

CHAPTER 3

THE INITIATIVE ROLE OF JAPAN TOWARDS INTERNATIONAL WASTE MANAGEMENT AND THE 3R INITIATIVE

Waste management, recycling-policies and legislation and analysis of the progressive efforts of Japan towards domestic waste treatment and a sound material-cycle society are the major points of this chapter. With regard to the issue of waste management, the initiative movement of Japanese government on international level through the 3R Initiative is studied in order to examine a pace and potential movement of Japan in order to become an environmental leadership.

High consumption and production in daily life has generated a large amount of waste which is an undesirable problem to human health and society. Garbage is not only a health issue, but also an environmental problem, which could not be ignored. This issue has appeared in the 1970s, mainly in the United States and European countries.¹ Waste management has increasingly gained a more global interest and it is perceived as a global issue. Japan is one of the leading countries creating an efficient recycling system in the world. Today waste management, including waste reduction and recycling, has become a great public concern in Japan.

A. Japan's Domestic Policy and Measures Responding to Waste Management and Recycling-related Issue

During the 1960s a period of rapid economic growth generated a great amount of municipal waste in Japan. In order to deal with the problem, the local governments wanted to establish waste management facilities such as incinerators and landfills but the local residents strongly opposed the construction of these facilities near their residential areas owing to a fear of a worsen environment. It caused serious conflicts between local governments and local residents. These experiences and serious

¹ Ministry of Foreign Affairs, Japan, "Diplomatic Bluebook 1992," <http://www.mofa.go.jp/policy/other/bluebook/1992/1992-1-2.htm>.

disputes between citizens and the governments over severe waste management was a lesson learned for Japan to handle with the problem of waste management and garbage reduction cooperatively. At the same time, the 3Rs concept, which refers to reduce, reuse and recycle, was initially originated from Japanese experience of rapid economic growth 40 years ago during the time of mass consumption, mass production and mass disposal.² Many Japanese cities took waste management seriously since the early 1970s.³

Nevertheless, today the issue of waste is still a big and unwelcome problem in Japan. High consumption and lifestyles in Japan have increasingly generated great amount of garbage since 1990.⁴ In particular, Japanese people traditionally prefer to buy products with beautiful packaging and to pay for gifts with elaborate wrapping. The Japanese culture's favour on attractive packaging and gift wrapping is one of the major causes of excessive garbage in Japan. The amount of waste in Japan is approximately 450 million tons annually.⁵ In response to the problem of waste, the government of Japan officially implemented the 3Rs Policy under the Basic Environmental Plan as the domestic approach basically on waste and recycling policy in 1994.⁶ The 3Rs Policy was articulated for ensuring proper disposal of waste generation and promoting waste recycling. The 3Rs concept has been highly regarded as the top priority policy on waste disposal. The government has strongly emphasized on the importance of waste minimization, product reusing and waste recycling as well as an appropriate management of waste disposal since then. The ultimate goal of Japanese government to cope with the major challenge of waste problem in the 21st century is to build a sound material-cycle society in which the consumption of natural resources is minimized and the environmental load is reduced as much as possible.⁷

² Ministry of Environment of Japan, "Prime Minister Junichiro Koizumi's Welcome Remarks," <http://www.env.go.jp/earth/3r/en/info/09.pdf>.

³ Japan International Cooperation Agency, "Waste and the World," http://www.jica.go.jp/english/publication/network/net_vol15/03main01.html.

⁴ Statistics Bureau & Statistical Research and Training Institute, *Statistical Handbook of Japan 2005* (Tokyo: Statistic Bureau, 2005).

⁵ *Japan Society of Waste Management Experts* 44 (July 2003).

⁶ Ministry of Environment, Japan, "The Basic Environmental Plan," <http://www.env.go.jp/en/pol/bplan/contents.htm>.

⁷ Ministry of Environment, Japan, "Fundamental Law for Establishing a Sound Material-Cycle Society (tentative translation)," <http://www.env.go.jp/en/lar/wastelaw/SMCSlaw.pdf>.

Environmental understanding, participation and cooperation are the key to success. Realizing the importance of cultivation of environmental concern for children, the Environment Agency of Japan published the first issue of Environmental White Paper for children in 1989 aiming to provide children deepen knowledge about the environment and understanding of relationship between human and nature.⁸ The issue of waste treatment and recycling has been regularly underlined to foster children to participate in waste minimization. In order to enhance public awareness and understanding nationwide, in 1991, the government of Japan declared October of each year as ‘Reduce, Reuse, Recycle Month’ or ‘the 3R Month’ which has been regarded as the month for 3Rs promotion.⁹

For the purpose of further developing children’s sensitivity and awareness to environment, the former Ministry of Education, Science and Culture, which was transformed in to the Ministry of Education, Culture, Sports, Science and Technology in 2001, has promoted environmental education in the school system by publishing the Manual for Environmental Education for elementary students including junior high school and high school students in 1991.¹⁰ The book presented six points which were awareness, knowledge, attitudes, skills, assessment ability and participation towards environment in order to raise environmental awareness, to understand the responsibility and role for environment as well as to develop the attitude and ability to solve environmental problems.

Japanese policy on educational and public relation activities has been stimulated by the government to encourage citizens and businesses to deepen their understanding and recognizing the necessity for appropriate waste disposal. The promotion of environmental education and awareness-raising were established in the Basic Environmental Law 1993 and the Basic Environmental Plan 1994 as the basic

⁸ Access <http://www.env.go.jp/policy/hakusyo/kodomo.html> for further detail.

⁹ United Nations, “Sanitation Country Profile: Japan,” <http://www.un.org.esa.agenda21/natlinfo/countr/japan/Japansanitation04f.pdf>.

¹⁰ Asian Productivity Organization, *Waste Minimization* (Japan: Shueido Shiko Printing, 2000), pp. 108-134; Kouji Ameniya and Darryl Macer Darryl, “Environmental Education and Environment Behaviour in Japanese Students,” *Eubios Journal of Asian and International Bioethics* 9, no.4(July 1999): 109-15.

policy for environmental conservation.¹¹ The government of Japan has been nationally putting a strong effort fostering environmental education with or without school education and social education on waste-related issue to raise children awareness on waste management since then. Moreover, the government of Japan has cultivated public awareness of appropriate waste disposal, environmental education as well as stimulated voluntary activities of the public to reduce waste. Since 1996, the Zero Emission Concept¹², which was originally created for industry, has been promoted at local communities to reduce the amount of waste generated and remove all types of wastes out of the city.

In order to further encourage zero emission activities, the Manual of Zero-emission Challenge or Gomi zero Challenge was published by the Ministry of Environment in 2001 to provide easy understanding of the concept of waste reduction, reusing, recycling and recycling-oriented society for Japanese primary and junior high school students.¹³ In 2005, Ms. Yuriko Koike, former Minister of Environment under the Koizumi cabinet, was committed to publishing environmental information including promoting environmental learning in local communities, especially within families and schools where people could interact closely as part of their daily lives.¹⁴

In an attempt to reduce garbage in Japan, it has long intensified at the local level. The central and local governments of Japan have been cooperatively playing a vital role on the management of municipal waste and trying to make Japanese people realize the problem of waste, and that appropriate waste disposal is not only the government's responsibility, but also the individual households and business sectors' burden. Minimization of waste generation has been promoted through national campaigns and dissemination of information by local governments. The reusing and

¹¹ Ministry of Environment, Japan, "The Basic Environmental Law," <http://www.env.go.jp/en/lar/blaw/ch1.html>.

