

Section 3

ESTABLISHMENT OF AN INTERNATIONAL Sound MATERIAL-CYCLE SOCIETY AND JAPAN'S ROLE

Today, worldwide demand for resources is increasing amid the progressing globalization of economic activity. Thus, waste management and recycling measures have come to take on international aspects.

The current trend toward the establishment of an international Sound Material-Cycle Society (SMS) is centered on the “3Rs.” The origin of this trend can be found in the “3R Initiative” that was agreed upon in 2004. The initiative provides that the members of the G8 shall take the initiative in promoting the 3Rs and lays out directions for 3R approaches. Following up on this development, a Ministerial Conference on the 3R Initiative was held in Japan in 2005, through which G8 members and representatives from other countries began actual approaches in their respective countries based on this initiative. Moreover, the Senior Officials Meeting on the 3R Initiative was held in Japan in 2006 for the purpose of promoting further approaches through information exchange and other activities pertaining to recent progress.

Based on these developments, this section will examine the necessity of establishing an SMS not only in Japan but also internationally and provide the basic philosophies behind its structure as well as Japan's roles toward the establishment of such a society in East Asia.

Ministerial Conference on the 3R Initiative



Source: Ministry of the Environment

Senior Officials Meeting on the 3R Initiative



Source: Ministry of the Environment

1. International circumstances surrounding circulative resources

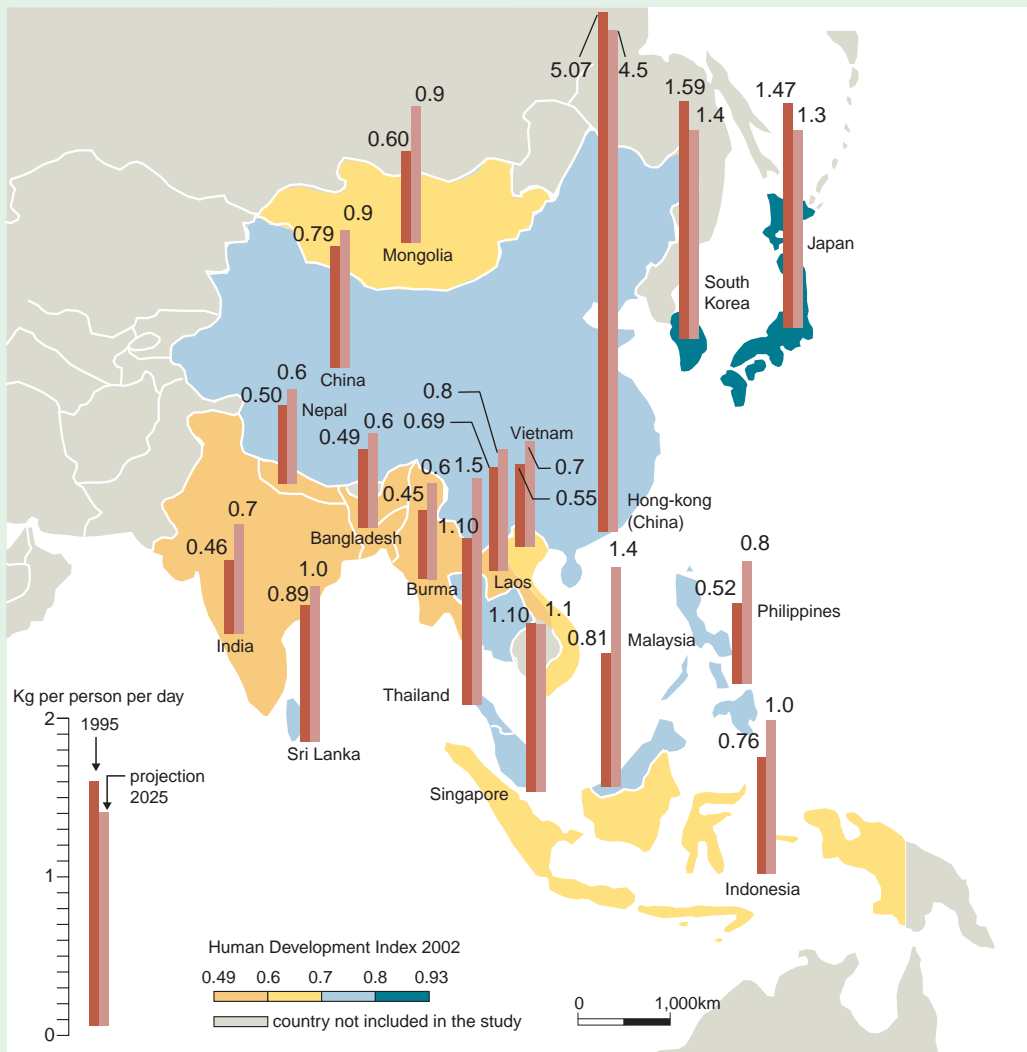
The amount of circulative resources generated is increasing at the global level due to international economic development and population growth, particularly in Asia. At the same time, the qualities of these resources are becoming more diverse. Moreover, international movement of circulative resources for recycling is increasing. There also exist concerns over environmental pollution and other problems related to these changes.

