Senior Officials Meeting on the 3R Initiative
March 6-8, 2006 Tokyo, Japan
Chair's Summary

Introduction

1. The Senior Officials Meeting on the 3R Initiative was held in Tokyo, Japan on March 6-8, 2006 hosted by the Ministry of the Environment of Japan. There were 20 participating countries (Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Malaysia, Mexico, the Philippines, the Republic of Korea, the Russian Federation, Singapore, South Africa, Thailand, the UK, the USA, and Viet Nam), the European Commission, eight participating international organizations and networks (the League of Arab States, the Asian Development Bank (ADB), the United Nations Economic Social Commission for Asia and the Pacific (UNESCAP), the Organization for Economic Co-operation and Development (OECD), the Secretariat of the Basel Convention, the United Nations Centre for Regional Development (UNCRD), the United Nations Environment Programme (UNEP), and Asia-Pacific Forum for Environment and Development (APFED)).

2. This Chair's Summary was not negotiated and does not represent consensus texts. It highlights the discussions, taking into account participants' comments on the draft summary.

Opening Session

3. Dr. Yasuyuki Eda, Senior Vice-Minister of the Environment of Japan, opened the meeting by citing the critical nature of focusing on concrete implementation issues and expressing his hope that a sharing among countries about the 3Rs would help in the attainment of sustainable development globally.

4. Mr. Kazuyoshi Okazawa, Senior Advisor to the Minister, Ministry of the Environment of Japan, was elected Chair of the meeting. Dr. Helge Wendenburg of Germany and Mr. Marco Antonio Borzino of Brazil co-chaired Working Group One on "Implementation of the 3Rs within Each Country," while Mr. Jamie P. Estrada of the United States of America and Mr. Adisak Thongkaimook of Thailand co-chaired Working Group Two on "International Promotion of the 3Rs (International Flow of 3R-related Goods, Materials and Products)". The Secretariat of the SOM then explained the background and aims of the meeting, after which the proposed agenda was approved.

Plenary Session

5. Each national delegation made a brief presentation on domestic progress of the 3Rs. Many delegates reported new legislation and strategies for promotion of the 3Rs since the Ministerial Conference on the 3R Initiative held in April 2005. Delegates from each international organization also reported projects and programs to promote the 3Rs now being implemented in various parts of the world. Delegation presentations are summarized in the Appendix.

6. The importance of cooperation on the 3Rs at the national, regional, and international levels was

emphasized. The effectiveness of bilateral, multilateral, multiregional, north-south, and south-south cooperation was also noted. In addition, collaboration/linkage with the business sector and NGOs was stressed for successful implementation of the 3Rs. Participants recognized the need for establishing a system to exchange information on practices, policies and technologies, both good and bad.

Discussions in the Working Group Sessions

7. Discussions on how to promote the 3R Initiative were held in two parallel Working Groups. Working Group 1 was attended by 25 participants, who discussed issues related to "Implementation of the 3Rs in each country." Working Group 2 was attended by 51 participants, who discussed issues related to "International implementation of the 3Rs." Taking up the themes above, each Working Group discussed the cross-cutting issues of: (i) promotion of international cooperation, (ii) cooperation among stakeholders, and (iii) promotion of science and technology. The co-chairs of the Working Groups prepared summaries as appearing below. (The diagrams used in the Working Group 1 is hereto annexed.)

Working Group 1: Co-chairs' Summary

Implementation of the 3Rs within Each Country

Session 1: Review of major discussion points

The key elements of good practices on the 3Rs that are transferable/replicable to other countries include (a) an electronic waste manifest system that was developed in the Republic of Korea, which provides real-time information on the monitoring of waste generation up to the final disposal stage, (b) market mechanisms for recyclables, (c) public awareness raising, (d) legislation on the 3Rs and recycling, (e) promotion of Extended Producer Responsibility (EPR), (f) promoting public-private partnerships, (g) enhancing recycle rates in partnership with waste pickers associations and NGOs, (h) information sharing systems, (i) product design standards, (j) establishing clear targets for waste reduction and recycling, (k) a step-by-step approach for banning the disposal of untreated wastes into landfills, (l) schemes for the registration of recycling units possessing capacity for environmentally sound management.

Based on the examples discussed, key elements to good practices were identified as follows:

(i) A holistic approach covering upstream (design and manufacturing) and downstream (waste management),
(ii) A comprehensive approach to addressing material recycling and energy recovery,
(iii) Effective/optimal cost sharing mechanisms for the 3Rs,
(iv) Promotion of environmentally sound waste treatment (e.g., composting),
(v) Innovative measures (making good use of by-products from waste treatment, e.g., bio-gas and Clean Development Mechanism, CDM)
(vi) PPP (public-private partnership),
(vii) Involvement of small and medium sized enterprises (SMEs),
(viii) Changing business models from commodity provision to service provision,

(ix) Decentralized/community-based approach
(x) Linking the 3Rs to other policy goals, such as job and employment creation

Recommended policy measures and actions can be developed based on the following:
(i) regulatory measures
(ii) market forces
(iii) civil society participation and awareness raising, and
(iv) technology development and co-operation.

The continued discussion of the aforementioned key pillars of successful practices regarding 3R initiatives was suggested.

Session 2: Promotion of international cooperation

International cooperation is essential to promote the 3Rs in various respects. Multilateral environmental agreements such as the Basel Convention provide a useful framework and policy guidance on promoting the environmentally sound management of waste. Regional cooperation is essential for the proper application of the Basel Convention, which has 14 regional centers; some of which have regional coordination functions. Other international organizations also provide valuable assistance in the promotion of capacity development and the facilitation of pilot project implementation.

International cooperation is helpful in addressing and identifying solutions to the challenges facing the promotion of 3R implementation. Constraints are found in such respects as (i) Monitoring and data collection as basic information for promoting the 3Rs, (ii) Promoting the involvement of key players, building awareness, public participation, and synergies with other policy processes, (iii) Sorting/classifying good practices with sound logic and in a consistent manner; some good practices are not easily transferable due to their complexity or uniqueness, (iv) Mitigating the impacts of disaster on solid waste and landfills; the need for coordinated approaches between public and private sectors is often highlighted in the response to disaster.

With a view to invigorating sub-regional, regional and international cooperation on the 3Rs, the following actions, among others, were suggested:

(i) Promoting high level policy dialogues at the sub-regional/regional/international levels,
(ii) Fostering international collaborative activities including those facilitated by bilateral aid agencies, UN and other international and regional organizations such as the Secretariat of the Basel Convention, UNCRD, UNEP, ADB and UNESCAP,
(iii) Supporting the OECD research on material flows and resource productivity, and sustainable materials management,
(iv) Establishing regional and international networks on the 3Rs (e.g., knowledge and technology, basic information, internet-based knowledge transfer e.g., an ADB/UNEP Knowledge Hub, training workshops),
(v) Regional centers of international and regional organizations can play a role in promoting sub-regional/regional cooperation (e.g., Basel Convention Regional Centres),
(vi) PPP within and beyond borders – supporting multi-stakeholder dialogue forums,
(vii) Covering both upstream (design & production) and downstream (waste management)

phases,

(viii) Careful attention should be paid to the replicability of success stories/good practices bearing in mind the varying socio-economic conditions,

(ix) Work on sustainable production and consumption patterns is to be taken into account, and

(x) Waste management approaches should be made in consideration of natural disaster risks.

