice-president of Dowa Eco-systems Co., Ltd. which is the recycling division of Dowa Holdings. It is a major player in Asia and has extensive operations in the Asian market. This appointment is a statement of this society's intention to cooperate academically with the material-cycles industry. Of course, we must also make stronger ties within the wider field of material cycles. One way is to strengthen ties with the general public, which we aim to do through a community bulletin published annually.

Lastly, I would like to ask for your continued support in the year 2011.

(Shinichi Sakai)



Author: Integration of ecological activities is needed.

## Public Health and Solid Waste Management

### 1. Introduction

The policies concerning solid waste in Japan first began as improvements made to public health. In 1900, the Public Cleansing Law was established due to widespread cholera and pest infestations. Later, the important role played by waste disposal to combat cholera and typhoid was eventually recognized. However, even though sanitary conditions are still maintained today, recognition of the 1900 law for its contribution as a public health measure has been obscured. Nevertheless, it is important to share Japan's experiences in improving public health with developing countries still mired in poor sanitary conditions. For this article, an attempt was made to give a picture of how Japan's public health policies were developed, and further, to explore how solid waste

management has contributed to improvements in public health.

### 2. The Shift in Public Health Conditions

An attempt was made to estimate the shift in society's view of public health using indicators of conditions over time such as the number of patients suffering from water-borne disease and the rate of infant mortality, in addition to supplementary data on trends in eradicating animals suspected of carrying infectious disease. The results showed that improvements in public health were made as followings.

- (1) There was a rapid decline beginning in 1952 in the number of patients with water-borne diseases which continued until it stabilized at low levels in 1974.
- (2) A look at trends in exterminating rodents, the primary carriers of infectious disease, shows that in the late 1960s the perception of these animals changed from that of infectious-disease carriers to a hindrance on maintaining a pleasant environment.
- (3) The results of a public opinion poll by the Cabinet Office showed that in the first half of 1960, waste disposal was seen less as an important component of the public health policy, but rather, as a public services provided to citizens.
- (4) A review of the literature showed that in the 3 year period of 1966-1969 the focus of waste disposal shifted from being a public health measure to counteracting the increasing amount of waste.

From the points given above, we can see there was a significant advance in Japan's public health policies from the early 1950s to the mid-1960s, and then, after the seriousness of the situation declined in the late-sixties, by 1975 public health was no longer considered an important issue in waste management circles.

### 3. Contributing Factors to Improvements in Sanitary Conditions

Analysis was carried out of the prevalence rate of water-borne disease and its relationship to waste management methods (storage and discharge, collection and transportation, treatment and disposal) in order to

understand the contributions of waste management in improving public health.

The results showed that waste management contributed to improvements in public health by first building momentum in the early-sixties with the removal of household concrete trash containers and establishing regular collection of plastic containers, and then in the second half of the decade, when compacting vehicles became more common. However, once the population of planned collection areas was expanded and sufficient incinerator facilities were in place by around 1975, the role of waste management in public health came to an end. These results are shown in Figure 1, and changes in the rate of water-borne disease and the population of waste collection areas, etc., is shown in Figure 2.