1.1. Increase of waste generation and diversification of waste characteristics at an international level

At the Ministerial Conference on the 3R Initiative held in Japan in April of 2005, all participating countries stressed that the world is facing the issues of growing waste amounts and unsustainable waste management. According to forecasts prepared by Okayama University, the amount of waste generated around the world-which stands at 12.7 billion tons as of the year 2000-will grow to approximately 19.0 billion tons in 2025 and to approximately 27.0 tons in 2050. Asia, in particular, will see especially dramatic increases in the amount of waste generated.

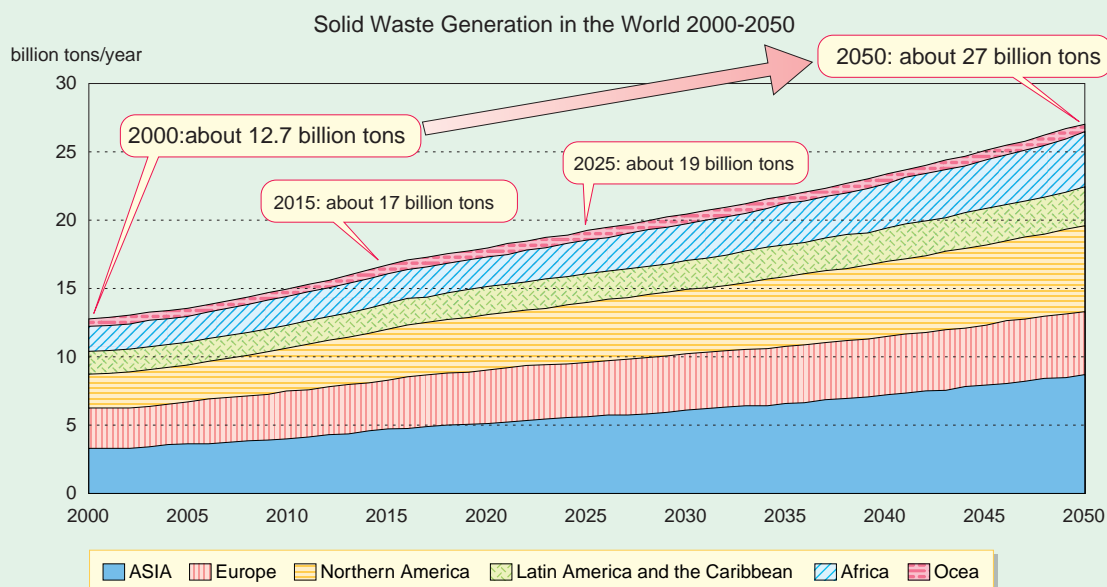
On a per-capita basis, the amount of waste generated in the East Asian countries is expected to increase substantially over the 30 years beginning from 1995 in countries other than Japan, South Korea, and Hong Kong.

Municipal solid waste generation amount per person per day and future predictions



Source: the Secretariat of the Basel Convention

Future predictions for global waste generation levels

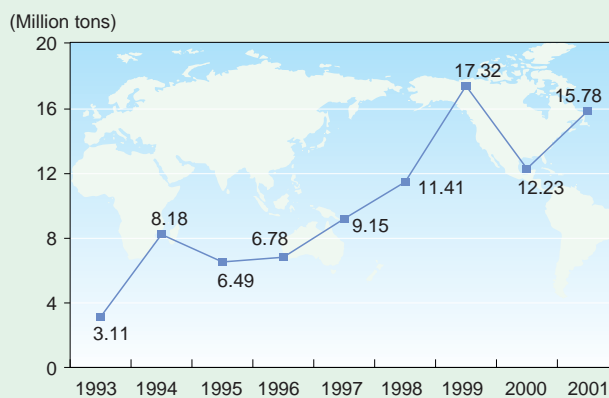


Source: Yoshizawa, Tanaka, et al. Research on estimation of the world waste generation amount and future prospects

1.2. Circulative resources moving across national borders

With regard to the transboundary movement of hazardous waste among countries that have ratified the Basel Convention, movement of such waste increased by more than five times during the eight years from 1993 to 2001.