¹² The United Nation University presented the Zero Emission Concept to the world in 1994 aiming to foster sustainable development for business and industrial sectors in accordance with Agenda 21. The Government of Japan published White Paper on the Environment 1996 and announced Zero Emissions as a standard for industry in the 21st century.

"Toward Zero Emissions: Activities in Japan," *Japan for Sustainability Newsletter* 16 (December 2003), <http://www.japanfs.org/en/newsletter/200312-2.html>.

¹³ "Zero-emission Challenge," *Japan Environment Quarterly* 1 (March 2001): 4.

¹⁴ Our Planet, "The Spirit of "Mottai Nai,"" <http://www.ourplanet.com/imgversn/161/koike.html>.

recycling activities have been emphasized as basic policy to encourage environmental involvement in waste management as well. As a result, Japanese citizens in local communities became aware of the problem and were willing to cooperate on waste reduction and recycling activities. People in many cities, such as Sapporo City¹⁵, Aichi prefecture¹⁶, Fukuoka City¹⁷ and Yokohama City, have taken the efforts to reduce waste through recycling activities in their own communities. For example, Mr. Hiroshi Nakada, the incumbent Mayor of Yokohama city, designed Yokohama G30 Plan and G30 Action for the purpose of waste management. This plan was established to encourage residents and business performing the 3Rs activities in their daily life with the aim to reduce the volume of waste generation by 30 percent from 2001 to 2010. This Yokohama G30 Action Plan has been conducted through public campaigns and education to increase public awareness on the importance of household waste reduction. Close collaboration of Yokohama residents was very successful; the 30 percent waste reduction target was achieved in 2001. Furthermore, the amount of

¹⁵ Sapporo City and the local Lion Club designed and distributed special tote bags to encourage people to carry recyclables to market with them when they go shopping. In addition, Sapporo City set up Sapporo Food Waste Recycling Center for producing animal food from food waste. The large amount of food waste is collected from food processing factories, supermarkets, hospitals and restaurants and then is under the production process to produce animal food for feeding cultured fish and livestock.

Global Development Research Center, "Examples of Waste Management in Japan (1997-2001)," <http://www.gdrc.org/uem/waste/japan-examples.html>.; *Japan Society of Waste Management Experts* 48 (April 2004).

¹⁶ Aichi prefecture has joined the ranks of government entities forming Garbage Reduction Commissions. Many local governments and citizen groups involve and plan to carry out at least five projects: utilization of collected household recyclables, litter, especially empty cans; appropriate disposal methods for large garbage items; and using special garbage bags.

Global Development Research Center, "Examples of Waste Management."

¹⁷ Fukuoka University has worked in partnership with Fukuoka city to develop a unique approach to waste management since 1975 that became known as the 'Fukuoka method or Fukuoka Style'. The Fukuoka method or Fukuoka Style is a recycling-oriented society, where domestic waste collection is charged since October 2005, environmental citizens' fund is found with the collected fees and activities of local people/enterprises having environmental initiatives are supported and promoted by the fund. The Fukuoka method or Fukuoka Style is very attractive to developing countries and has already been applied with great success in Malaysia, Iran and Mexico. The waste fee collection system in Fukuoka city is one of the political instruments for promotion of the 3Rs and the establishment of a recycling-oriented society, aiming to 1) clarify waste generators' responsibility; 2) ensure the equity of financial burden; and 3) motivate the citizens to reduce and recycle waste.

Japan Society of Waste Management Experts no.54 (October 2005).

waste generation in March 2005 was 33.9 percent lower in 2001, dropping from 1.61 million tons to 1.06 million tons. The recycling rate of garbage was increased two fold from 170,000 tons to 330,000 tons. In order to effectively reduce waste and promote recycling system, from April 2005, Yokohama has recently identified a new separation system of household garbage into 10 categories which are burnable items, plastic containers and packaging, spray cans, paper waste, old clothes, non-burnable items, cans, bottles and plastic polyethylene terephthalate (PET) bottles, small metal items, used dry-cell batteries, and over-sized garbage.¹⁸

In case of Hino City, the local government and residents have cooperatively put the efforts to reduce plastic shopping bags by launching a My Bag Campaign since July 2003. On the fifth of every month is My Bag Day and people have been encouraged to bring their own bags instead of plastic shopping bags. Regarding the My Bag Campaign, many people have carried their own bags and some of them have refused plastic shopping bags when they go shopping (See Figure 3.1). The My Bag Campaign and other educational activities have been supported by the local governments for the purpose of building public consensus of both local residents and the business entities in the city. In January 2005, the Hino City drafted a plan on the introduction of the bag fee as the important policy to raise people awareness and foster cooperation of the supermarkets in the entire city. Accordingly, the Japanese government declared the policy promoting the introduction of the bag fee in April 2005 which will further be developed as national policy supported by Hino City.¹⁹

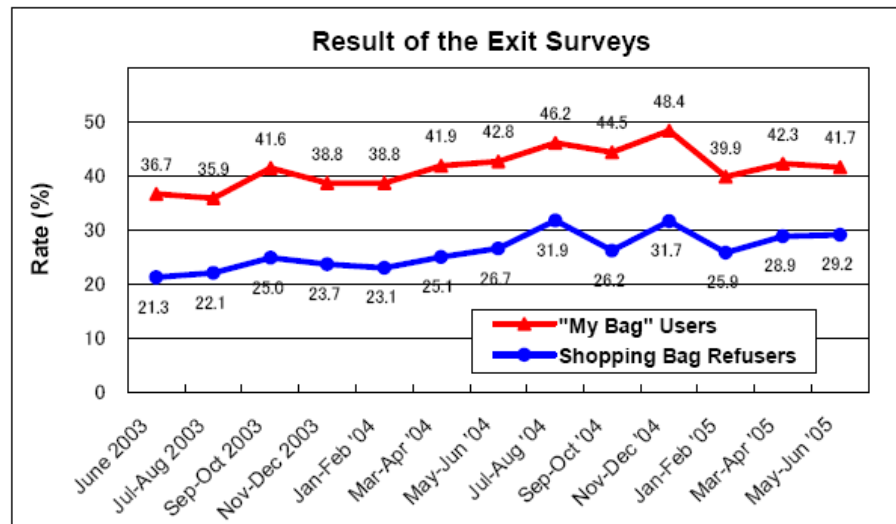
¹⁸ Basic Principles of Yokohama G30 Plan

- Do not buy or accept items that you will eventually throw away
- Use items that can be reused again and again
- Carefully sort your garbage and recycling items that are reuseable

Japan Society of Waste Management Experts no.50 (October 2004); Arita Eriko, "Yokohama Leads Way in Trash Separation," *The Japan Times*, 31 December 2005. AH., "Yokohama G30 Plan: A Model Waste Management Program," *The Japan Journal* 3, no.3 (July 2006): 4.

¹⁹ *Japan Society of Waste Management Expert* 56 (April 2006).

Figure 3.1
The Survey on the My Bag Campaign



Source: Japan Society of Waste Management Experts Newsletter, 2006.