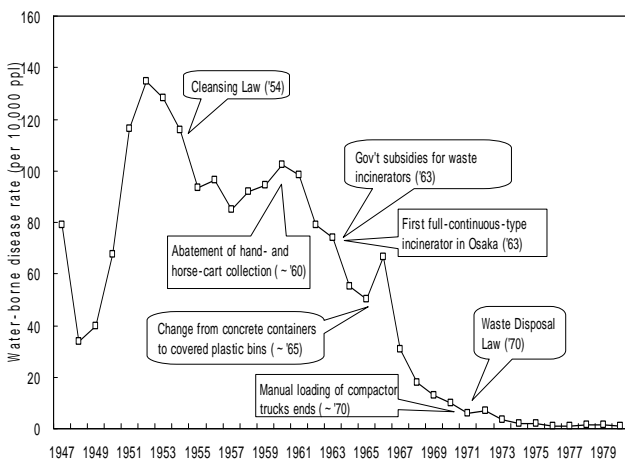


Figure 1: Public Health and Solid Waste Management

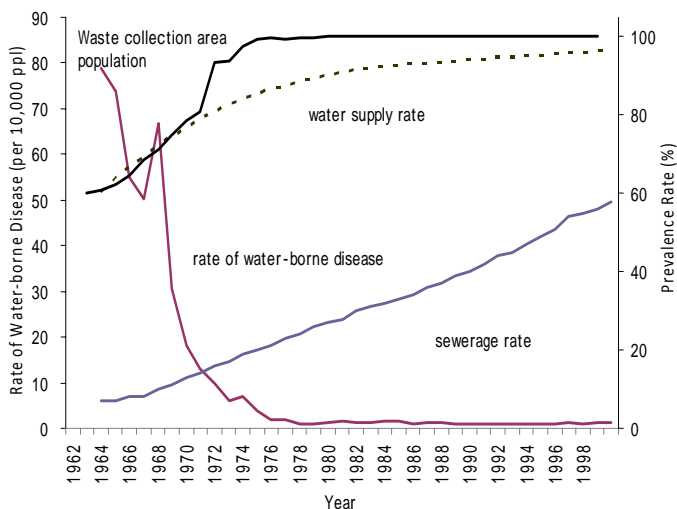


Figure 2: Changes in water-borne disease prevalence and the population of waste collection areas over time  
(Masaaki Osawa)

## The 8<sup>th</sup> Expert Meeting on Solid Waste Management in Asia and Pacific Islands

In the Asia-Pacific region, the remarkable increase in waste has become a serious concern along with resource circulation.

High level and proper waste management is imperative.

An Expert meeting on Solid Waste Management in Asia and the Pacific Islands has been held every year since 2005 for the formation of networks between experts to facilitate proper waste management and 3R in Asia and the Pacific Islands region.

- Date: Feb 21 (Mon) Feb 23 (Wed), 2011
- Venue: Toshi Center Hotel (2-4-1, Hirakawa-cho, Chiyoda-ku Tokyo)
- Organizer: Society of Solid Waste Management Experts in Asia and Pacific Islands: SWAPI
- Supported by: Japan Society of Material Cycles and Waste Management (JSMCWM), Ministry of the Environment, Japan (Promotion Program for Scientific Research about establishing a Sound Material-Cycle society)
- Participants: Experts on Waste Management and recycling in Asia and Pacific Islands
- Program (Tentative):

Expert Meeting, International Advisory Board, Technical Visit,

Open Seminar and Sessions regarding topics of “Waste Statistics”,

“Hazardous waste management”, “Biomass Waste”, “Land Disposal”,

“Waste-to-Energy”, “GHG Reduction and CDM”, and “Appropriate MSW Management Technology” in Asia and Pacific Islands.

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URL: <http://www.jesc.or.jp/en/img/swapi.pdf>

## Analysis of transboundary movement of hazardous wastes in Asia and the Pacific

The amount of transboundary movement of hazardous wastes in Asia tends to be increased year by year due to rapid economic development which needs a huge amount of resources including hazardous wastes. Although the recycling industry in Asia once faced negative impact due to the drastic economic downturn in 2008, most of these industries have now recovered and have been redeveloping their industry. So how has collaboration played a part in allowing Asian countries overcome the impact?

In Asia and the Pacific, the 2008 per capita GDP in Singapore, Brunei Darussalam and Hong Kong topped that of Japan and the Republic of Korea. Additionally, in terms of GDP, China, Cambodia and Vietnam have maintained a rate of growth above 8% in the past few years. Furthermore, China, Cambodia, Indonesia, the Philippines and Vietnam are generally considered to be strongholds for multinational producers. There is much practical evidence that points to their massive demand for resources to sustain their economic development. As a result, Asian countries potentially have the momentum to push their economic development forward.

For sustainable development, all of the Asian countries are aware of the important role secondary resources play, which includes hazardous wastes that may potentially contain recyclable materials. In fact, in the developing countries in Asia mentioned above, most already have recycling facilities which operate in an environmentally sound manner. The basic purpose of those facilities is to proximately treat hazardous and other wastes domestically generated in their countries. This concept is one of the principles of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which states that, "Hazardous wastes and other wastes should, as far as is compatible with environmentally sound and efficient management,

be disposed of in the State where they were generated." Many of those recycling facilities are also capable of treating hazardous wastes imported from other countries under the Basel Convention.

