

SECTION III C: 3R Policy and “Mottainai” Concept in Japan



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3R Policy and “Mottainai” Concept in Japan

By Michikazu KOJIMA, Institute of Developing Economies, JETRO

INTRODUCTION

Since the 1990s, Japan has made significant efforts on waste minimization through Reduce, Re-use and Recycle (3R). Japa has been short of landfill and the cost of waste management by local governments has also increased. There were also many illegal dumping cases of industrial waste which polluted the environment. To reduce these negative impacts of waste generation, 3R policies have been formulated gradually.

This paper briefly summarizes the current Japanese effort in 3R. First, “Mottainai,” a traditional concept related to 3R, is introduced. Second policies to promote 3R are reviewed. The promoting collection of recyclable waste increases not only production of recycled products but also the export of recyclable wastes. International aspect of 3R policy is discussed in Section 3.

I. “MOTTAINAI”: A TRADITIONAL CONCEPT FOR 3R

In 2005, “Mottainai”, a traditional concept, was revived. It is difficult to translate “Mottainai” into English. There are several translations or explanations.

“What a waste!”

“Don’t waste what is valuable”

“5R: Reduce, reuse, recycle repair and reverence for nature”

“It’s shame for something to go to waste without having made use of its potential in full”

Followings are examples of usage of Mottainai.

1) When children leave some food on the dish, parents said “Mottainai. You should eat it.” or “If you do not eat it, the goast of Mottainai will come here”

2) When electric light is on, in a room where no one exists, “Mottainai. What a Waste. The light should be off.”

This term became popular again in Japan after the Nobel laureate Wangari Maathai, the Kenyan deputy environment minister encountered the word “Mottainai” in February 2005, when she visited Japan and was interviewed by Mainichi Newspaper, one of leading newspapers in Japan. She advocate “Mottainai” campaign in a UN conference. Mainichi Newspaper also started “Mottainai” campaign with her and many groups including the Ministry of Environment and some local governments.

Ministry of Environment made “mottainai furoshiki”. Furoshiki is a type of textile product which is used for carrying and wrapping things. Furoshiki can be a substitute of plastic bags. It is reported that sales of foroshiki have been increasing in 2006.

II. 3R POLICY IN JAPAN

While “Mottainai” is used as a key concept raising awareness for 3R since 2005, the Japanese government has formulated several regulations to promote recycling since the 1990s. Table 1 summarizes the laws related to 3R .

	Promulgation
Waste Management and Public Cleansing Law	December, 1970
Fundamental Law for Establishing Sound Material-Cycle Society	June, 2000
Law for Promotion of Effective Utilization of Resources	April, 1991
Law for Promotion of Recycling and Related Activities for Treatment of Cyclical Food Resources	June, 2000
Law for the Promotion of Sorted Collection and Recycling Containers and Packaging	December, 1995
Law for the Recycling of Specified Kinds of Home Appliances	June, 1998
Construction Material Recycling Law	February, 2000
Law for the Recycling of End-of-Life Vehicles	July, 2002

Table 1. Laws related to 3R

Source: Compiled from various sources.

The Fundamental Law for Establishing Sound Material-Cycle Society requires the government to make Fundamental Plan for Establishing Sound Material-Cycle Society. The Fundamental Plan for Establishing Sound Material-Cycle Society defines three targets indicators: Resource Productivity (=GDP/Natural Resources input and the like input), Cyclical use Rate (=Amount of Cyclical Use/ Amount of Cyclical Use+Natural Resources and the like input), and Final Disposal Amount (=Final Disposal Amount of Waste).

Under this basic framework, recycling laws for specific items define the role of stakeholders and financial schemes. Japan made specific recycling laws for packaging and container waste, home appliances (TV, air conditioner, refrigerator, washing machine), food waste, construction and end of life vehicles.

For example, the Law for the Recycling of Specified Kinds of Home Appliances defines the responsibilities of stakeholders as flows. Retailers should take back the end of home appliances, if consumer requested it at the time of appliance replacement or the retailer sold the appliances. Retailers should send collected appliances to an authorized recycling center. Manufacturers should establish recycling centers which satisfied specific recycling rates (volume of re-commercialized for secondary materials divided by total volume of collected home appliances). Recycling centers must treat CFC and residuals properly. Consumers should pay a certain amount of money to cover transportation costs and recycling costs. Based on this scheme, significant amount of end of life home appliances have been collected and utilized as secondary resources after being dismantled (Table 2).

Table 2. Recycling of Home Appliances in Fiscal Year 2005

	unit	Air conditioner	TV	Refrigerator	Washing Machine
Units taken back	1000 unit	1,989	3,587	2,829	2,952
Units treated	1000 unit	1,990	3,852	2,807	2,905
Volume treated	Ton	85,814	107,993	162,419	92,801
Volume re-commercialized	Ton	72,585	83,530	108,284	69,664
Re-commercialized rate	%	84%	77%	66%	75%

Source: http://www.env.go.jp/press/file_view.php?serial=8090&hou_id=7153

In the fiscal year 2005, from April 2005 to March 2006, 1,990 thousand air conditioner, 3,852 thousand TV sets, 2,807 thousand refrigerators and 2,905 thousand washing machines were dismantled. Re-commercialize volume reached 330 thousand tons.