Session 3: Cooperation among Stakeholders

Multi-dimensional stakeholder cooperation was discussed with a view to promoting 3R implementation at the national level. A number of constraints and challenges were identified in this respect, including the following aspects;

Technology transfer has to be customized and localized to meet and suit the local conditions in recipient countries. On-the-ground demonstrations and pilot projects are helpful in meeting these needs.

Enabling policy frameworks

Governments may consider enabling policy frameworks for promoting public-private partnerships; some examples are (i) community-based production systems, (ii) incentive programs such as award giving and certificates for industries/corporations who are promoting clean production, (iii) community and industry cooperation on forest waste management, and (iv) multi-stakeholder partnership (government, NGOs, community, private sector, and donors) for community-based composting projects.

The 3Rs need to be mainstreamed as an integral part of the policies and programs of various governmental ministries and agencies through effective inter-ministerial coordination.

Other enabling policies should include tax benefits under the national framework for the mainstreaming and promotion of clean production to be carried out in the long term.

Empowering stakeholders

It was noted that multi-stakeholder cooperation among the public sector and civil society (private sector, NGOs and communities) on the 3Rs can be promoted mainly by (i) enabling effective policies, fiscal support and incentives, (ii) technology and investment/finance for the 3Rs, and (iii) promoting awareness-raising, education, and capacity building. It is important to consider the participation of the informal sector (for example, the waste pickers association in Brazil) in the planning process for waste management and recycling activities. This could also help the waste pickers association to effectively and formally address health, safety, and pollution issues in the informal sector, and to create job opportunities.

It was suggested to promote multi-stakeholder cooperation particularly through the following actions:

(i) Promoting capacity development is a basis for stakeholder cooperation,

(ii) Stable and enabling policies by the government are essential,
(iii) Development of self-financing schemes is a key to enhancing the durability of the 3Rs,
(iv) Decentralized and community-based approaches, including SME involvement,
(v) Addressing multi-dimensional and/or local needs, capturing multiple benefits, providing incentives and integrating the 3Rs into community and business development (e.g., income generation, providing alternative livelihood, other environmental benefits),
(vi) Supporting key stakeholders in taking a lead on 3R initiatives,
(vii) Sharing generic elements of stakeholder collaboration on the 3Rs among countries (including between developed and developing countries).

Session 4: Promotion of science and technology

Science and technology play a crucial part in advancing the 3Rs. Within this field, however, there are a number of challenges in promoting activities and cooperation.

Community-based approach

The economic viability of 3R-related technologies is important as levels of development and socio-economic conditions vary depending on the particular country or community. Technologies to prevent open burning of agricultural wastes are one of the key areas. Waste collection fees need to properly reflect the cost of such services and must reflect the financial capability and willingness to pay of the households. The “waste per volume charge” scheme has been successful. However, it needs to be combined with other schemes such as EPR.

Information sharing

Regarding access to 3R-related technological information, the problem is not that there is a lack of technology or information thereon, but it may be difficult to determine an appropriate technology out of many technology options. A database on 3R technologies with a proper search engine would therefore be useful. The cyber network could also include a feature of interactive information exchange. It was noted that the purpose of the database should be to provide information and not to impose one-sided standards.

In exploring the establishment of such a database, the formation of a small design team was suggested. Such a team could work to clarify some of the questions raised on the development of the database such as the feasibility and cost to be involved.

Through the discussions highlighted above, the following suggestions were made:

(i) Governments should play a role in incubating capacities for developing and applying technologies,
(ii) Technology transfer should be promoted step by step keeping in mind its suitability and economic viability,
(iii) Social systems need to be developed to enhance the impact of technology,
(iv) Virtual knowledge transfer should be promoted with a network hub and an information

clearing house,

(v) Good practice on technology transfer at the national level can be replicated at regional/international levels, and

(vi) Other means of knowledge/technology sharing should be promoted - such as pilot projects, business/technology exhibition and expert group meetings.

Working Group 2: Co-chairs' Summary

International Promotion of the 3Rs (International Flow of 3R-related Goods, Materials and Products)

Session 1: General Discussions

General Points for Introduction

Japan's experience in promoting the 3Rs indicates that: (i) proper waste management is a prerequisite for the promotion of the 3Rs, (ii) a few pieces of legislation to promote the 3Rs have reduced pollution levels associated with waste management, (iii) collaboration among the central government, local governments, the business sector and NGOs, is essential, (iv) technology development is a key to promoting the 3Rs and solid waste management (e.g., management system for PCBs), and (v) measures are needed to prevent illegal trade.

The questionnaire survey revealed there are problems associated with the international flow of 3R-related goods, materials and products. They include difficulty in distinguishing regulated materials from non-regulated materials (e.g., hazardous from non-hazardous materials). There are positive and negative impacts of the transboundary movement of recyclables. Various measures can be taken to maximize the positive effects and mitigate the negative effects of transboundary movement by participating countries such as licensing schemes and reducing trade barriers.

Major Points Raised during Open Discussion

Several developing countries stressed that recipient countries of remanufactured / refurbished / reused products must dispose of them as wastes once past usable life, and many developing countries have limited capacity and infrastructure to do so in an environmentally sound manner. A licensing system for regulating imports could be useful, as well as other ways to make use of components. Measures for internal promotion of the 3Rs could contribute to securing necessary resources.

Promotion of an adequate recycling industry is considered important for economic development and job creation both for developed and developing countries.

It was noted that the 3R initiative needs to focus not only on wastes already generated, but reduce energy and resource consumption by promoting clean production activities. International cooperation is necessary to promote the 3Rs. Developing countries can learn from the experiences of other countries, especially developed countries.

Some countries expressed concern that trade in recyclables / remanufactured / refurbished / reused products could be used to disguise the dumping of unwanted wastes in developing

countries.

Several countries stressed that wastes, remanufactured goods, and used products are different and should be distinguished. Remanufacturing is an important industry and offers certified products. Some participants mentioned that there were barriers to trade in remanufactured goods and used products. It was also mentioned that there is no international definition of remanufactured products.

Session 2: International Cooperation

Policy and Rules

Some participants noted that the 3Rs should not be considered as a single issue. 3Rs should be looked at in a much broader policy context, which includes production processes, natural resources management, products policy and waste management. It is also important to link the 3Rs to sustainable production and consumption. A few countries emphasized that the 3Rs should be closely associated with Sustainable Consumption and Production (SCP) Task Forces. The link to EPR and product design was also mentioned.

