



Regional 3R Forum Bulletin

Summary of the 6th Regional 3R Forum in Asia and the Pacific

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SIXTH REGIONAL 3R FORUM IN ASIA AND THE PACIFIC 16-19 AUGUST 2015

The Sixth Regional 3R (reduce, reuse, recycle) Forum in Asia and the Pacific was held in Malé, Maldives, from 16-19 August 2015 under the theme “3R as an Economic Industry - Next Generation 3R Solutions for a Resource-Efficient Society and Sustainable Tourism Development in Asia and the Pacific.” The meeting was organized by the UN Centre for Regional Development (UNCRD), the Ministry of the Environment (MoE), Japan, the Ministry of Environment and Energy (MEE), Maldives, and the Ministry of Tourism, Maldives.

The Sixth Forum focused on water security, tourism, waste management and sustainable urban management. Delegates also discussed implementation of the Ha Noi 3R Declaration (2013-2023) adopted at the Fourth Regional 3R Forum, as well as economic and employment opportunities in 3R areas, especially in the context of the post-2015 development agenda.

More than 300 participants attended the Forum, including government representatives from the following 33 Asia-Pacific countries: Australia, Afghanistan, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Kiribati, the Republic of Korea, Lao People’s Democratic Republic (PDR), Malaysia, Maldives, Mongolia, Myanmar, Nauru, Nepal, Niue, Pakistan, Palau, the Philippines, Russian Federation, Samoa, Singapore, the Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu and Viet Nam. Other participants included members of the 3R Forum’s Subsidiary Expert Group, representatives from various UN and international organizations, universities, scientific and research organizations, nongovernmental organizations (NGOs), and the private and business sector, local observers and waste management professionals.

The meeting resulted in: the Malé 3R Declaration signed by 77 local resorts committing to promoting 3Rs and resource efficiency; the Saafu Raajje Initiative, signed by City and Atoll Councils of the Maldives, to promote sustainable waste management; and the Chair’s Summary, which was adopted in plenary and suggests, among others, enhancing trade, promoting waste minimization and low-carbon development, creating certification and labeling systems, establishing a regional scientific and community advisory panel, phasing out subsidies that conflict with resource efficiency, and enhancing training. The Chair’s Summary also recognizes the contribution of 3Rs to achieving the Sustainable Development Goals and the post-2015 development agenda.

A BRIEF HISTORY OF THE 3R FORUM IN ASIA AND THE PACIFIC

The East Asia Environment Ministers Meeting, held in October 2008, in Ha Noi, Viet Nam, established the Regional 3R Forum in Asia as a platform to promote 3R in Asian



Children performing a traditional Maldivian dance

developing countries. Prior to this, the 3R concept had been supported at various international conferences and meetings, including the G8 Sea Island Summit in June 2004, the Ministerial Conference on the 3R Initiative in Tokyo in April 2005, and the G8 Environment Ministers Meeting in Kobe, Japan, in May 2008. The new 3R Forum was intended to serve as a framework for high-level 3R policy dialogue, technical

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assistance for country projects, and information sharing and networking for the promotion of 3R policies and practice in Asia.

First Meeting of the Regional 3R Forum in Asia: The inaugural meeting was held on 11-12 November, 2009, in Tokyo, Japan, with delegates participating from 18 Asian countries. Participants adopted the Tokyo 3R Statement, which positioned the work of the Forum as building upon Agenda 21 adopted at the 1992 UN Conference on Environment and Development, held in Rio de Janeiro, Brazil, and the Johannesburg Plan of Implementation adopted at the World Summit on Sustainable Development in September 2002. The Tokyo 3R Statement also noted the Forum's relevance in achieving the goals of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The meeting identified a list of priority activities, welcomed the establishment of a Subsidiary Expert Group to provide substantive technical input to the Forum, and requested the UNCRD to take the lead in facilitating the work of the Forum. Japan officially submitted the Tokyo 3R Statement to the 18th session of the UN Commission on Sustainable Development (CSD-18).

Second Meeting of the Regional 3R Forum in Asia: This meeting was held from 4-6 October, 2010, in Kuala Lumpur, Malaysia, on the theme "3Rs for Green Economy and Sound Material-Cycle Society." The meeting contributed to greater understanding and consensus around policy options, and illustrated innovations and achievements in 3R in the region. The meeting contributed regional input to discussions on waste management at CSD-19 in New York, US, in 2011, and to preparations for the Rio+20 Conference.

Third Meeting of the Regional 3R Forum in Asia: This meeting, held from 5-7 October 2011 in Singapore, was organized on the theme "Technology Transfer for Promoting the 3Rs – Adapting, Implementing and Scaling up Appropriate Technologies." The meeting produced a set of recommendations linking waste management with resource efficiency in agriculture, industry, energy and other sectors, as a means of transitioning towards a resource-efficient and green economy. Singapore submitted the Chair's Summary of the meeting and recommendations of the Forum as an official input to the Rio+20 process.