The cooperation between local governments and local residents are not sufficient to deal with the problem of waste. The 3Rs Policy has been also promoted in business sectors and industrial activities. The government of Japan has been urging businesses and the private sectors to share their roles and responsibilities through their business activities and measures. Cooperation of business sector is an important aspect of Japanese policies on waste management. The Japanese government has encouraged businesses to design their voluntary efforts and measures to cope with the problem of waste. In June 1995, the Environment Agency introduced Extended Producer Responsibility (EPR) approach as a new public policy strategy for business sectors, which was advocated by the Organization for Economic Cooperation and Development (OECD) in 1994, under the Law for Promotion of Sorted Collection and Recycling of Containers and Packaging (Containers and Packaging Recycling Law) to share their responsibilities on the development of product design as well as proper waste recycling and management of their products after consumption.²⁰ The

²⁰ Organization for Economic Cooperation and Development, *Group on Pollution Prevention and Control: Extended and Shared Producer Responsibility Phase 2* (Paris:

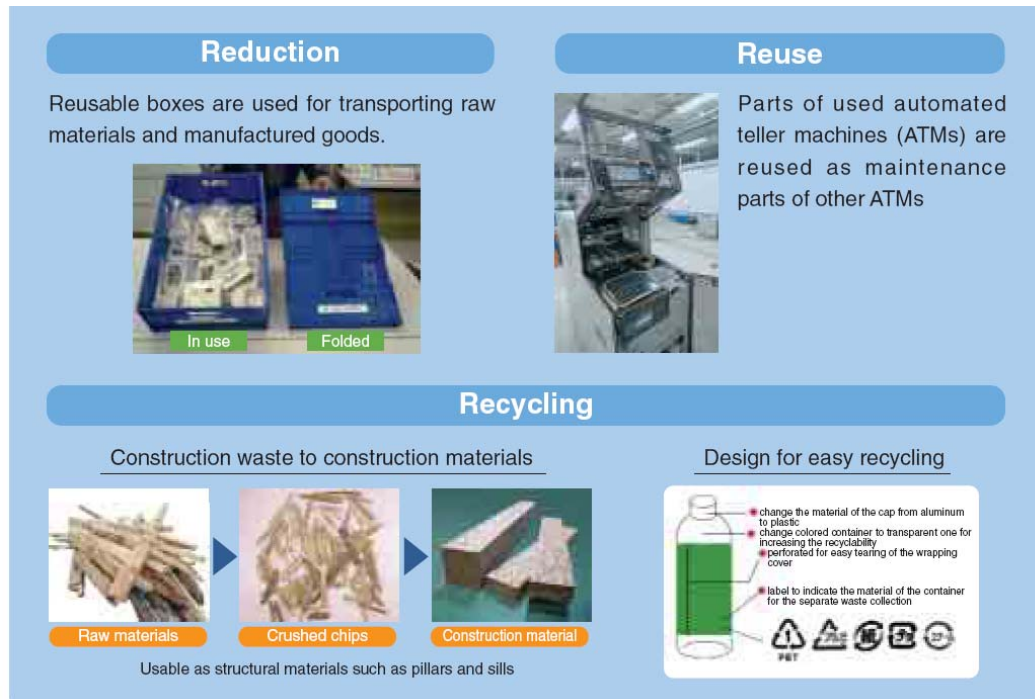
businesses and the public have been encouraged to show voluntary activities which contribute to the establishment of a sound material-cycle society. Japanese companies have demonstrated their business efforts to reduce, reuse and recycle for handling of industrial wastes (See Figure 3.2). In this regard, the Japan Federation of Economic Organizations, which is now known as the Nippon Keidanren Japan Business Federation or the Keidanren, issued the Voluntary Environmental Action Programme as measures for industrial waste management in 1997. A numerical target for waste management was later set in 1999.²¹ In addition, the Industrial Structure Council of Japan announced Recycling Economy Initiative in 1999 in order to build a sound material-cycle society in industrial and business sectors.²² The implementation of the 3R concept has been applied for the purpose of minimizing resources and energy input in economic activities as well as reducing wastes and effluents produced by economic activity.

OECD, 1998); Mitsutsune Yamakushi, "Extended Producer Responsibility in Japan," *Environmentally Conscious Products* 19 (February 2002): 1-12.

²¹ Ministry of Environment, Japan, "Japan's Experience in Promotion of the 3Rs: For the Establishment of a Sound Material-Cycle Society," <http://www.env.go.jp/earth/3r/en/approach/02.pdf>.

²² Yasuo Tanabe, "Environmental Initiative Undertaken by Ministry of Economy, Trade and Industry Towards Building Society Oriented to Recycling of Resources," *Environmentally Conscious Products* 18 (September 2001): 1-5.

Figure 3.2
Example of Efforts by Business Entities



Source: Ministry of Environment, Japan. 2006. Japan's Experience in Promotion of the 3Rs.

In addition to promoting 3R activities, the Eco-Community project scheme and the Eco-Town project²³, eco-design, eco-label, simplified packaging, use of reusable boxes, green purchasing, reusable bags and household waste sorting have been promoted. Presently, Japan has been trying to establish a sound material-cycle society in which there is a harmonization of environmental preservation and economic

²³ In Japan, the Eco-Community project scheme and the Eco-Town project was first set up in 1997, jointly fostered by the Ministry of Environment and Ministry of Economy, Trade and Industry, with the aim of promoting advanced environmentally harmonizing town. The national government aimed to establish high-tech model recycling facilities in local community to solve garbage problems under Zero Emissions strategy. Eco-Town concepts have recently expanded to include the 3R concepts. Eco-Town Project, which is an attempt to create a sound material-cycle society, has been promoted in Japan to develop hubs to enable recycling of various wastes in terms of quality and quantity, an idea whose further development will be pursued in the months and years ahead. In December 2004, there are 23 locations of Eco-Town Project nationwide.

development.²⁴ The government of Japan has realized that public awareness as well as involvement and collaboration of all stakeholders: the central and local governments; local communities; and business sectors to share their responsibilities are necessary for developing waste management and establishing a sound material-cycle society successfully.

In this regard, the government of Japan has confirmed her commitment to moving forward to build a sound material-cycle society which is one of the main pillars of environmental administration in Japan²⁵ in order to achieve a clean environment and sustainable economic growth. In an attempt to tackle the disposal of waste and create a sound material-cycle society, the national waste management and the promotion of recycling-related laws and policies of Japan have been crucially intensified and continually developed (See Table 3.1 and Appendix 2). The laws related to environment and recycling of Japan are leading the world and are known as the ‘Japan models’.²⁶

²⁴ Ministry of Environment, Japan, “Japan’s Action Plan For a World-Wide Sound Material-Cycle Society through the 3R Initiative”, <http://www.env.go.jp/earth/3r/en/approach/01.pdf>.

²⁵ There are two main pillars in Japan’s environmental administration. One pillar is building a sound material-cycle society. The other is building a low-carbon (global warming-free society).

Foreign Press Center Japan, “Japan’s Environment Policy,” http://www.fpcj.jp/e/mres/briefingreport/bfr_219.html?PHPSESSID=94043a47f30477b7b725ba85c034a241.

²⁶ Keiichi Kawakami, “First Year’s Achievement of Home Appliances Recycling Law,” *Environmentally Conscious Products* 21 (November 2002): 1-3.