Figure 1 shows the transboundary movement of hazardous wastes in Asia and the Pacific (taken from the export data of the Basel Convention national reporting). Asian countries are actively trading hazardous wastes amongst themselves under the Basel Convention. In order to identify a general picture of the situation, certain trends in transboundary movement of hazardous waste in the region can be summarised as follows. First, the Philippines and Malaysia tend to import metallic hazardous wastes, such as lead-acid batteries, electrical and electronic waste (E-waste), iron, copper, zinc, precious metals, etc. Secondly, Malaysia, the Philippines and Thailand tend to import recyclable hazardous wastes, including blast furnace slag, plastics, fly ash, oil, solvent, office equipment, etc. Finally, difficult-to-treat hazardous wastes, such as mercury waste, PCBs, etc, tend to be exported to Japan and other developed countries outside the region.

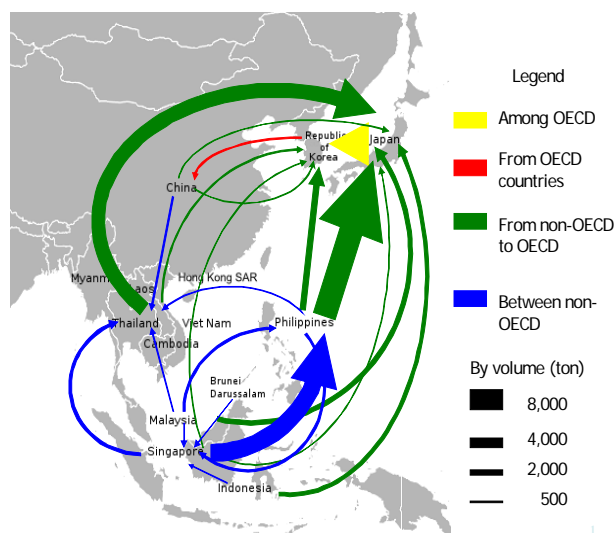


Figure 1: Transboundary movement of hazardous wastes among Asian countries in 2005

In addition to the transboundary movement of hazardous wastes permitted under the Basel Convention, the second-hand electrical and electronic equipment (EEE),

such as TV sets, desktop/laptop PCs, air conditioners, refrigerators, washing machines, etc, is also traded among the Asian countries. Although it is generally pointed out that the transboundary movement of the second-hand EEE is traded from developed to developing countries, such movement is also confirmed among the developing countries in Asia. Furthermore, it is expected that the importing countries of the second-hand EEE re-export those EEE to third countries, because these importing countries import a huge amount of the second-hand EEE despite the fact that they do not have a sufficient second-hand market for all the imported second-hand EEE in their countries. As an example, Figure 2 shows the transboundary movement of second-hand TV sets.

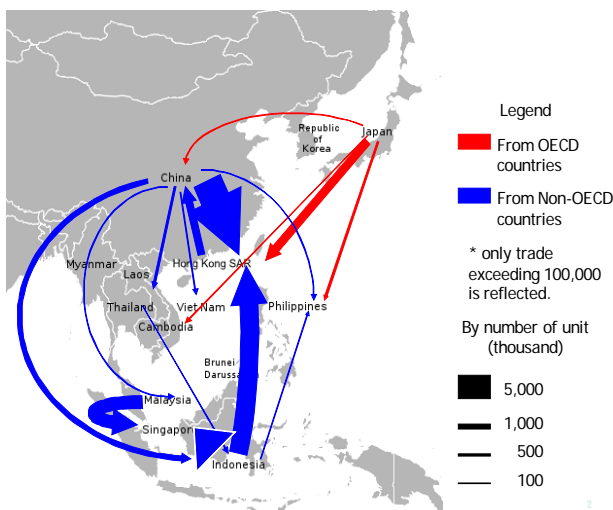


Figure 2: Transboundary movement of used colour TV sets in 2006

Although no practical evidence has been analyzed that the destinations of the above-mentioned transboundary movement of hazardous wastes and second-hand EEE are environmentally sound facilities, most transboundary movement of hazardous wastes under the Basel Convention go to those facilities for recycling purposes. Meanwhile, most transboundary movement of second-hand EEE is destined for the second-hand market. However, it is generally recognised that some of the transboundary movement results in environmentally unsound management which causes adverse effects to

human health and the environment. In this case, there are four main factors to be considered in order to identify why these transboundary movements occur, they are: economic, legal, and enforcement issues, as well as awareness and knowledge.