Trend of transboundary movement of hazardous wastes

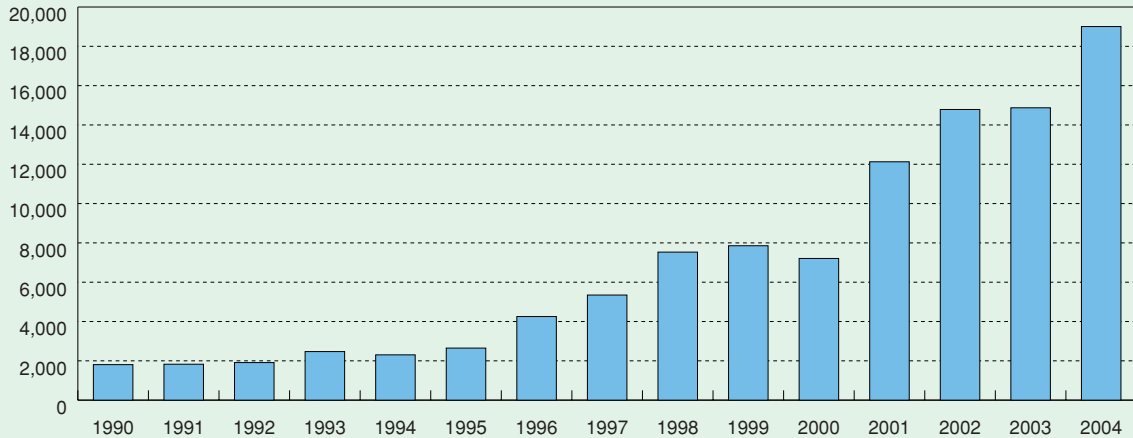


Source: the Secretariat of the Basel Convention

Moreover, the amount of circulative resources (iron and steel scrap, slag, wastepaper, etc.) exported from Japan increased by some 2.5 times during the five years between 2000 and 2004. The majority of the countries receiving these resources were located in East Asia. This trend is expected to continue into the future as rising demand for resources grows in line with rapid economic growth in Asia.

Quantities of circulative resources exported from Japan

(thousand tons)



Note: Circulative resources include waste plastics and slugs, etc.
Source: Documents of SMS planning division of the Central Environmental Council

1.3. Issues caused by increasing waste and transboundary movement of circulative resources

The situation regarding waste and circulative resources means that Japan is faced with a number of important issues.

The first issue involves the fact that, in terms of both finance and institutions, systems for appropriate treatment of waste cannot be prepared sufficiently to keep up with growing waste generation, diversification of waste characteristics, and increase of imports of circulative resources, particularly in developing countries. There are concerns that this situation will lead to environmental pollution. A related problem here is regulation of what is often called the “informal sector,” in which businesses that are not officially recognized handle waste.

View of a final disposal site in East Asia



Source: Ministry of the Environment

The second issue involves resource outflow due to the exporting of circulative resources and its impact on domestic waste management and recycling systems. Japan does not have any particular trade regulations pertaining to transboundary movement of non-hazardous wastes such as plastics. Consequently, the amount of such waste exported to China and other East Asian countries has been increasing in recent years. Such transboundary movement of circulative resources based on market principles leads to stagnation and hollowing-out of the domestic recycling industry. There are thus concerns that this will interfere with the stable maintenance and strengthening of Japan's domestic waste management and recycling systems, which the country has built over many years.

The third issue involves trade in used or recycled products. Used products — such as home appliances and vehicles — can be used cheaply in importing countries. While this practice on the one hand represents effective use of resources, but there are people who claim that, because such items become waste in a short period, it also includes an element of “transboundary movement of waste,” and this may interfere with industrial development in developing countries.

While it cannot be denied that such issues exist, transboundary movement of circulative resources may make reuse and recycling efforts cheaper and more efficient.