Table 3.1
Japan's National Waste Management and Recycling-related Legislations after
the Cold War

Year	Waste Management and Recycling-related Legislation
1991	Enactment of Law for Promotion of Utilization of Recycled Resources (Law for Promotion of Effective Utilization of Resources) in April Amendment of Law Concerning Waste Management and Public Cleansing Law (Waste Management Law) in October
1992	Enactment of the Law Regarding the Promotion of the Construction of Specified Facilities for the Disposal of Industrial Waste in May Effective of Law Concerning Waste Management and Public Cleansing Law (Waste Management Law) in July
1995	Enactment of Law for Promotion of Sorted Collection and Recycling of Containers and Packaging (Containers and Packaging Recycling Law) in June
1997	Amendment of Law Concerning Waste Management and Public Cleansing (Waste Management Law) in June Partial Enforcement of Law for Promotion of Sorted Collection and Recycling of Containers and Packaging (Containers and Packaging Recycling Law) in April
1998	Enactment of Law for the Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law) in June
2000	Full enforcement of Law for Promotion of Sorted Collection of Containers and Packaging (Containers and Packaging Recycling Law) in April Enactment of Law on Recycling Construction-Related Materials (Construction Material Recycling Law) in May Promulgation of the Fundamental Law for Establishing a Sound Material-Cycle Society in June Amendment of Law for Promotion of Utilization of Recycled Resources (Law for Promotion of Effective Utilization of Resources) in June Enactment of Law for Promotion of Utilization of Recyclable Food Resources (Food Recycling Law) in June

Year	Waste Management and Recycling-related Legislation
	<p>Amendment of Law Concerning Waste Management and Public Cleansing Law (Waste Management Law)</p> <p>Enactment of Law Concerning the Promotion Procurement of Eco-Friendly Goods and Services by the State and other Entities (Green Purchasing Law) in May</p>
2001	<p>Full Enforcement of the Fundamental Law for Establishing a Sound Material-Cycle Society in January</p> <p>Full enforcement of Law Concerning Waste Management and Public Cleansing Law (Waste Management Law)</p> <p>Enforcement of Law for the Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law) in April</p> <p>Effective of Law Concerning the Promotion Procurement of Eco-friendly Goods and Services by the State and Other Entities (Green Purchasing Law) in April</p> <p>Enforcement of Law for Promotion of Utilization of Recycled Resources (Law for Promotion of Effective Utilization of Resources) in April</p> <p>Full enforcement of Law for Promotion of Utilization of Recyclable Food Resources (Food Recycling Law) in May</p> <p>Enforcement of Law Concerning Special Measure against PCB Waste in July 2001</p>
2002	<p>Issuance of Legislation to Automobile Recycling</p> <p>Amendment of Law Concerning Waste Management and Public Cleansing Law (Waste Management Law)</p> <p>Enforcement of Law on Recycling Construction-Related Materials (Construction Material Recycling Law) in May</p> <p>Formulation of the Construction Waste Recycling Promotion Plan in May</p> <p>Enactment of End-of-Life Vehicles (ELVs) Recycling Law in July</p>
2003	<p>Formulation of the Fundamental Plan for Establishing a Sound Material-Cycle Society in March 2003</p> <p>Promulgation of Law Concerning Waste Management and Public Cleansing Law (Waste Management Law) in June and enforcement in December</p>
2005	<p>Enforcement of End-of-Life Vehicles (ELVs) Recycling Law in January 2005</p> <p>Enforcement of Automobile Recycling Law in January 2005</p>

In addition to the 3Rs Policy, the waste disposal in Japan has long been conducted under the Law Concerning Waste Management and the Public Cleansing Law, later renamed as Waste Management Law, which was originally formulated in 1970 and amended in October 1991. The Law was designed to preserve the living environment, improve public health by preventing waste generation, promoting proper waste management and maintaining a clean living environment.²⁷ In order to manage waste disposal appropriately and effectively, the Japanese government revised the Waste Management Law in June 1997. This revision of Waste Management Law mainly focused on the three areas of: 1. promotion of waste reduction and recycling; 2. improvement of liability and safety concerning waste treatment; and 3. reinforcement of responsibility on the part of waste producer.²⁸ Once again the Waste Management Law was amended in 2000. With the aim to strongly enforce, the responsibility of waste generators including hospitals to manage waste they generated were the main focus of this amendment.²⁹ The latest revision of the Waste Management Law was carried out in June 2003 and then has become effective in December the same year in order to ensure proper waste management.

In Japan, a number of containers and packages have become approximately 60 percent of the total municipal solid waste. The high amount of municipal waste requires an urgent cooperation between local governments and Japanese citizens to sort out garbage into paper, glass, plastic, packaging and other items for reuse, recycling based on garbage categories before disposing. The Japanese government has had a strong effort to establish a sound material-cycle society since 1994. The government has tried to emphasize recycling by implementing the Law for the Promotion of Sorted Collection and Recycling of Containers and Packaging (Container and Packaging Recycling Law) in 1995 which has later enforced in 1997. The Law aimed to promote efficient use of recycled containers and packages generated for assuring appropriate reduction of wastes through adequate use of

²⁷ Ministry of Environment, Japan, “Waste Management and Public Cleansing Law,” <http://www.env.go.jp/en/laws/recycle/01.pdf>.

²⁸ Ministry of Environment, Japan, “Quality of the Environment in Japan 1998,” <http://www.env.go.jp/en/w-paper/1998/index.html>.

²⁹ *Japan Society of Waste Management Experts* 37 (July 2001).

recyclable resources.³⁰ Now the Ministry of Environment still puts an effort to revise the Law to further develop recycling in Japan. Since then, Japanese citizens have become aware that they are one of waste generators and realized that waste sorting and recycling are necessary.³¹

In order to encourage waste reduction and recycling, the law in Japan has been continually developed and expanded covering on home appliances. The Law for Recycling of Specified Kinds of Home Appliances, widely known as the Home Appliance Recycling Law, was formulated in 1998³² for promoting the recycling of electric household appliance and reduction of household wastes. The Law became effective on April 1, 2001 and has been become compulsory to recycle for the following four household appliances: air conditioners; television sets; refrigerators; and washing machines. The Law required that consumers or owners who want to discard these large appliances, which are difficult to be recycled by municipalities, must bring them to retail stores including payment for the collection and recycling fees.³³ In the meantime, an obligation of manufactures and retailer of these home appliances and appropriate collection and recycling management was addressed under the Law as a new measure. The recycling system of Japan has been operating since that time.

The implementation of the Home Appliance Recycling Law is one of the sharing of responsibility among all stakeholders of Japan's waste management system. However, some people worried that consumers and retailers were not willing to cooperate and intended to dispose these home appliances illegally in order to avoid

³⁰ Ministry of Environment, Japan, "Law for the Promotion of Sorted Collection and Recycling of Containers and Packaging (Container and Packing Recycling Law)," <http://www.env.go.jp/en/laws/recycle/07.pdf>.

³¹ Interview with Mr. Hironobu Takano, Executive Production Engineering, Leading Japanese Company and Mr. Motofumi Takeshi, Executive Production Engineering, Leading Japanese Company, 20 August 2006.