Questions were raised about the nature of trade barriers in products under discussion. There are rules on transboundary movement of hazardous wastes (e.g., the Basel Convention) approved by the international community. Some suggest that additional rules are necessary to regulate the transboundary movement of recyclable products, while others see regulation as inefficient, and suggest mandatory rules should be left to individual countries. It was stated that in the short run, technical and practical guidelines seem more appropriate so that practical experiences are accumulated and potential problems are clearly identified by countries concerned. The importance of defining wastes and what constitute resources was raised. In this respect, the EU is developing a process under which wastes are defined not by economic value but by environmental risks. In addition, Indonesia mentioned a testing requirement of all wastes to determine their toxicity.

Information and technology

Information sharing is one of the most useful approaches to achieve the 3Rs across countries. Life cycle assessment can be useful to understand the implications of the international flow of wastes and 3R-related goods and materials. Some countries pointed out that product design and production processes are crucial in certain products, since at these stages most of the environmental impacts are determined.

Participants emphasized that data and information regarding international trade and recycling goods need to be strengthened, so that proper environmental assessment can be conducted.

It was stressed that countries needed to know more about the movement of wastes, both legal and illegal. More international research is necessary to understand the whole flow of materials, from generation to disposal, and to clarify what kind of environmental issues have actually taken place in developing countries. The result of the research could alert policy makers to the need to take appropriate action. It was noted that the OECD works on establishing a knowledge base on material flows and resource productivity, and could also conduct research on the impact of trade

in 3R products.

It is noted that, while used and remanufactured goods exist in developing countries, information regarding associated environmental impacts should be communicated by producers. In this respect, government-to-government as well as business-to-business communications should be encouraged.

Some countries pointed out that most technology transfer is associated with costs. How this issue is addressed is crucial. Some 3R related technologies are very good, but too costly. Such technologies may not be appropriate for developing countries. Technologies that appropriately meet the needs of developing countries should be promoted. Also mechanisms to meet financial needs of developing counties have to be strengthened.

Some countries emphasized that private companies can be major driving force to technology transfer. Business to business technology transfer is considered important. Industry should be more encouraged in this respect. However, business environment in some developing countries is not conducive to having private companies make necessary investment.

Many mentioned that databases are useful and should be shared to help developing countries identify what are hazardous wastes and what are not. In this regard, more detailed characteristics of wastes need to be presented, and information regarding processing technologies, costs, and environmental risk assessment should be provided. It was pointed out that processing and treatment technologies commonly used in developed countries tend to be high tech and high cost, and therefore may not be appropriate for developing countries.

Capacity building

It is noted that specific capacity is necessary to promote the 3Rs in most developing countries. In this respect, capacity is built through actual engagement in all 3Rs. It was pointed out that ban on international trade of wastes containing recyclable resources may prevent capacity transfer. It should be noted that some developing countries have enough capacity in place (with safeguards such as licensing) to handle wastes and recyclable materials properly.

Some countries pointed out that international trade of wastes is not limited to North-to-South, but increasing volumes of trade are taking place between developing and developed countries. Therefore, appropriate capacity of developing countries has to be developed in this context as well.

In order to accumulate practical lessons, bilateral cooperation is considered effective. There have been many cases where technology and capacity transfers have taken place from developed to developing countries. Trade related agreements such as FTAs have also provided valuable opportunities for such bilateral collaboration.

Some countries emphasized that regional collaboration is considered necessary to properly deal with wastes. Small island countries do not have capacity to deal with increasing wastes generated. Some advanced technologies are only available in developed countries but have to be adapted to local conditions, and in such cases developed countries must assist developing

countries to manage waste properly. This may include exportation to developed countries.

Session 3: Collaboration among Stakeholders

Intergovernmental Collaboration

A need has been identified for stronger coordination and communication between environmental/health authorities and Customs Agencies in order to raise awareness among customs officers about waste trade.

Also pointed out was a need to have day to day communications among Customs, Port, and Maritime Authorities, to monitor transboundary movement of wastes in particular and to prevent illegal movements.

Training for Customs officers especially in developing countries is emphasized, so that they can identify hazardous materials and products. In this respect, UNESCAP has provided upon requests from its member states, national and subregional training programs for Customs officials as well as environmental administrators in selected developing countries in Asia and the Pacific. The Secretariat of the Basel Convention has conducted a series of regional and national workshops for the training of Customs and enforcement officers in cooperation with other MEAs, the World Customs Organization (WCO), and INTERPOL and developed a manual on the control of illegal traffic. UNEP informed the group about the Green Customs Programme, involving MEAs, WCO, and INTERPOL.

Some countries pointed out that regional Customs networks have been already set up in North America and Europe (North American Commission for Environmental Cooperation, IMPEL-EU Network). The network in North America has been very effective in monitoring the movements of hazardous wastes within the region. Experiences and lessons gained will be shared with other regions. It was reported that a similar network was initiated in Asia as well.

Multi-stakeholder involvement

It was noted that NGOs can play an important role in promoting the 3Rs, particularly in relation to creating public awareness. Therefore, NGOs should participate more in regional and international policy dialogues as well as in future meetings on the 3Rs to make useful contributions.

Business can be an important partner to promote the 3Rs. It is proposed that representatives of business should be involved in future meetings on the 3Rs. Exchange of information and experiences should be promoted more among private companies concerned, both domestic and international. It was noted that multinational corporations can be effective propagators of the 3Rs and may be a resource for best practices and the transfer of technology and knowledge. Additionally, some countries emphasized that industry should be encouraged to promote 3R-related products and technologies in the marketplace and participate in ongoing public-private partnerships, such as the mobile phone partnership initiative under the auspices of the Basel Convention.

Session 4: Science and Technology

Participants emphasized that international collaboration is essential to promote 3R-related technologies particularly for developing countries. The important role of the development assistance was highlighted. There should be concerted efforts among countries, international organizations, and businesses so that synergies are created. Also pointed out was the need to create an international network of experts and researchers.

It was noted that there are already many technologies available to promote the 3Rs. However, they are not necessarily appropriate in developing countries' context. In some cases, no effort is made to adapt technologies to local conditions, which result in worsening the situation. Indigenous and locally-developed technologies are often useful; thus, such technologies should be promoted.

Important for the 3Rs is, as pointed out by a few participants, a system such as eco-towns and eco-industrial parks to combine industries so that wastes generated by one industry are used by other industries. This could be considered at local, national, and regional levels. This kind of system will reduce costs and environmental impact for producers and consumers.

Some countries pointed out that assessment of individual technologies is necessary to see if they are cost effective. This is particularly important to developing countries, because financial resources are limited. UNEP is developing a sustainability assessment tool to assist in the selection of appropriate technologies. The United States has submitted a formal proposal to the OECD Committee on Business Environment to study the economic benefits of sustainable manufacturing and to establish a system of indicators to measure the success by which industry achieves sustainable production.