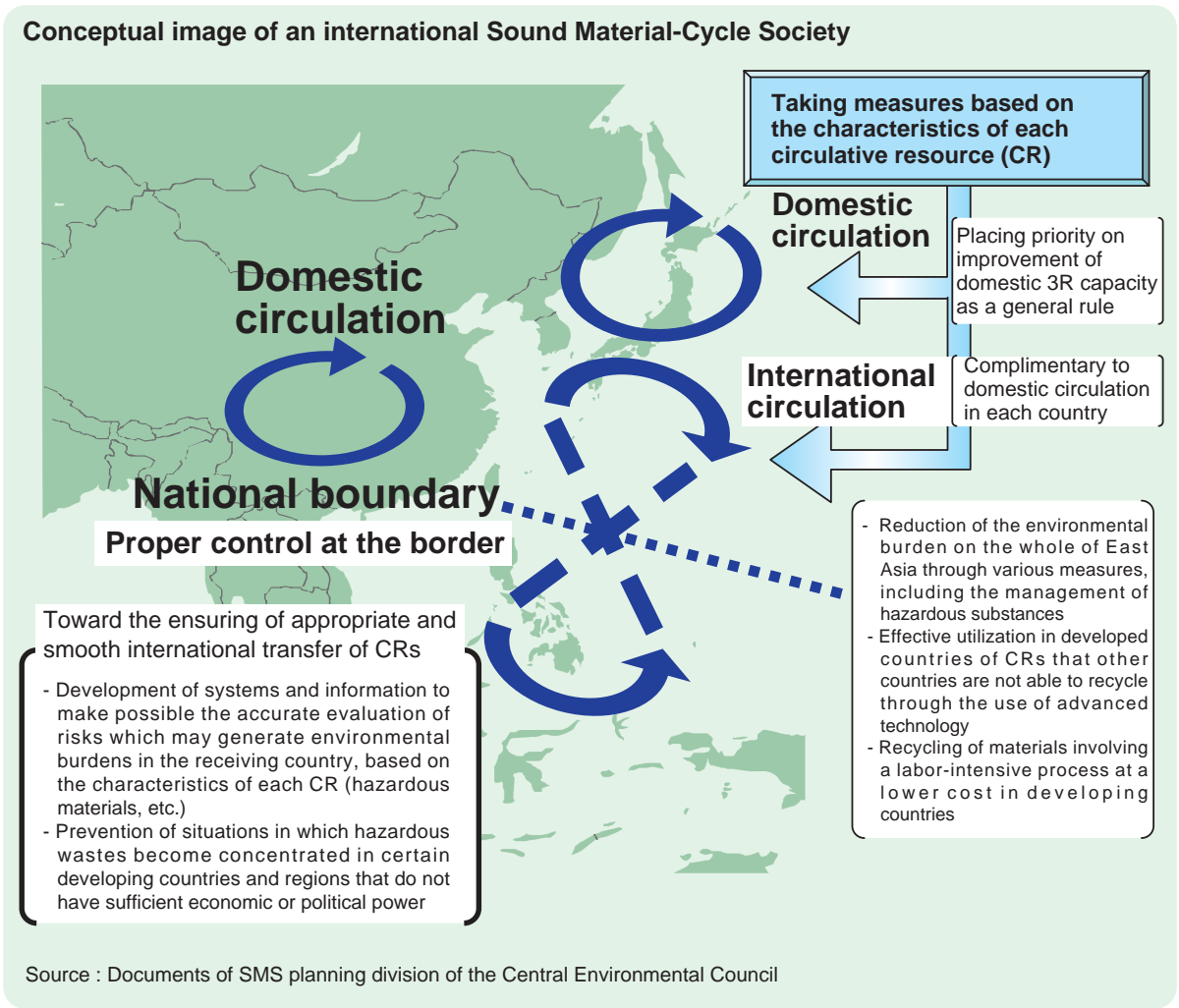
2. Establishment of an international SMS

In order to overcome global issues that surround waste and circulative resources, it is important to establish an SMS not only in Japan but internationally. This situation therefore demands that Japan make an active contribution to the international community even as Japan itself strives to attain such a society.

2.1. Basic concept behind establishment of an international SMS

The Fundamental Law for Establishing a Sound Material-Cycle Society defines “SMS” as a society that is realized by reducing the generation of waste from products, suitably utilizing waste generated as resources whenever possible and appropriately disposing of waste that cannot be used in any way, thereby controlling consumption of natural resources and reducing the environmental load.

An “international” SMS can be viewed as a society incorporating this definition at the global scale. However, if the scope of movement of waste and cyclical materials is considered, it is thought to be appropriate to put geographical emphasis on East Asia, which is understood here as Japan, South Korea and China as well as the countries of Southeast Asia.



2.1.1. Establishing a domestic SMS

The 3R approaches, which seek to curb the generation of waste from products, use waste generated as resources whenever possible, and appropriately dispose of waste that cannot be used in any way, should first be implemented in each individual country. In order to achieve this, each country is expected to work to improve its ability to appropriately dispose of waste by means that include recycling and reuse within its borders.

2.1.2. Enhancing and reinforcing activities to prevent illegal import and export of waste

After each country has established an SMS to the best of its ability, contribution toward reducing environmental load across all of East Asia will be achieved by having waste and circulative resources that cannot be handled in one country effectively used or processed in other countries. In order to realize this kind of transboundary movement of waste and circulative resources, it will be important to manage these items appropriately. Particularly, it will necessary to enhance and reinforce activities to prevent illegal exports.