³² Atsushi Terazono, "Japanese Recycling Laws and International Trade in Recycling Resources," in *International Trade of Recyclable Resource in Asia*, ed. Kojima Michikazu (Chiba: Institute of Development Economies (IDE)-JETRO, 2005), pp. 17-32.

³³ Payment of fees for collection and recycling: air conditioner 3,500 yen (29 US dollar); television 2,700 yen (22 US dollar); refrigerator 4,600 yen (38 US dollar); and washing machine 2,400 yen (20 US dollar).

Ministry of Environment, Japan, "Law for the Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law)," <http://www.env.go.jp/en/laws/recycle/o8.pdf>; Kawakami, "First Year's Achievement."

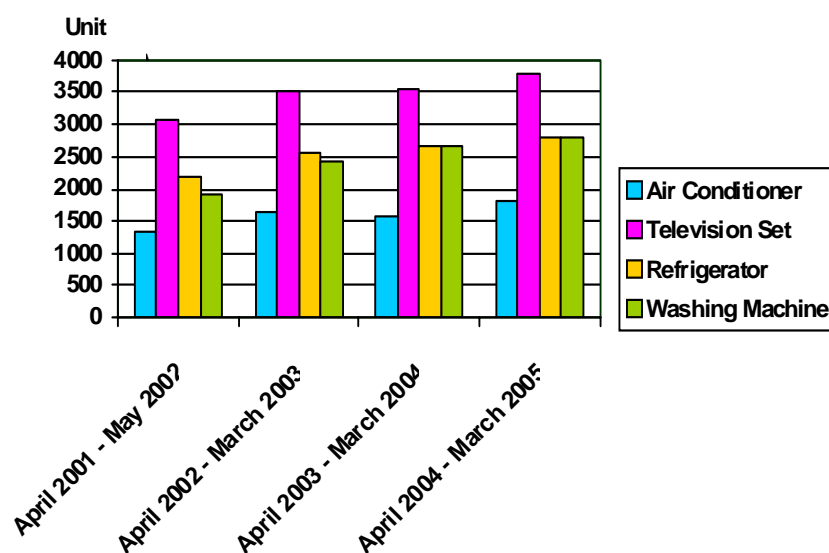
paying the recycling fee. Mr. Kanji Tamamushi, a Japanese environmental consultant who has followed the law since its introduction in 1998, noted that this Home Appliance Recycling Law is the first take-back law in the world. Mr. Tamamushi additionally mentioned that “there will be a lot of confusion and uncertainty in the first year or so, but after that it should be stabilized.” He believed that the new system will run smoothly. According to Mr. Michele Raymond, who is a publisher of Raymond Communications, (he commented that) “Japanese [culture] is traditionally very cooperative, [and] you could probably ... charge Japanese consumers for recycling in cases where you could never do that with Americans.”³⁴ After enforcement of the Home Appliance Recycling Law, the good news is that the number of illegal disposal of home appliances accounted only 1 percent or less of the total of waste appliances. It did not increase as expected.³⁵ Contrary to the expectation, the number of home appliances, which were legally disposed at specified collection sites, has been annually increasing since the implementation of the Law (See Figure 3.3). In addition, the amount of recycling performance of these home appliances by manufacturers has been rising likewise every year (See Figure 3.4). Japanese people thought that it is reasonable to pay the recycling expenses and they are willing to share their responsibilities for this service. They expected that this Home Appliance Recycling Law can reduce the illegal dumping of home appliances.³⁶

³⁴ Waste Age, “Japanese Recycling Law Takes Effect,” http://www.wasteage.com/mag/waste_japanese_recycling_law/index.html.

³⁵ China Cleaner Production, “Circular Economy,” http://www.chinacp.com/eng/epcasestudies/ce_japan.html.

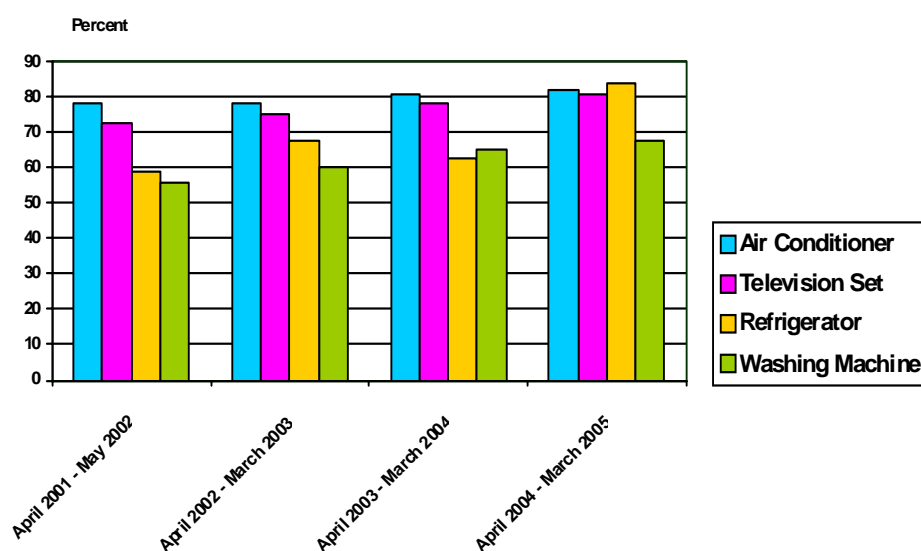
³⁶ Interview with Mr. Hironobu Takano, Executive Production Engineering, Leading Japanese Company and Mr. Motofumi Takeshi, Executive Production Engineering, Leading Japanese Company, 20 August 2006.

Figure 3.3
Amount of Home Appliance Received at the Designated Intake Place after
Enforcement of the Home Appliance Recycling Law



Source: Ministry of Environment, Japan. 2004. Publication of Data on Recycling of Home Appliances

Figure 3.4
Rate of Recycling of Discarded Home Appliances Recycled by
Manufactures and Designated Corporate Bodies in accordance with the Home
Appliance Recycling Law



Source: Ministry of Environment, Japan. 2004. Publication of Data on Recycling of Home Appliances

With an effort to create a sound material-cycle society, both central and local governments of Japan have promoted waste reduction, reuse, recycling and appropriate waste disposal. The formation of a sound material-cycle society in Japan is progressing. Today the central and local governments of Japan, Japanese people as well as business sectors have intensified their efforts working cooperatively to create a sound material-cycle society, in accordance with the concept of 3Rs, the Fundamental Law and the Fundamental Plan for Establishing a Sound Material-Cycle Society.

For the purpose of being able to build a sound material-cycle society successfully, the Fundamental Law for Establishing a Sound Material-Cycle Society was implemented in May 2000 which outlined comprehensive and systematic policies accompanied with the basic structures of waste management and recycling measures to create a sound material-cycling society. This new Fundamental Law for Establishing a Sound Material-Cycle Society has shown an important step of Japan to promote a sound material-cycle society. The 3R-related activities including heat recovery³⁷ and appropriate waste disposal has been stipulated as important measures in order to reduce environmental load as much as possible. Besides, the Cabinet of Japan accordingly approved the Fundamental Plan for Establishing a Sound Material-Cycle Society in the same year.