It was pointed out that in some developing countries, CDM and EU Emission Trading Scheme have been utilized to get additional funds to support projects related to solid waste management, particularly recovery of land fill gases.

It was proposed to develop an international waste observatory to compile and analyze information regarding transboundary movements of recyclables, markets for recyclables, and appropriate technologies for treatment and recycling. This is partially met by the Basel Convention, which has set up knowledge hubs on hazardous wastes in China and Indonesia.

Further Steps for 3R Implementation

8. The SOM helped to facilitate the exchange of information and experiences for the promotion of the 3Rs and also served as the driving force for each county to take appropriate measures as well as implement environmentally-sound management. The delegates supported the continuance of this process and welcomed the proposal of Japan to initiate regional activities in Asia, including the organization of a regional meeting in Autumn 2006 which should be open to other countries

and partners. A few international organizations, such as UNEP, ADB, UNCRD, UNESCAP, Secretariat of the Basel Convention and OECD, announced activities to promote the 3Rs jointly with the Japanese proposal. These activities include organization of subregional policy dialogues, creation of a knowledge hub on the 3Rs, and support for several countries in Asia to develop national 3R strategies. They could also include an international seminar as proposed by the OECD.

9. It was pointed out that the 3Rs could be integrated with environmentally sound waste management. Also important is the integration with circular economy, sound material cycle economy, cleaner production and technologies, material flows and resource productivity, sustainable materials management, zero-waste economy, waste management hierarchy, product design, life cycle assessment, sustainable production and consumption models, extended producer responsibility, green growth, green procurement and overcoming trade barriers taking into account the existing rules of transboundary movement of hazardous wastes. It was emphasized that commonalities clearly exist among countries at the regional level, and continued work on the 3Rs, particularly in a well-structured forum, would prove valuable. Delegates emphasized that regional cooperative efforts are one of the areas where further efforts are clearly needed.

10. Russian Federation is intended to discuss the 3R Initiative at the forthcoming summit of the G8 in St. Petersburg in July 2006 in the context of topics which will be under consideration at the summit. Germany stated its interest in considering how to promote the 3R Initiative during its presidency of the G8 in 2007. Japan expressed its intention to continue its leading role in promoting the 3R Initiative, leading up to its presidency of the G8 in 2008.

Annex 1

Background

At the G8 Summit held at Sea Island, Georgia, USA, in June 2004, Prime Minister of Japan Junichiro Koizumi proposed the 3R Initiative. The Summit adopted the “Science and Technology for Sustainable Development: '3R' Action Plan and Progress on Implementation” as a part of the G8 Action Plan.

The Ministerial Conference on the 3R Initiative was held in Tokyo in April 2005, in order to formally launch the 3R Initiative agreed upon at the G8 Sea Island Summit, with the purpose of the Initiative being to disseminate 3R activities on a global basis. The Ministerial Conference welcomed a proposal by Japan to organize a meeting at the senior official level in Tokyo as a follow-up to the Ministerial Conference, to be held no later than the spring of 2006.

The Senior Officials Meeting was held to share knowledge of advanced activities from participating countries, to communicate future directions of activities between participating countries and organizations, and to consider the transboundary movement of 3R-related goods, materials, and products.

Summaries of Presentations by the Participating Countries and International Organizations

Brazil

A draft bill on a National Solid Waste Policy containing 3R components is currently under consideration by the National Congress. With a wide territory, large population, and diverse industrial sector, environmental management is a complex policy matter for Brazil. Only 40% of waste is disposed of in sanitary landfills. Five challenges stand out in particular: (1) stemming the illegal trafficking of waste, (2) reducing urban/industrial waste, including imported waste, (3) developing capacities for segregated waste collection systems, (4) establishing systems for reusing and recycling products and wastes, and (5) ensuring environmentally sound waste disposal.

Canada

Governance over waste management is characterized by shared responsibility among all levels of government. Recent initiatives contributing to the 3Rs have focused on (1) trans-boundary movement, (2) an updated EPR inventory, (3) multi-stakeholder discussions and strong partnerships for strengthening resource-use efficiency, (4) promotion of sustainable communities through adoption of a life cycle approach and state of the art technologies, and (5) the informing and engaging of average citizens. 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 since the beginning of the century. Progress has been made in

pilot projects at the industrial level featuring cleaner production, at the regional level through industrial demo-parks, and the societal level through construction of circular economy pilot provinces and cities. Academic studies, experience exchange, and international cooperation are being promoted actively, with a recommended emphasis on resource utilization, reuse of wastes, construction of pilot ecological industrial parks, technology exchange, and public awareness raising.

European Commission

Regarding the 3Rs, 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 plan to establish an international panel on the sustainable use of natural resources and 14 products are detailed under the framework of eco-design for energy using equipment. The public sector in the EU has achieved between 15 and 70% green purchasing, depending on the country, and municipal waste recycling has doubled over recent years. A mix of instruments and a targeted policy with concrete objectives and legal framework has been a key in achieving these successes. The European Union continues to promote the phasing out of hazardous chemicals and life cycle assessment among other policies of 3R.

France

In addition to EU policy implemented in France, mainly based on EPR scheme, France also developed specific measures on waste prevention. The National Plan for Waste Prevention was adopted in February 2004. As point of this mentioned plan, a campaign focusing on daily and simple actions was promoted to give practical and accessible examples to the public. The “product expected effective lifetime” (PEEL) initiative has also been promoted as an important source of information, and surveys indicate that 90% of consumers are interested in this information. A campaign is also underway to reduce the use of disposable shopping bags with a target of 50% reduction (from the 2003 level) by 2006. A 35% reduction had already been achieved by 2005. Other activities include rationalizing the distribution of unsolicited advertising fliers by giving the advertiser the financial responsibilities of paper collection and recycling.

Germany

In Germany, 3R policies have been in place for the last 20 years. German waste policy emphasizes two points, source separation and extended producer responsibility. A landfill ban for untreated wastes was enforced in June 2005. Germany’s waste management policies also have significant linkages with climate change related issues, with an overall target of GHG reduction by 40% during 1990 to 2020. Along with sustainable materials management, Germany highly emphasizes materials and energy recovery, and has demonstrated significant achievements in recovering biological and organic waste, battery waste, metals, plastics, etc. Germany’s 2020 3R target aims for avoidance and recovery, with no land filling.

India

Policies and strategies are designed to resolve conflicts arising between developmental and environmental goals. Environmental considerations have been integrated into decision making at all

levels since 1992 and the draft National Environment Policy of 2005, which incorporates the concept of the 3Rs, is currently under consideration. Major strategies and activities include (1) the Charter on Corporate Responsibility for Environment Protection (CREP), through which stakeholders commit to participatory action beyond mandatory levels, (2) a registration scheme in which recyclable waste is channelled only to entities which can process it in an environmentally sound manner, and (3) promotion of cleaner technologies and waste minimisation circle concept. Technology and Information sharing are key to the success of 3R initiative. .