2.1.3. Facilitating import/export of circulative resources

On the conditions that efforts by each country to establish an SMS domestically are made and that illegal import/export of waste is prevented, it will be possible to promote the effective use of waste as resources through complementary transboundary movement of

circulative resources. In that case, such movement will lead to suitable prevention of environmental pollution as well as contribute to environmental preservation across East Asia as a whole.

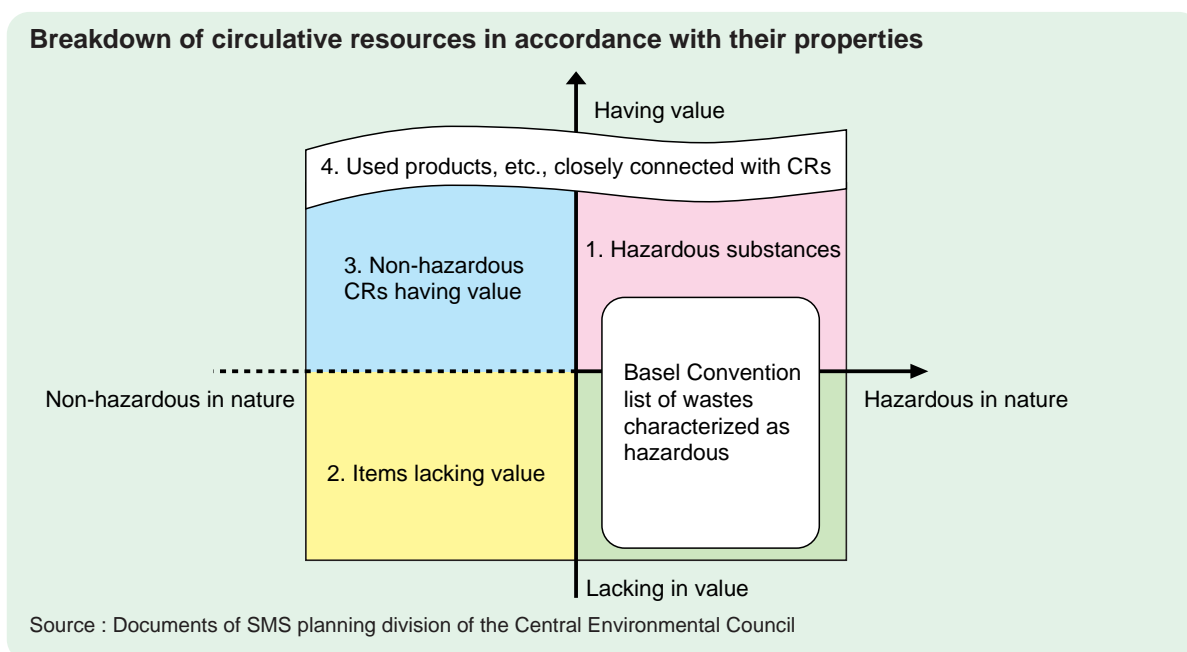
2.2. Responses that match the characteristics of circulative resources

Circulative resources require various means of handling. Thus, it is important to take a precise and reasonable approach to treat these resources based on their characteristics, such as economic value and environmental impact.

First, the treatment of hazardous things, such as hazardous waste under the regulations of the Basel Convention, should, in principle, be handled inside the country where the waste is generated. In the event that some hazardous waste cannot be properly treated in developing countries under current conditions and that it can be recycled through Japan's advanced recycling and treatment technologies, facilitating the import of such waste to Japan can be considered.

Next, valueless things (waste covered by the Waste Management Law) should, as a rule, be also treated inside the country where generated, since there are no economic incentives for their appropriate treatment. This applies even if the items do not contain hazardous substances. On the other hand, in cases where things are used as recyclable resources in the receiving country, even in the case of waste that has to be disposed of in landfill in Japan, efforts to facilitate the export of such items can be considered if their effective use as resources will certainly be promoted through their transboundary movement.

Finally, looking at used products and remanufactured goods, and in particular products that have the same safety and durability as ordinary products, contributions to the effective use of resources by promoting their reuse and recycling through international movement can be considered.



2.3. Formation of the East Asia Sound Material-Cycle Society Vision and Japan's role

At the Ministerial Conference on the 3R Initiative, Japan presented “Japan’s Action Plan for a World-Wide Sound Material-Cycle Society through the 3R Initiative” (also known as “Japan’s Action Plan to Promote Global Zero-Waste Societies”). Under this Action Plan, a “East Asia Sound Material-Cycle Society Vision” that can serve as a shared concept to promote the 3Rs in East Asia will be formulated by 2012. This Vision will serve as one form of international collaboration toward the international diffusion of zero-waste societies. Japan will need to play an important role in the formulation of this vision. The following are among the main approaches needed to fulfill this role.