In addition to the establishment of the Ministry of Environment in 2001, waste-related administration, which was a part of health administration under the former Ministry of Health and Welfare, has been transferred to environmental administration under the Ministry of Environment (Appendix 3). Administrative reform has expanded the scope of solid waste management from the appropriate treatment and disposal of waste to various activities of waste generation control such as waste reduction, reuse, recycling and so on. As a consequence, the Waste Management and Recycling Department was established to handle with waste generation control, appropriate waste treatment, and promotion of resource

³⁷ According to the Fundamental Plan for Establishing a Sound Material-Cycle Society, heat recovery is to use for obtaining heat the things which are the would or part of recyclable resources and which are available for combustion or have such a possibility.

Ministry of Environment, Japan. "Fundamental Law for Establishing."

recovery.³⁸ These developments show a significant progress and intention of the government of Japan to cope with issues of recycling and waste management in order to create a recycling-oriented society in the future.

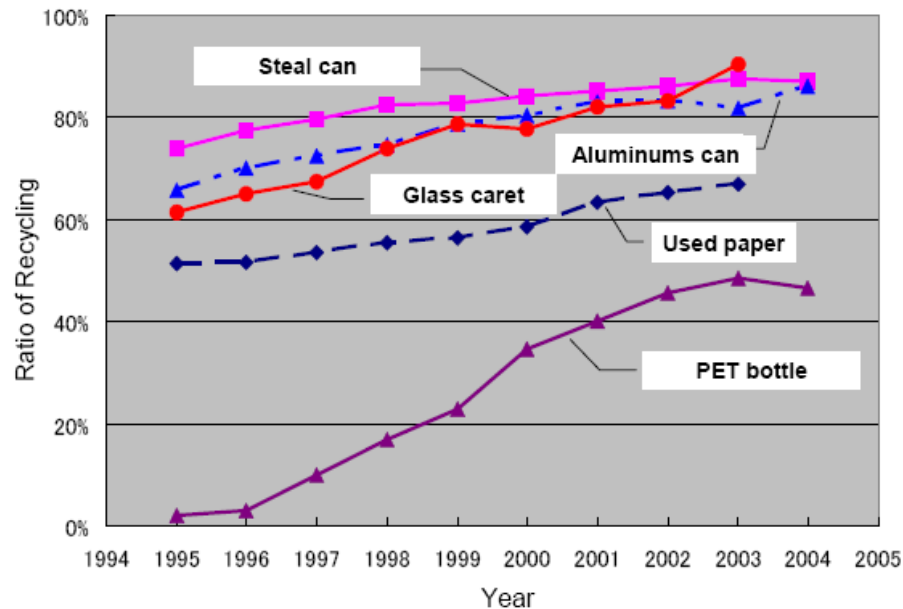
In order to promote the 3Rs and create a sound material-cycle society efficiently, the Fundamental Plan for Establishing a Sound Material-Cycle Society, which was approved by the Cabinet in 2000, was further developed on March 14, 2003 under the Fundamental Law for Establishing a Sound Material-Cycle Society, Article 15. The Fundamental Plan for Establishing a Recycling-based Society was formulated as a ten-year framework of programs for the creation of appropriate sustainable consumption and production patterns through reduction, reuse and recycling by 2000-2010. The plan aimed to improve resource productivity by 40% and reduce waste generation by 20% per person per day. The responsibility of the central government, local authorities, corporations, and the public as waste producers were clearly acknowledged. The reduction target of waste generation, recycling rate and final disposal were set. The plan addressed the international effort of the government of Japan to play a leading role to promote and create a sound material-cycle society at the global level. In addition the establishment of this Fundamental Plan, the Five-Year Plan for Waste Treatment Facilities Improvement was announced in 2003 by the local authorities aiming to reduce the disposal of municipal waste to 97 percent in 2007.³⁹

With regard to the issue of waste management, the government of Japan has played a proactive role to deal with the problem. Moreover, cooperative efforts of all stakeholders and effective policy implementation on waste management through recycling activity have progressively increased the recycling rate in Japan positive direction (See Figure 3.5).

³⁸ *Japan Society of Waste Management Expert* 37 (July 2001).

³⁹ United Nations, "Sanitation Country Profile: Japan," <http://www.un.org/esa/agenda21/natinfo/countr/japan/Japansanitation04f.pdf>.

Figure 3.5
Recycling Progress in Japan



Source: Ministry of Environment, Japan. 2006. Country Questionnaire Prior to the Senior Officials Meetings on the 3R Initiative

The issue of waste management with the 3Rs Policy has been one of the priority focuses of the Japanese government. In addition, the government has recently designed a Support Scheme for Establishing a Sound Material-Cycle Society in 2005. This scheme was established with the supportive cooperation of the local community in order to create a sound material-cycle society. The establishment of waste treatment and recycling facilities were to be carried out based on the 3Rs Policy on a comprehensive basis with collaboration of the central and local governments.⁴⁰ Various activities mutually taken by central and local governments, Japanese citizens including business sectors had shown the quick move of Japan in response to waste management at the national level.

Japan's experiences in the area of waste management with the 3Rs Policy are very positive. In this regard, the government of Japan is committed to disseminate national knowledge and experience to the world. Ex-Japanese Prime Minister, Mr.

⁴⁰ Ministry of Environment, Japan, "Country Questionnaire Prior to the Senior Officials Meeting on the 3R Initiative," http://www.env.go.jp/recycle/3r/en/s_officials/03/06.pdf.

Junichiro Koizumi, was determined to have Japan effort to lead the world in promoting and encouraging the 3Rs-related activities at the international level. The enactment of waste management and recycling-related laws, national and local activities as well as collaborative efforts of all sectors as the above mentioned are the major step towards building a sound material-cycle society of Japan. Furthermore, the experience and activities of Japan's domestic waste treatment with strong waste and recycling-related legislation have stimulated of Japan to take the lead towards the problem of waste in the international community.

B. The 3R Initiative and the Role of Japan

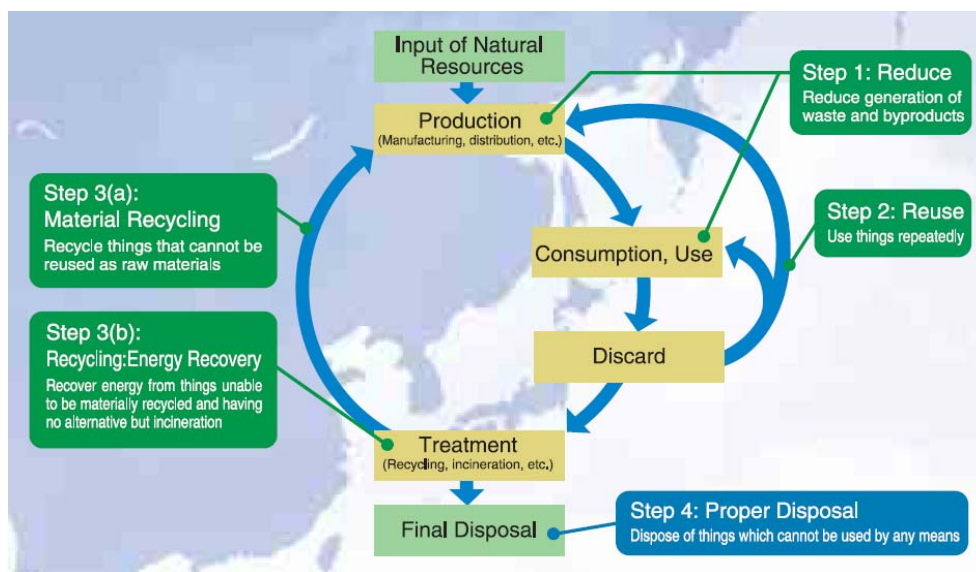
Japan's experience and policies related to recycling and waste management have resulted in significant progress and development in the field of waste management and provide Japan the opportunity to attain international leadership. Former Prime Minister Koizumi took an initiative role promoting the concept of 3R Initiative at the Group of Eight (G8) Summit at Sea Island in 2004 which was endorsed by the G8 leaders during the meeting. The 3R Initiative is a principle of reducing waste, reusing and recycling resources and products, often called the '3Rs' same as the 3Rs Policy of Japan (See Figure 3.6). The 3R Initiative was designed to nurture the 3Rs on a global scale and to establish a sound material-cycle society with a reduced environmental load through the effective use of resources and materials by collaboration of all countries.⁴¹ The basic principle of the Initiative call for "the realization of a society in which sustainable development is possible with less environmental impact; prioritization of handling products, wastes and recyclables; and ensuring appropriate material cycle in nature."⁴² The 3R Initiative has escalated up the international agenda to handle with waste treatment since then. Ex-Prime Minister Koizumi considered that it was necessary to establish sustainable production and