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. Key points of 3R implementation include (1) introduction of appropriate regulations and policies thorough mainstreaming the 3Rs, (2) establishment of quantitative targets, (3) incentive mechanisms, (4) public participation, (5) capacity building in local governments and the community, (6) 3R measurement developments, (7) enhancement of R&D, and (8) enhancement of good environmental governance.

Italy

While waste generation in Italy increased in line with GDP from 1995 to 2001, relative decoupling was achieved in 2002-03; 2004 is critical again. Separated collection nevertheless has steadily improved along all the period; there are dramatic regional differences within the country (relevance of regional policy and EU Structural Funds). 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 represent an interesting best practice for 3R and producer responsibility. Italy also emphasizes green public procurement, under legislation requiring that public administration at all levels must cover at least 30% of supply needs with goods and manufactured items made of recycled material. Attention is paid to the institutional capacity: the transformation of the Waste National Observatory in a sector Waste Authority should induce improvement of regulatory capacity. Suggestions were made for the improvement of systematic data availability on transboundary movement of waste and remanufactured goods; an International Waste Observatory monitoring waste prices and markets; cooperation with OECD on material flows, resource productivity, sustainable materials management; and reporting on the contribution of 3R strategy to mitigation of and adaptation to climate change.

Japan

In the past decade, Japan has reformed its waste management and recycling policies and introduced new legislation to promote a Sound Material-Cycle Society. Japan has made substantial progress in achieving greater recycling rates while reducing its final disposal amount and its dioxin emissions. Since the Ministerial Conference, Japan has carried out several initiatives to promote the 3R such as (1) the establishment of grants at the local level, (2) amendment of the “Containers and Packaging Recycling Law,” and (3) launching a multistakeholder forum for the promotion of 3R activities. Iinternational cooperation efforts include capacity building and research and technological cooperation

with developing countries, including the provision of assistance with national 3R strategy formulation for several countries in Asia. Japan will host an international conference on 3R in Asia in Autumn 2006, at the earliest. In addition, Japan will disseminate reports on Japan's experiences and implement research on 3R systems in Asia.

Malaysia

The legal framework and programs dealing with hazardous materials are established by the federal government, while those dealing with municipal waste are set by local governments. The National Recycling Programme 2000 was launched in 2000 with the objective of inculcating the habit of recycling among the population. The National Strategic Plan for Solid Waste Management 2005 will indicate a cost recovery plan for the programme. The plan includes legal and institutional frameworks, which are 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 to raise public awareness on the 3Rs, involving schools, NGOs and international aid organizations, (2) a management plan for used oil to ensure environmentally sound management, (3) use of hazardous wastes in cement kilns, with the added economic benefit of helping increase global market share by reducing cement production costs, (4) PET recycling, with new facilities processing PET to produce fiber and plastic woods, and (5) recovery of dust from the smelting industry, producing useful by-products while creating employment.

Philippines

Solid waste management has been identified as an important issue and its focus has expanded from the Manila area to nationwide. 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. The Toxic, Hazardous, and Nuclear Waste Control Act encourages proper management of hazardous wastes under the Basel convention. Recycling rates have increased to 25% in metro Manila since 1997. These rates are increasing for the rest of the country. Problems in implementing the 3Rs include the cost of recycling, including transportation costs, difficulty in combating the smuggling of e-waste and other waste, and insufficient markets, information, cooperation, and facilities.

Republic of Korea

In Korea, efficient use of natural resources is considered the key to sustainable development. The following have promoted a sound material-cycle economy: (1) volume-based waste collection, resulting in reduction of waste and raised awareness on the 3Rs, (2) EPR, implemented since 2003 through application to 21 categories with mandatory targets for product recovery and recycling, (3)

regulation for promoting recycling of construction waste, (4) reduction of food waste, implemented through an NGO campaign as well as policy, (5) government procurement of eco-friendly products, (6) voluntary agreements on the 3Rs, implemented by the cooperation between the government and the private sector, and (7) environmental industry, expected to serve as one of the driving forces for economic development.

Russian Federation

Russia strongly supports the 3R Initiative. Waste minimization is important: the country has collected $80 \cdot 10^9$ tons of wastes, with an increase of $3 \cdot 10^9$ tons every year. The main problems in managing wastes in Russia are: extraction of minerals, worked out and end of life military equipment, biomass waste. Russia has started to implement Integrated Solid Waste Management. Russia has made progress in waste utilization from weapons, bio-mass utilization, waste incineration and energy recovery. International cooperation will contribute to environmental protection including global warming. Russia is G8 chair country. 3R will be important element of G8 process and will contribute to improving energy efficiency.

Singapore

High economic and population growth resulted in rapid increases in waste generated in Singapore. Singapore's strategy towards Zero Landfill and Zero Waste includes (1) a volume reduction through incineration, (2) promotion of recycling in industry and in the community, (3) the reduction of waste going to the landfill, (4) waste minimization, i.e., minimization of waste at source such as promoting reusable bags to reduce usage of plastic bags and introducing a packaging agreement. Singapore has established clear targets towards 2012.

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 (1) encouraging EPR on a voluntary basis in partnership with industry, (2) establishing a national recycling forum, (3) promoting cleaner production in the context of a national strategy, (4) expanding industrial waste exchanges between generators and recyclers, and (5) enhancing integrated waste management through more appropriate functional and institutional arrangements. The challenges that South Africa currently faces in the implementation of 3R initiatives are the lack of capacity at local government and the lack of technical capacity for assessing the impacts of 3R initiatives that have been undertaken.

Thailand

Municipal solid waste is disposed of via sanitary landfill and open dumping or burning. For the implementation of the 3R Initiative, Thailand has developed a national integrated waste management plan as well as several pieces of legislation. 3R activities have progressed substantially among industries, NGOs, and civil society. Various international technical cooperation programs are being implemented in collaboration with the Governments of Japan, Germany and United Nations agencies. 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. Thanks to the 3R initiative, the

ratio of recycling has increased and the amount of landfilled waste has decreased. Key success factors for the 3Rs include the establishment of clear policies and goals, a legislative framework, cooperation among stakeholders, promotion of research and technology, and international cooperation.

United Kingdom

The UK is actively cooperating with various international initiatives on eco-products and serving as the Secretariat for the International Sustainable Products Taskforce. It is also reviewing its waste strategy of 2000 for both municipal and non-municipal waste aiming for closer integration of sustainable production and consumption agendas. The government has assigned to each local authority statutory performance standards for the composting and recycling of all household wastes. In April 2005, the government introduced a landfill allowance trading scheme (LATS), which sets a limit on the amount of biodegradable waste that can be landfilled. The government has also set up an independent body called Waste Resources Action Programme (WRAP*) to promote markets for recyclables. With regard to industrial waste, the government has also enacted a landfill tax and a National Industrial Symbiosis Program**. In relation to trans-boundary movement of recyclables, sharp increases in exports of plastic, paper, and e-waste have been observed in recent years, mostly originating from the business sector. Targeted enforcement activity has been undertaken by UK competent authorities, individually and in liaison with European partners against illegal traffic in wastes.