III. INTERNATIONAL TRADE OF RECYCLABLE WASTE

As legal system for promoting recycling have been formulated, the collected amount of recyclable waste has increased. But industries using some of the recyclable materials are relocated in other Asian countries. Demand for recyclable resources are also expanding in fast-growing Asian countries such as China. As a result, export for recyclable waste from Japan to other Asian countries increased. While in 1995, about 0.1 million ton of waste plastics were exported from Japan, more than 1 million tons of that is exported from Japan in 2005. Table 3 shows the volume of imports of recyclable wastes in selected Asian countries.

	Plastics	Paper	Steel	Copper	Aluminum
China	4965	17032	10135	4820	1687
Indonesia	4	1957	1202	13	23
Japan	3	77	181	102	108
South Korea	24	1349	6813	205	297
Malaysia	75	166	3370	236	n.r.
Philippines	7	287	13	4	0
Thailand	1	946	1683	5	31

Table 3 Import of Recyclable Waste by Selected Asian Countries in 2005

(unit: thousand ton)

Note: n.r. not reliable data.

Source: Compiled from trade statistics

China is a major importer of plastic scrap, used paper and copper scrap. China imports more than ten million tons of steel scrap. China also imports more than 17 million ton of waste paper. Indonesia and South Korea imported more than 1 million ton of used paper. Regarding steel scrap, South Korea imports about 7 million tons and Malaysia imports more than 3 million tons. Imported recyclable wastes fill the growing demand of resources in developing Asian countries, especially in China.

There are two problems related to transboundary movement of recyclable wastes. First, is the pollution from recycling industries which use imported recyclable waste. Second, is the illegal international trade of non-recyclable waste and hazardous waste under the name of secondhand goods and non-hazardous recyclable waste.

In the 1980s, a lot of hazardous wastes generated by developed countries were dumped in developing countries. Hazardous wastes often caused environmental damage and critical health impacts. To avoid these kinds of activities, "the Basel Convention of Transboundary Movements of Hazardous Wastes and Their Disposal" was adopted in 1989, and entered into force in 1992.

The Convention has three environmental trade measures; first, prohibition of export of hazardous waste for disposal from developed countries to developing countries, second, prior notice and consent system for recyclable waste, third prohibition of trade between parties and non-parties, unless by special bilateral or multilateral agreement.

Most Asian countries have ratified the Basel Convention. Table 3 shows the volume of hazardous waste traded in Asia in 2002, based on the national report submitted to the Secretariat of the Basel Convention, which requires the parties to do prior notice and consent procedure before the shipment of hazardous waste and household waste. Malaysia is the leading importer of hazardous waste in Asia, followed by Indonesia. But the situation might be different right now. Malaysia excluded copper furnace slag from hazardous waste, which accounted 42% of imported hazardous waste in 2002. All of the imported hazardous waste by Indonesia in 2002 was lead acid batteries. Indonesia prohibited the import of lead acid batteries in September 2002. So these amounts might be significantly decreased right now.

Table 4 International Trade of Hazardous Waste under Prior Notice and Consent by selected Asian countries (2002) (Unit: Ton)

Country	Export	Import
Japan	824	2,505
Indonesia	550	46,662
Malaysia	3,110	70,763
Singapore	18,095	5
South Korea	32	20,453
Thailand	712	0

Source: Data reported for each country to the Secretariat of the Basel Convention

On the other hand European countries export and import hazardous waste more than Asian countries. For example, Germany exported 224 thousand tons and imported 1,088 thousand tons of hazardous waste in 2002. Netherlands exported 1,169 thousand tons and imported 129 thousand tons of hazardous waste in 2002. Although most of international trade of European countries occurs among European countries, even advanced countries in Europe, each country can not recycle all of the hazardous waste within the country. They are sending hazardous waste to recyclers or treatment companies in other countries.

The volume traded under prior notice and consent is very small in Asia, compared with Europe. It is difficult to say this table indicates that hazardous wastes are generated in small amounts in Asia or that hazardous wastes are treated properly in each Asian country. From the field observation, and from some cases detected by authorities, there are significant amount of hazardous waste traded under the name of non-hazardous waste or secondhand goods.

Some countries introduce their own regulation controlling trade recyclable waste. China has started a registration system for importers and exporters of recyclable waste. China also introduced pre-shipment inspections. But unilateral actions are not enough to solve the problem. To prevent these problems by efficient ways, further cooperation among Asian countries is needed.

IV. CONCLUSION

Traditional concept such as "mottainai" can be used in the campaign for changing consumer behavior. Traditional goods such as "furoshiki" can also be promoted.

While we can revive the traditional concept such as "mottainai", we are also living in a globalization era. Some wastes are recycled beyond borders. Some goods are reused in other countries. The domestic 3R policy has impacted the foreign recycling industry through the international trade of recyclable resources. The international trade aspect should be considered in regards to the recycling policy in a country and Green Growth in Asian countries.

In order to prevent pollution from recycling industry and illegal international trade, further cooperation among authorities is needed to make the management of transboundary movement efficient and effective.

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