⁴¹ *Japan Society of Waste Management Experts* 53 (January 2006).

⁴² United Nations Environment Programme, "UNEP/GC.23/INF/11: Reduce, Reuse and Recycle Concept (the "3Rs") and Life-Cycle Economy," <http://www.unep.org/GC/GC23/documents/GC23-INF11.pdf>.

consumption patterns through 3Rs.⁴³ He also strongly emphasized his intention to take an initiative on this matter.

Figure 3.6
Concept of the 3Rs in a Sound Material-Cycle Society



Source: Ministry of Environment, Japan. 2006. Japan's Experience in Promotion of the 3Rs.

The Ministerial Conference on the 3R Initiative was agreed to be held in Tokyo and hosted by Japan's Minister of Environment on April 28 to 30, 2005. There were 20 countries participating including: Brazil, Canada, France, Germany, Indonesia, Italy, Japan, Malaysia, Mexico, the Philippines, the Republic of Korea, Russia, Singapore, South Africa, Thailand, the United Kingdom, the United States, Vietnam and the European Commission and 4 international organizations UNEP, OECD, the Secretariat of the Basel Convention and the League of Arab States. This Ministerial Conference was organized to officially launch the 3R Initiative and aimed to disseminate the 3R Initiative on a global scale.

⁴³ Ministry of Environment, Japan, "Japan's Experience in Promotion of the 3Rs: For the Establishment of a Sound Material-Cycle Society," <http://www.env.go.jp/earth/3r/en/approach/02.pdf>.

At the Ministerial Conference on the 3R Initiative, OECD Deputy Secretary-General, Mr. Kiyo Akasaka, addressed that waste generation, which posed a serious threat to human health as well as environment inevitably, has been rapidly increasing in many countries. He also agreed that the 3Rs agenda should be renewed as an urgent solution to the problem.⁴⁴ The G8 Summit in 2004 and the Ministerial Conference in 2005 were good opportunities for Japan to exercise her initiative role on the international stage toward the problem of waste in particular.

With regard to the 3Rs experience at domestic level, the initial proposal of Japan on the 3R Initiative is an important step of the Japanese government to show the willingness to take the lead to tackle the problem of waste management at global scale. Ms. Koike made a formal speech emphasizing the efforts of Japan in five areas for the promotion of the 3R Initiative: 1. formulation and implementation of national policies relevant to the 3Rs leading to a sound material-cycle society; 2. the reduction of barriers to the international flow of goods and materials; 3. cooperation between developed and developing countries; 4. encouragement of cooperation among various stakeholders; and 5. the promotion of science and technology suitable for the 3Rs.⁴⁵ The initiative role of Japan at the Ministerial Conference was outstanding.

Furthermore, Ms. Koike also presented the traditional Japanese word ‘mottainai’ which means “don’t waste what is valuable” or “it is shame to waste something without using it to its potential”. The Japanese notion of ‘mottainai’ was recently proposed and emphasized by Professor Wangari Maathai, who was appointed as Deputy Minister of Environment of Kenya in 2003 and was awarded the Nobel Peace Prize in 2004.⁴⁶ According to her visit to Japan in February 2005, Professor

⁴⁴ Ministry of Environment, Japan, “Ministerial Conference on 3R Initiative Tokyo-April 28-30, 2005: Draft Speaking Notes for Kiyo Akasaka,” http://www.env.go.jp:80/earth/3r/en/info/03_02.pdf.

⁴⁵ Morishita Satoru, “Five Issues for the Three “R”s,” *The Japan Journal* 2, no.4 (August 2005): 28.

⁴⁶ Mrs. Wangari Maathai is a Kenyan environmentalist. She has long worked for environmental field and founded the Green Belt Movement in 1997. The Green Belt Movement is a grassroots non-environmental organization for environmental conservation and development. In 2004, she won the Noble Piece Price for her contribution to sustainable development, democracy and peace.

Japan Society of Waste Management Experts 53 (January 2006); Shinichi Okada, Ohkoshi Tadahiro and Nakamura Mayumi, “Reduce, Reuse, Recycle,” *Asia Pacific Perspective: Japan+* 3, no.5 (September 2005): 6-21.

Maathai greatly regarded the importance of the Japanese spirit of *mottainai* and its good meaning, as an important message, since then she has been working on proclaiming this word with the hope that it would become a well-known word in common usage globally, like the word *tsunami*, to remind and encourage people to dispose of garbage in daily life properly. It seems symbolic and a main driving force of the 3R activities to reform mass production, mass consumption and mass disposal for sustainable development. The Japanese word ‘*mottainai*’ is used in daily life as a part of Japanese culture which emphasizes an economy life, the worth of nature and the highest utilization of natural resources. It is important to widely disseminate the word ‘*mottainai*’ worldwide for encouraging people in other countries to become aware of handling the valuable natural resources efficiently.⁴⁷