2.3.1. Contribution to enhancing capacities in each country for cyclical use and disposal

In order to establish an SMS in each of the countries of East Asia, Japan will endeavor to realize an SMS domestically while also making a contribution to the improvement of East Asian countries’ capacities in terms of cyclical use and disposal of waste. Such cooperation will help them to appropriately treat waste and to promote the 3Rs. To achieve this, Japan will need to ascertain the needs of these countries through continuous policy dialogues using existing frameworks (such as the Tripartite Environment Ministers Meetings among China, Japan and Korea), while also cooperating to resolve the problems that each country is facing. One approach that can be considered here is sharing Japan’s accumulated experience in waste management and recycling policy as valuable information for East Asian countries.

Furthermore, in order to realize SMSs in these countries, it will be necessary to formulate plans and visions for 3R approaches. Japan can achieve significant results toward this end by utilizing knowledge gained from its highly-developed technologies and systems to support the formation of such plans and visions. One example of assisted efforts is currently underway in Vietnam, where 3R promotion strategies at the national level are being formulated.

Moreover, Japan will assist in the development of human resources and organizations through existing technical cooperation and training schemes (such as those provided by the Japan International Cooperation Agency [JICA]) to ensure appropriate waste treatment and to promote 3R technologies and systems. In addition, it will be important to establish networks of researchers and experts for the sharing of scientific knowledge and technical information, which constitutes the foundation for planning and implementing of 3R policies. It will also be important to promote approaches by local governments, NGOs and NPOs, which will play important roles towards the creation of SMS.

This kind of support for developing countries is exemplified by “projects on the environmentally-sound management of e-waste in the Asia-Pacific region” that are being promoted under the Basel Convention. Lead and other hazardous substances are included in waste generated from electronic and electrical appliances (e-waste), which include discarded home appliances, such as televisions, personal computers, and refrigerators. Despite this,

the amount of e-waste generated has been increasing in recent years, as have imports/exports of e-waste for the purpose of recycling and disposal. The projects under the Basel Convention have aimed for the environmentally-sound management of this e-waste. In November of 2005, a workshop, as a kickoff to these projects, was held in Tokyo under the joint sponsorship primarily by the Ministry of the Environment of Japan and the Secretariat of the Basel Convention. This workshop featured discussions on information sharing and country-specific projects pertaining to e-waste and resulted in an agreement on an action plan for project implementation.

2.3.2. Approaches toward the prevention of illegal imports/exports of circulative resources

Next, approaches to prevent illegal imports and exports of such circulative resources including hazardous waste are required. Such approaches include five factors: 1) improved efforts to ascertain and analyze international trends involving circulative resources, 2) clarification of regulated goods, 3) improvement of traceability, 4) enhancement of networks for the prevention of illegal imports and exports and 5) protection of Japan's intellectual property rights. Japan will thus need to make an international contribution by implementing policy measures as mentioned below.

For example, in order to ascertain and analyze recent international trends surrounding circulative resources, one possibility is the study of more effective frameworks that can identify used appliances and circulative resources for recycling by developing international goods codes under the Harmonized Commodity Description and Coding System currently used in import/export management.

Moreover, activities to ensure appropriate importing and exporting of individual goods are required. When clarifying regulated goods, one specific activity could be to formulate guidelines for narrowing gaps in criteria among countries on items regulated under the Basel Convention. And, in order to increase traceability, it will be necessary to study the sharing of electronic data on movement, storage, recycling, and disposal of circulative resources among East Asian countries as well as the construction of a system for region-wide management.

Japan proposed the “Asian Network for the Prevention of the Illegal Transboundary Movement of Hazardous Wastes” in 2005 and is currently promoting efforts to prevent illegal imports and exports in collaboration with Asian countries and others. In the future, it will be necessary to enhance and expand these approaches further. At the same time, Japan will need to raise Japanese businesses' awareness regarding the problem of encroachment of intellectual property rights so that Japan's highly advanced waste management and recycling technologies are not illegally infringed upon overseas.

2.3.3. Approaches to facilitate imports and exports of circulative resources

Given the fact that differences exist with regard to how each country views hazardous waste identified under the Basel Convention, approaches toward facilitating the import and export of circulative resources could include the construction of an international data-

base of hazardous waste to be shared throughout Asia as well as a study on reducing trade barriers against remanufactured goods with a view to positive impacts on preservation of the environment. At the Ministerial Conference on the 3R Initiative, the importance of sharing experiences between developed and developing countries and of establishing common criteria was recognized for distinguishing regulated waste from wastes that will become circulative resources for recycling.