**www.wrap.org.uk*

***www.nisp.org.uk*

United States of America

In accordance with the 2005 Ministerial Conference on the 3R Initiative, the USA is promoting (1) the elimination of barriers impeding the trade of remanufactured products, (2) local, state and federal recycling programs, (3) renewable and clean energy technologies, and (4) collaboration with industry, NGOs, and international organizations. The USA promotes public awareness of the 3Rs. In addition, US industries identify and gain economic benefits from the 3Rs. The USA supports clean and efficient technology through initiatives such as the Asia-Pacific Partnership for Clean Development and encourages free trade in all 3R products including clean energy and technologies. Examples of U.S. commitments towards the 3Rs initiative include a national action plan for increased waste recycling, partnerships with industry targeting specific waste streams, public awareness efforts, and public sector procurement programs.

Viet Nam

Viet Nam has introduced various policies and instruments to promote the 3Rs. The 2005 Law on Environmental Protection contains 14 articles on the 3Rs that include (1) the import of scrap materials, (2) economic instruments including preferential taxation, (3) technology transfer, and (4) promotion of environmental industry. The National Strategy for Environmental Protection set various targets for 2010 and 2020, including those on cleaner technology application and capacity development. The Hanoi City 3R Initiative supported by JICA is a major international cooperation program which is currently being implemented to promote (1) waste segregation, (2) “Mottainai” initiatives and (3) the development of a “City Sustainable Recycling Strategy,” The National 3R Strategy is being developed by the Ministry of Natural Resources and the Environment in collaboration with the UNCRD,

IGES/Ministry of Environment of Japan, and ADB.

League of Arab States

LAS/CAMRE encourages implementation of the 3R Initiative on the national level and calls upon Arab countries to minimize waste through rational use of resources, promote clean production and sound waste management, and benefit from technology transfer and capacity building to enable implementation at the national level. LAS/CAMRE works to enhance Arab capacities through joint action, including organizing training workshops and preparing manuals on environmental management systems, impact assessment, and other areas. LAS stresses the importance of common understandings on definitions and classifications of recyclables and remanufactured goods as a prerequisite to any global action. The potential for adverse health, environment, and economic impacts must be considered carefully, and the 3R meetings should take up modalities, means to make decision making more transparent and participatory, also the extended legal responsibility of multinational companies should be well perceived.

OECD

OECD places the 3Rs in the broader context of sustainable resource use and resource productivity, considering both the economic efficiency and the environmental effectiveness of resource use, as well as related trade and supply security issues. Two streams of work are key in supporting the 3Rs:

(1) The establishment of a knowledge base on material flows and resource productivity. This is done by developing and implementing accounts and indicators that can be used in material flow analysis and in international policy work and by providing methodological and analytical guidance to countries.
(2) Policy analysis, evaluation and guidance concerning sustainable materials management. This work builds on OECD experience with waste management policies (transboundary movements, waste prevention, extended producer responsibility, environmentally sound management of waste), economic analysis and country environmental performance reviews. It applies a holistic, integrated approach to waste management, taking into account the full life cycle of materials.
(3) The OECD could further support the 3R Initiative by hosting an international seminar or conference in a few years' time, as already proposed at the Ministerial Conference on the 3R Initiative in April 2005.

UNEP

UNEP looks at the concept of 3Rs from a holistic perspective of building an economy based on the life cycle approach. UNEP derives its mandate from the key document emerging from the WSSD, the Ten-Year Framework of Programs on Sustainable Production and the subsequent Bali Strategic Plan for Capacity Building and Technology Support. To operationlize this, UNEP launched the 3R Platform as an implementation mechanism for 3R issues related to sustainable production and consumption. The strategic elements of the Platform cover governance, education and awareness building, capacity building and technology support, and financial access. UNEP is committed to continue to work and strengthen its mandate on 3Rs and related issues.

Secretariat of the Basel Convention

The Basel Convention recognizes that waste management options should be considered, taking into account a waste hierarchy in the following order: (1) waste prevention, avoidance, and minimization; (2) reuse; (3) recycling recovery and reclamation; and (4) final disposal. Thus it is necessary to look beyond final disposal issues to take appropriate action upstream though promotion of the 3R Initiative. Environmentally sound management of waste should be applied to all kind of wastes, as all wastes could be harmful to human health and the environment unless properly treated. The Basel Convention promotes the sound management of waste at three levels: (1) nationally, environmental performance of recycling markets should be improved through regulation and voluntary measures; (2) regionally, there should be a level playing field ensuring that the movement of hazardous wastes is predictable, transparent and traceable; (3) internationally, the Basel Convention promotes public and private partnerships to develop tailor-made guidelines on environmentally-sound trade in recyclables. Coordinated efforts at these three levels are converging in the Strategic Plan Focus Areas, which include environmentally-sound management of e-waste, PCBs, obsolete pesticides, used oil, health care waste and lead-acid batteries. Challenges include: distinguishing between hazardous waste and non-hazardous waste and between used products and waste; and the exact point when a product becomes waste.

ADB

Relevant areas of the 3Rs for the ADB's projects or investments include, among others, (1) urban and industrial solid waste, with the 3Rs a part of urban environmental strategy, (2) cleaner production and pollution prevention, (3) urban water and wastewater usage, (4) energy efficiency and clean energy, (4) landfills and CDM, (5) regional cooperation on similar issues, with the 3Rs being a potential common focus in the Asian-Pacific region, (6) knowledge hubs in the 3Rs, with focus on identification of technology available, capacity building needs and knowledge sharing. The 3Rs can also provide good business opportunities in the region.

UNCRD

In line with the recommendations made in the 2005 Ministerial Conference on the 3R Initiative and based on the outcome of the 2004 Needs Assessment Mission that UNCRD conducted in South and South East Asia, UNCRD has been addressing the real needs of the developing countries in building necessary capacity in 3R areas. Some of the initiatives include (1) the national 3R strategy formulation for Viet Nam and Indonesia, (2) ground-based pilot and demonstration projects in Bangladesh, and (3) 3R-related training as a part of UNCRD's international training course. UNCRD is also in active consultation with SEPA, China to initiate 3R-related activities. UNCRD's Basic Strategy for the 3Rs lies in response to the real needs of the recipient countries with visible outputs based on understanding of economic, environmental, and resource management benefits. As an organization with a regional development mandate, UNCRD is addressing 3R activities in support of achievement of the MDGs. UNCRD solicits international partnership and cooperation to carry out a range of activities in Asia.