These four factors readily present themselves when observing the transboundary movement of hazardous and other wastes in the region. Of the four factors, legal issues, enforcement issues and awareness and knowledge are however linked negatively to each other in the transboundary movement of the wastes which are concluded in the environmentally unsound manner. Economic issues in the region especially need high demand of resources and might contribute to “the negative spiral” causing illegal transboundary movement of hazardous and other wastes because of the high priority put on economic development. This situation is likely seen in the region.

In order to tackle illegal transboundary movement of hazardous and other wastes, Ministry of the Environment, Japan, started the Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes in 2004. The Asian Network aims at promoting the Asian countries to appropriately take the procedure of the Basel Convention and action to combat illegal transboundary movement of hazardous and other wastes. The main activity of the Asian Network has been to organise an annual workshop, which will be held in Cambodia in November of this year. Ministry of the Environment, Japan, will be co-organizing the event this year along with Ministry of Environment, Cambodia and the Basel Convention Regional Centre for South-East Asia in November 2010 in Cambodia. Ministry of the Environment, Japan, is dedicated to contributing to activities to the Asian countries to undertake appropriate measures against the illegal transboundary movement of hazardous and other wastes.

(Shunichi Honda)



## Launching ceremony on solid waste education in Argentina

This year, on October 21st, a ceremony was held in FAM (Federation of Argentine Municipalities) to launch a program to hold model lessons on waste education in Argentina, using the supplementary textbook on solid waste.



Pictured (from left): Ms. Kyoka Noguchi, the JICA Argentine Office Chief Representative; Dr. Alberto Dibbern, Ministry of Education Secretary of University Policies; Dr. Homero M. Bibiloni, Secretary of Environment and Sustainable Development; Mr. Julio César Pereyra, FAM Chairman and Mayor of Florencio Varela; and Mr. Juan Galeano, President of Generación Par. (21.10.2010)

At the ceremony, Juan Galeano presented the supplementary textbook on solid waste to the Ministry of Education. This marked the handover of the project, which started as a small NGO activity, to now be continued as an official national undertaking. The organizations present at the ceremony also pledged their active support for the activity.

Juan was central to this project. This brilliant, young pioneer used his skills in negotiation and coordination, and his wide-ranging network of contacts to bring this project to fruition. Attendance easily exceeded the 140 or so people expected.

The direct participants, such as the Ministry of Education, Ministry of Environment and affiliates of the City of Buenos Aires, as well as the volunteers, designers and

others that helped with the project, were among those that attended. Those people with whom I became acquainted with through the project caught my eye and gave me an encouraging *thumbs up*. Everyone seemed overjoyed with the results. People whispered to me, "You're happy, so I'm happy,"--like something out of a Godfather movie-- so I answered with a thumbs up of my own.

Afterwards, there were reports given by the committee that edited the textbook, (the Ministry of Education, Ministry of Environment and affiliates of the City of Buenos Aires), and, with the help of Juan, I gave a 30 minute presentation on the book-making process, the need for waste education and ways to teach it, as well as the objectives of the project. I emphasized that myself and JICA simply initiated the project, but that the book was completed thanks to the hard work by the Argentine counterparts, and it is a "100% Made in Argentina" project.

Developing even a simple project like this left me feeling pretty great. With the right timing and the right project proposal, given the amazing participants we had, it seems like we'd been destined to succeed.

A project like this does not require a hero, and it's meaningless to try and claim any fame for initiating it. That's because waste, ultimately, is a collection of individuals' problems. Take a person who had never before thought much about waste or did anything to solve it, but has now begun to separate his trash, and there you'll have a real hero.



(Hisakazu HIRAI)

## International events information

31 May to 2 June 2011

**The ISWA Conference "Solid Waste Treatment and Disposal: Leading Edge Technologies" will run simultaneously with the WasteTech trade fair in Moscow.**

[http://2011.sibico.com/files/iswa\\_nl\\_en.pdf](http://2011.sibico.com/files/iswa_nl_en.pdf)

## Material Cycles and Waste Management Research Vol. 21, No.4 (July, 2010)

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***Ensuring Traceability in International Recycling***

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**Journal of the Japan Society of  
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***Study on the Retention of Strength in Material from Recycled PET bottles***

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Current Members of JSMCWM  
as of November 30, 2010  
(The figures in parenthesis indicate the difference from October, 2010)

Regular Members	2,616	(3)
Students	234	(0)
Non-Japanese Member	92	(0)
Public Institutions	93	(0)
Supporting Members	121	(1)
Individuals of NPOs	6	(0)
Total	3,162	(5)

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