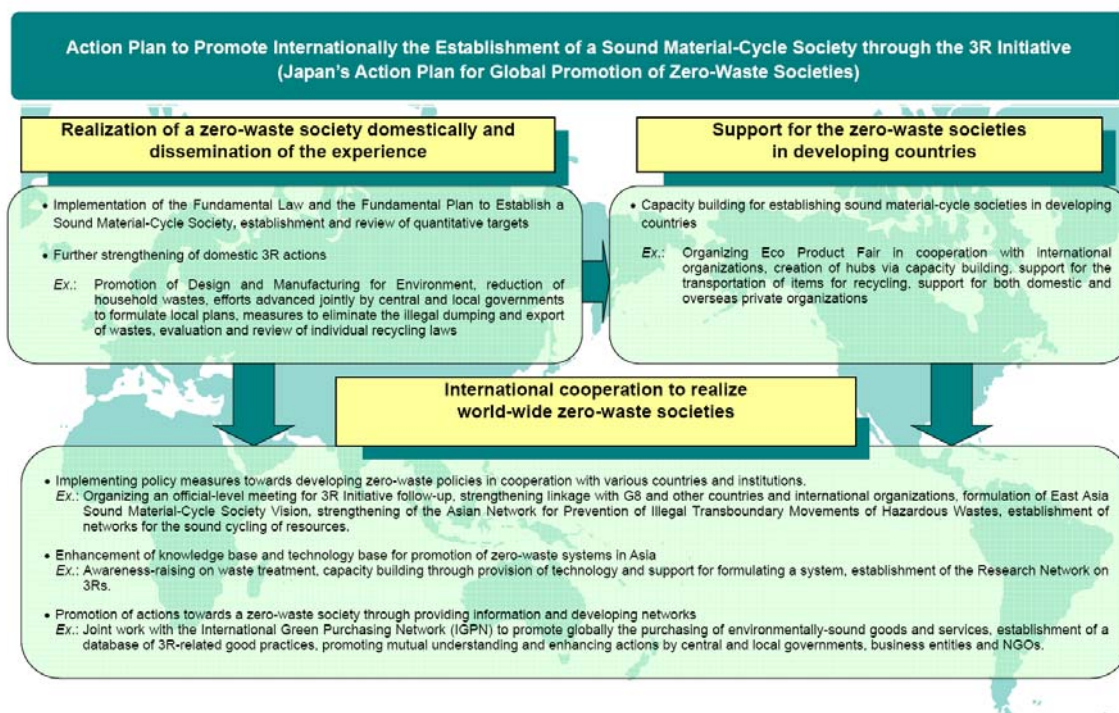
The aforementioned effort and movement of Japan towards waste management at domestic and international levels show Japan’s continued development and initiative role to take the lead to promote the 3R-related activities around the world. According to ex-Prime Minister Koizumi, the Japanese government intended to cope with the problem of waste, and wanted to see an increasing awareness internationally through the 3Rs and *mottainai* concepts around the world. In order to take advantage of this opportunity, the Prime Minister Koizumi initially announced ‘Japan’s Action Plan to Promote Internationally the Establishment of a Sound Material-Cycle Society through the 3R Initiative’ (See Figure 3.7) for the purpose of building a worldwide sound material-cycle society.⁴⁸ The Japan’s Action Plan for Global Promotion of Zero-Waste Society mainly focuses on three areas: 1) domestic realization of a zero-waste society and dissemination of this experience to the world; 2) cooperation with developing countries for promoting zero-waste society; and 3) promotion of international cooperation for realizing a worldwide zero waste society. The government of Japan expressed her initiative role to enhance international promotion of the 3Rs.

⁴⁷ Interview with Mr. Hironobu Takano, Executive Production Engineering, Leading Japanese Company, 20 August 2006

⁴⁸ Ministry of Environment, Japan, “Japan’s Action Plan.”

Figure 3.7

Japan's Action Plan to Promote Internationally the Establishment of a Sound Material-Cycle Society through the 3R Initiative



Source: Ministry of Environment, Japan. 2005. Japan's Action Plan for a World-Wide Sound Material-Cycle Society through the 3R Initiative.

In addition following the Ministerial Conference on the 3R Initiative, the government of Japan additionally proposed the organization of a meeting at the senior official level in Tokyo. The Senior Official Meeting on the 3R Initiative was organized in Tokyo on March 6-8, 2006 with the following intentions: 1) to share knowledge of advanced activities from participating countries, 2) to discuss future directions of activities between participating countries and organizations, 3) to consider the transboundary movement of 3R-related goods, materials and products, 4) to pursue the international implementation of the 3Rs. At the Senior Officials Meeting on the 3R Initiative, Ms. Koike presented the 'Monttainai Furoshiki'. She promoted

the useful cloth of the ‘furoshiki’⁴⁹, which is a wrapping cloth as a symbol of traditional Japanese culture, to encourage people to reduce waste by using the furoshiki instead of plastic bags when they go shopping at the supermarkets. She has a strong intention to disseminate the furoshiki to the world in order to reduce waste and expected that the utilization of furoshiki will contribute to the possibility to establish a sound material-cycle society. The use of furoshiki has been gaining high attention widespread among Japanese people once again. The main reason is that most Japanese citizens are more environmentally aware on the problem of garbage disposal due to high volume of 60,000 tons of plastic bags generated in Japan annually.⁵⁰ Importantly, furoshiki can be used many times without causing environmental problems in contrast with plastic bags.

With an attempt on waste management, the government of Japan has exercised a proactive stance showing her initiative role which is in contrast to the past when she posed her reluctance to follow environmental issues. The role of Japan at both domestic and international levels towards the issue of waste has been outstanding. Activities and campaigns of waste treatment including the 3Rs measure and waste-related legislation that Japan has done at national and local areas are the meaningful movement for Japan to disseminate her experience and efforts to deal with the waste management to other countries.⁵¹ Waste minimization and recycling activities in Japan have been progressively carried out. The trend of recycling efforts in Japan has enhanced the substantial progress in achieving greater recycling rate. Intensively promoting waste management at home, it is a good opportunity for Japan to assume a greater prominence in this matter at the international level.⁵² The initiative role of Japan towards the 3R Initiative was internationally distinguished as well. The proposal of the 3R Initiative became part of an international agenda, and many countries agreed to cooperate with each other through information exchange and other

⁴⁹ The furoshiki is a traditional Japanese square piece of cloth used to wrap and carry goods regardless of size or shape of such items. The origin of furoshiki is traced back in the Nara Period (8th Century) but name furoshiki was firstly used in early 1600s during the early Edo Period. Around 1970s, the use of furoshiki began to relegate due to growing economic development with the popular use of paper and plastic bags for convenience in everyday life.

⁵⁰ Hiroyuki Noguchi, “It’s a Wrap,” *The Japan Journal* 3, no.3 (July 2006): 33.

⁵¹ Interview with Dr. Youngsak Kachonpadungkitti. Vice Dean for Academic Affairs of the Faculty of Sciences and Technology, Thammasat University, 31 January 2007.

⁵² Ibid.

activities. International movement and collaboration through the 3R Initiative have been viewed and taken into consideration nationally and internationally as a significant measure in order to develop further progress. The G8 members and other participating countries have supported the 3R concept and emphasized the 3R activities in each country subsequent to the Ministerial Conference on the 3R Initiative.⁵³ In addition to the proposal of the 3R Initiative, the government of Japan has also promoted the concept of *mottainai* and the use of *furoshiki* in the hope of encouraging worldwide people help to easily minimize waste as a part of everyday lives. The government of Japan can bring the 3R measure to the forefront of international discussion. The idea of the formation of a worldwide sound material-cycle society has been enhanced. Besides, the declaration of Japan's action plan to create a sound material-cycle society globally has provided Japan with a greater international role. The initiative performance that Japan has done towards waste treatment and recycling at home including the movement through the 3R Initiative in the international community was a significant step and enabling Japan to step forward into preserve the role of environmental leadership.

⁵³ Ministry of Environment, Japan, "Senior Official Meeting on the 3R Initiative," www.env.go.jp/recycle/3r/en/s_officials/01.pdf; Ministry of Environment, Japan, *Sweeping Policy Reform Towards a "Sound Material-Cycle Society" Starting from Japan and Spreading Over the Entire Globe: the "3R" Loop Connecting Japan with other Countries* (Tokyo: Government of Japan, 2006), p. 45.