UNESCAP

UNESCAP emphasized that Green Growth is an important approach for pursuing economic growth to address poverty without jeopardizing environmental sustainability in Asia and the Pacific. Green

Growth and 3Rs are intricately interlinked and mutually reinforcing since both focus on improving the eco-efficiency of economic development and growth pattern of our society as a whole. Therefore, synergy should be explored. Additionally, the Kitakushu Initiative for a Clean Environment, which UNESCAP has been operating since 2000 with aim to achieving tangible improvement of urban environmental quality, provides a useful vehicle for formulating and implementing local demonstration projects in the field of solid waste and 3Rs.

APFED

There have been several significant achievements in the 3Rs at the national level in Asia, including basic laws, action plans and master plans, market-based measures, institutional capacity development, inter-agency collaboration, voluntary actions, partnership building, and information-based measures. A number of activities and initiatives promoted by international organizations were also underscored as ways for facilitating 3R implementation. Recommendations included the promotion of life-cycle and integrated approaches, concrete numerical target setting, institutional capacity development, the effective use of market-based measures and economic instruments, and international cooperation in various areas, including regional guideline development and regional market formation.

Annex 2

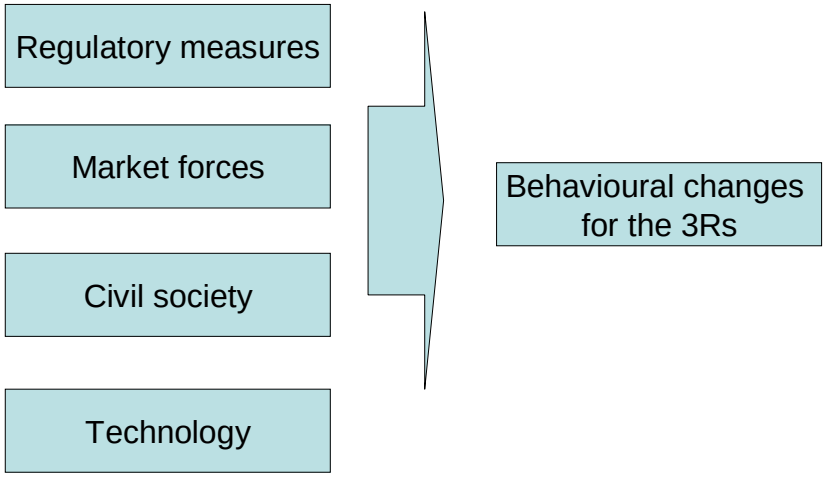
WG1 Summary
Implementation of the 3Rs in Each Country