Furthermore, using its highly developed 3R technologies, Japan will need to study policy measures for trade facilitation that contribute to environmental preservation, including measures regarding the acceptance of hazardous circulative resources that cannot be appropriately treated in developing countries. Such approaches should be based on the standpoints of promoting the 3Rs internationally, reducing environmental load in the entire Asian region and the preservation of Japan's scarce valuable resources.

It should be mentioned that the promotion of the abovementioned approaches will require full understanding of needs in developing countries, consideration of impacts on domestic waste treatment and recycling systems, and consistency with the global trade system under the World Trade Organization (WTO) and the Economic Partnership Agreement, etc. Furthermore, it is thought that approaches toward establishment of both domestic and international SMSs can be further enhanced through synergetic effects from policy measures in other areas of environmental policy, such as measures to mitigate climate change.

3. Promoting the 3R Initiative

The 3R Initiative—an environmental initiative proposed by Japan—also serves as a guidepost for the establishment of SMSs at both the domestic and international levels. The 3R Initiative was presented to the G8 Sea Island Summit of June 2004 by Prime Minister Junichiro Koizumi, where it was approved as a new G8 initiative.

A ministerial meeting for the commencement of the 3R Initiative (Chair: Minister of the Environment of Japan Yuriko Koike) gained the participation of ministers and other officials from 19 countries including the members of the G8 and the European Commission as well as the representatives of four relevant international organizations. Held in Tokyo in April 2005, the meeting resulted in an agreement to enhance and strengthen further the 3R approaches under international cooperation.

Based on these developments, a senior officials meeting was held from March 6 to 8 of 2006, as a follow-up meeting to the 3R Initiative. Held in Tokyo, the meeting was sponsored by the Government of Japan. The meeting was attended by the heads of concerned departments and other government officials from 20 countries, including members of the G8 and the European Commission as well as seven international organizations. The meeting assisted in enhancing information sharing through presentations by each country and agency on its efforts to promote the 3Rs (see attached table) as well as examples of good practices undertaken since the Ministerial Conference on the 3R Initiative.

Policy measures in Japan recognized as good 3R practices at the Senior Officials Meeting on the 3R Initiative can be exemplified by the electronic manifest system for industrial waste management implemented, efforts to prepare legal systems on the 3Rs and recycling, the incorporation of extended producer responsibility and the setting of clear targets for waste reduction and recycling. It was pointed out that the keys to promoting these approaches include comprehensive efforts that cover both the upstream side (at the stage of manufacturing design and manufacturing) and the downstream side (at the stage of waste treatment and disposal), efforts to recycle and recover heat, and frameworks for effective and appropriate cost sharing for the 3Rs. It was further noted that the 3Rs can be integrated into the concept of environmentally-sound material management.

As can be seen in these approaches being taken by countries and international organizations, momentum to promote the 3Rs is increasing in international society, with other countries and organizations showing appreciation for this Initiative launched by Japan. In the run-up to 2008, when it hosts the G8 summit, Japan will continue to advance the 3Rs by enhancing and reinforcing its domestic 3R policy, while at the same time playing a leading role regarding the 3Rs at the international level.

Table : Current situation of 3R activities in participated Countries in the Senior Officials Meeting on the 3R Initiative