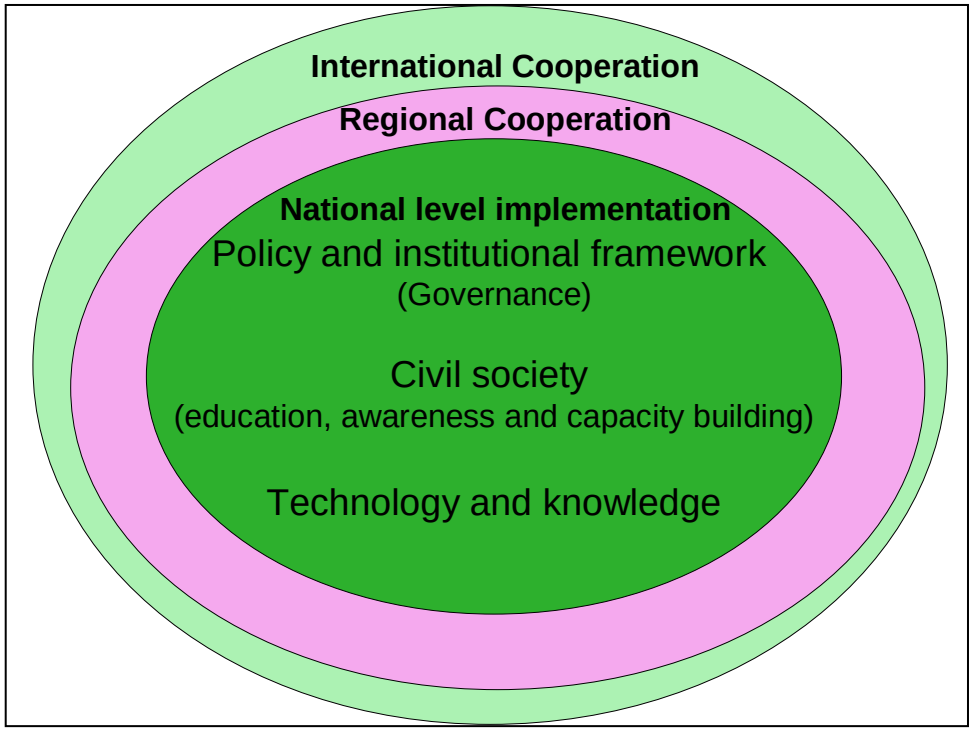
3R SOM
Tokyo, Japan
6 – 8 March 2006

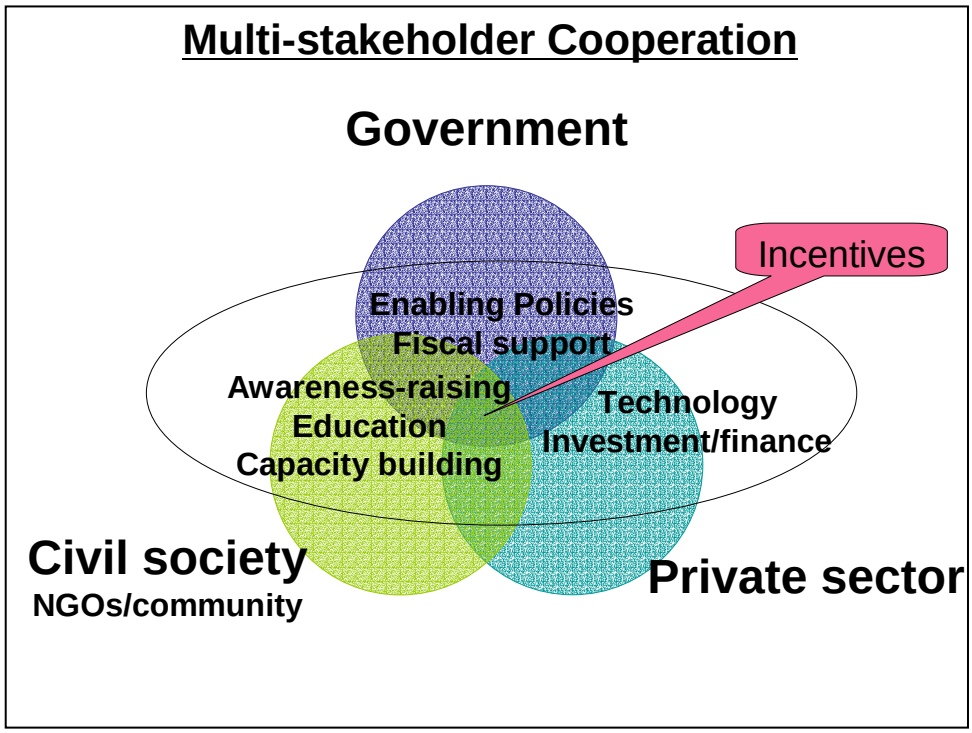
Diagrams

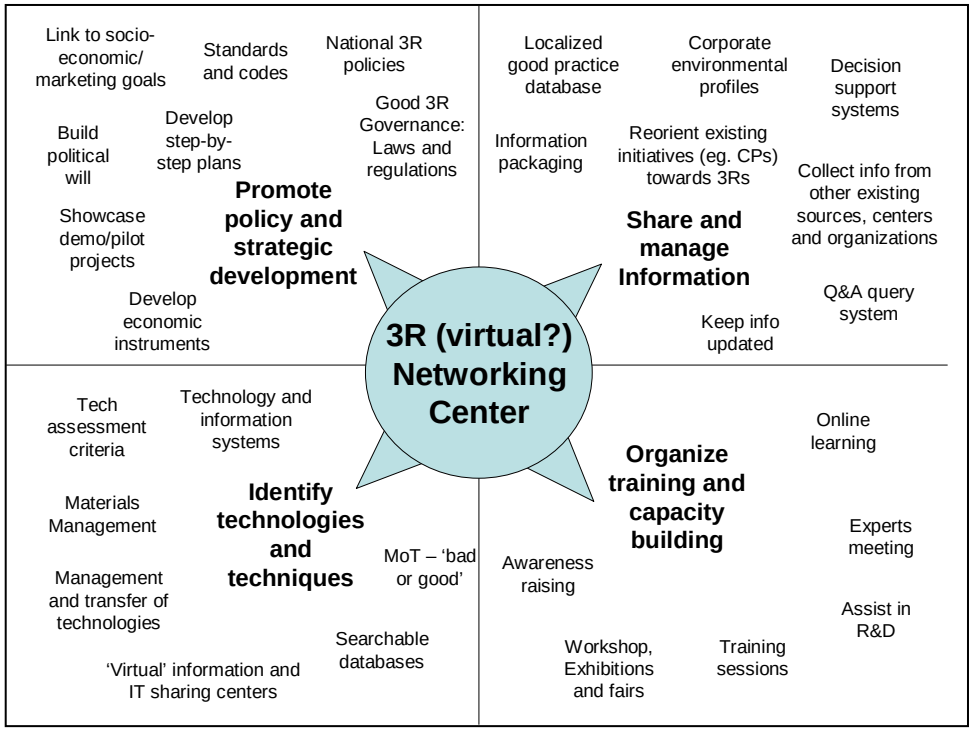
Co-Chairs of WG1
Dr. Helge Wendenburg (Germany)
Mr. Marco Antonio Borzino (Brazil)
7 March 2006

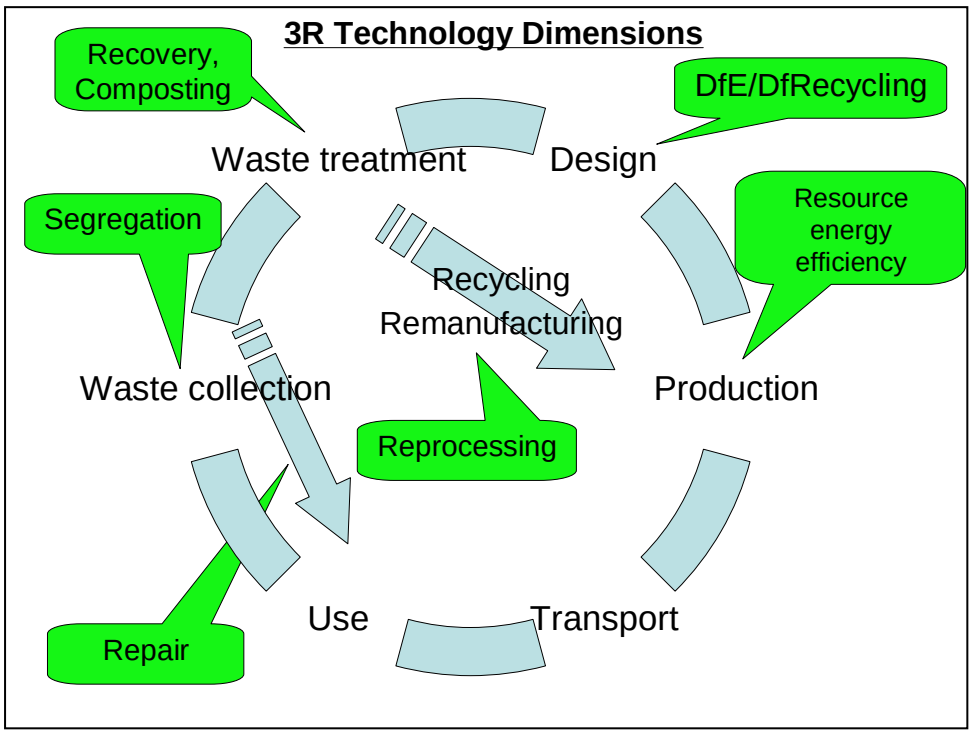
Key elements for promoting the 3Rs




International Cooperation
Regional Cooperation
National level implementation
Policy and institutional framework
(Governance)
Civil society
(education, awareness and capacity building)
Technology and knowledge


Multi-stakeholder Cooperation
Government
Incentives
Enabling Policies
Fiscal support
Awareness-raising
Education
Capacity building
Technology
Investment/finance
Civil society
NGOs/community
Private sector


3R (virtual?) Networking Center
Promote policy and strategic development
Link to socio-economic/ marketing goals
Standards and codes
National 3R policies
Good 3R Governance: Laws and regulations
Develop step-by-step plans
Build political will
Showcase demo/pilot projects
Develop economic instruments
Share and manage Information
Localized good practice database
Corporate environmental profiles
Decision support systems
Information packaging
Reorient existing initiatives (eg. CPs) towards 3Rs
Collect info from other existing sources, centers and organizations
Q&A query system
Keep info updated
Identify technologies and techniques
Tech assessment criteria
Technology and information systems
Materials Management
Management and transfer of technologies
MoT – 'bad or good'
Searchable databases
'Virtual' information and IT sharing centers
Organize training and capacity building
Online learning
Experts meeting
Assist in R&D
Awareness raising
Workshop, Exhibitions and fairs
Training sessions


3R Technology Dimensions
Recovery, Composting
DfE/DfRecycling
Waste treatment
Design
Segregation
Resource energy efficiency
Recycling
Remanufacturing
Waste collection
Production
Reprocessing
Repair
Use
Transport