Country	Current Situation of 3R Activities
Brazil	A draft bill on a National Solid Waste Policy containing 3R components is currently under consideration by the National Congress. The challenges standing out in particular are developing segregated waste collection systems and recycling products and wastes and ensuring environmentally sound waste disposal.
Canada	Responsibility for waste management is shared among all levels of government. 3R-related initiatives are integrated with broader national goals for increased competitiveness, enhanced well-being, and a well-preserved natural environment.
China	China has been promoting policies blending market promotion, regulatory control and public participation for the development of a circular economy, with cleaner production and waste management integrated into legislation. Progress has been made in pilot projects at the industrial level, industrial demo-parks and construction of circular economy pilot provinces and cities.
European Commission	The European Union has set a framework for national governments on (1) the sustainable use of resources, (2) waste prevention, (3) recycling, (4) eco-design, and (5) eco-innovation. The EC, together with UNEP, plans to establish an international panel on the sustainable use of natural resources.
France	France developed specific measures on waste prevention mainly based on an EPR scheme. The National Plan for Waste Prevention was adopted in February 2004. As a point of this Plan, a campaign has been promoted to give practical and accessible examples to the public.
Germany	German waste policy emphasizes two points, source separation and extended producer responsibility. Enforcement of a landfill ban for untreated wastes began in June 2005. Germany's waste management policies also have significant linkages with climate change-related issues. Along with sustainable materials management, Germany highly emphasizes materials and energy recovery.
India	Policies and strategies are designed to resolve conflicts arising between developmental and environmental goals. The draft National Environment Policy of 2005, which incorporates the concept of the 3Rs, is currently under consideration.
Indonesia	Major issues regarding waste include a lack of awareness, limited budgets, a lack of compliance, and limited access to waste treatment facilities for micro, small and medium enterprises (MSMEs). A coherent national strategy is seen as essential to enhance coordination, synergy, efficiency and effectiveness.
Italy	Separated collection has steadily improved; there are dramatic regional differences within the country. Italy was able to meet the EU 2002 objectives in achieving packaging recycling for glass, paper, steel, aluminum, wood, and plastic; EU 2008 objectives are already almost achieved; the partnership with enterprises in the packaging consortia represents an interesting best practice regarding the 3Rs and producer responsibility.
Japan	Japan has made substantial progress in achieving greater recycling rates while reducing its final disposal amount and its dioxin emissions. Japan has carried out several initiatives to promote the 3Rs such as the establishment of grants at the local level, amendment of the "Containers and Packaging Recycling Law," and launching a multistakeholder forum for the promotion of 3R activities.
Malaysia	"The National Recycling Programme 2000" was launched in 2000. "The National Strategic Plan for Solid Waste Management 2005" is currently being finalized. Waste minimization is recognized as one of the priorities in Malaysia. Strategies are built on three pillars: enhancement of awareness, strengthening of partnerships and development of institutions.
Mexico	In 2006, regulations were enacted to facilitate implementation of a general law on the 3Rs adopted in 2004. Activities implemented over the previous year include (1) a Crusade for Cleaning Mexico program, (2) a management plan for used oil to ensure environmentally sound management, (3) use of hazardous wastes in cement kilns, (4) PET recycling, with new facilities processing PET to produce fiber and plastic woods, and (5) recovery of dust from the smelting industry.
Philippines	"The Ecological Solid Waste Management Act" specifies the following activities: (1) achievement of a recycling rate of 25% or above by 2006 and increasing thereafter, (2) segregation at source and collection, (3) establishment of material recovery facilities, (4) eco-labeling, (5) green procurement.
Republic of Korea	The following have promoted a sound material-cycle economy: (1) volume-based waste collection, (2) EPR, implemented with mandatory targets for product recovery and recycling, (3) regulations for promoting recycling of construction waste, (4) reduction of food waste, implemented through an NGO campaign.
Russian Federation	Waste minimization is important. Russia has made progress in waste utilization from weapons, bio-mass utilization, waste incineration and energy recovery. 3R will be an important element of the G8 process and will contribute to improving energy efficiency.
Singapore	Singapore's strategy towards Zero Landfill and Zero Waste includes (1) volume reduction through incineration, (2) promotion of recycling in industry and in the community, (3) the reduction of waste going to landfills and (4) promotion of reusable bags to reduce usage of plastic bags and introduction of a packaging agreement.
South Africa	A waste management bill is currently under development. The South African government has promoted various 3R-related measures over the past year, including encouraging EPR, establishing a national recycling forum, promoting cleaner production, expanding industrial waste exchanges between generators and recyclers, and enhancing integrated waste management.
Thailand	Thailand has developed a national integrated waste management plan. 3R activities have progressed substantially among industries, NGOs, and civil society. Various international technical cooperation programs are being implemented. Thailand has several good practices addressing the 3Rs, including take-back schemes for end-of-life products, waste exchange programs and a green purchasing network.
United Kingdom	The UK is reviewing its waste strategy of 2000. The government has set statutory performance standards for composting and recycling, introduced a landfill allowance trading scheme, set up an independent body to promote markets for recyclables and enacted a landfill tax for industrial waste.
United States of America	The USA is promoting the elimination of barriers impeding the trade of remanufactured products, local, state and federal recycling programs, renewable and clean energy technologies, and collaboration with industry, NGOs, and international organizations. U.S. commitments towards the 3R Initiative include partnerships with industry targeting specific waste streams.
Viet Nam	The Law on Environmental Protection addresses the import of scrap materials, economic instruments including preferential taxation, technology transfer and promotion of environmental industry. "The National Strategy for Environmental Protection" set various targets for 2010 and 2020. The National 3R Strategy is being developed in collaboration with JICA, UNCRD, IGES/Ministry of Environment of Japan and ADB.

Source : Compiled by the Ministry of the Environment from the documents of Senior Officials Meeting on the 3R Initiative