UNCSD (Rio+20): The Rio+20 outcome document emphasized the 3Rs, calling for greater resource efficiency and waste reduction as part of efforts towards achieving a green economy in the context of sustainable development and poverty eradication. The outcome document committed to applying the 3Rs in the context of sustainable cities (paragraph 135) and chemicals and waste (paragraph 218).

Fourth Meeting of the Regional 3R Forum in Asia: Held from 18-20 March 2013 in Ha Noi, Viet Nam, under the theme "3Rs in the Context of Rio+20 Outcome - The Future We Want," the Fourth Meeting focused on 3R in various sectors, including agriculture, industry and energy. It adopted the "Ha Noi 3R Declaration - Sustainable 3R Goals for Asia and the Pacific for 2013-2023," that outlines goals for waste management in urban, industrial and rural areas to be achieved between 2013-2023, addresses new and emerging wastes and cross-cutting issues, and includes a set of core indicators.

Fifth Meeting of the Regional 3R Forum in Asia and the Pacific: This Meeting was held from 25-27 February 2014 in Surabaya, Indonesia, on the theme "Multilayer Partnerships and Coalition as the Basis for 3Rs Promotion in Asia and the

Pacific," and included a focus on 3R in small island developing States (SIDS). The meeting adopted the Surabaya Declaration, which calls for multilayer collaborative efforts to promote and cooperate on 3Rs, including, *inter alia*, country-to-country, city-to-city, industry-to-industry and South-South cooperation, partnerships to promote sustainable business models, and a regional framework among SIDS.

Third International Conference on SIDS: The Conference was held in Apia, Samoa, from 1-4 September 2014. It adopted an outcome document, titled "SIDS Accelerated Modalities of Action (S.A.M.O.A.) Pathway," that called for, *inter alia*, implementing 3R, recovery and return approaches through capacity-building and environmentally appropriate technologies.

REPORT OF THE SIXTH REGIONAL 3R FORUM IN ASIA AND THE PACIFIC

MALDIVES NATIONAL 3R DAY PRE-EVENTS

The first of two pre-events for the Sixth Regional 3R Forum in Asia and the Pacific, celebrating Maldives National 3R Day, opened on Sunday morning, 16 August 2015. Zueshan Ali, Ministry of Environment and Energy (MEE), Maldives, moderated the event.

Thoriq Ibrahim, Minister, MEE, Maldives, said the event had been organized as an integral part of the 3R Forum for Maldivian resorts to sign the Malé 3R Declaration by Resorts in Maldives for the Promotion of 3Rs and Resource Efficiency towards Protection of Local Environment and Marine Ecosystem. He also said 16 August would henceforth be designated as National 3R Day and announced a national plan to phase out non-biodegradable plastic bags.

Ahmed Adeb Abdul Gafoor, Vice President, Maldives, noting the National 3R Day theme, "Our Environment - Our Economy, Our Future" and the importance of tourism to the Maldives' economy, underscored that the country's future is tied to promoting sustainable tourism. He announced the creation of an annual National 3R Award, to be awarded starting on 16 August 2016, to those resorts meeting best practice criteria.

Ali Amir, Deputy Minister, MEE, discussed the principles, legal framework and key elements of the country's waste management plan.

Ahmed Murthaza, MEE, outlined the commitments made by resorts by signing the Malé 3R Declaration, including, *inter alia*: developing and strengthening internal management systems and policies toward efficient use of resources, water and energy; promoting use of renewable energy; developing efficient and environmentally-friendly waste collection,



Thoriq Ibrahim, Minister of Environment and Energy, Maldives



Ali Amir, Minister of Environment and Energy, Maldives



Delegate signing the Saafu Raajje Initiative Statement

segregation and transportation to recycling facilities and disposal sites; discouraging all use of plastics in resorts and exploring ways to use end-of-life plastics as a resource in a circular economy; protecting the coastal and marine environment and preventing groundwater contamination; promoting wastewater reuse and recycling; promoting large-scale composting of all organic and food waste; working to arrest beach erosion; and taking preventive measures to protect coastal reefs.

Representatives of the 77 resorts present were asked to raise their nameplates to indicate they would sign the Malé 3R Declaration after it was signed on stage by the Vice President Gafoor, Minister Ibrahim and Muhamed Umar Maiku, Chairman, Maldives Association of Tourism Industry. Saying the Declaration will serve as a benchmark for the Maldivian resorts to operate in an environmentally-friendly manner, Ali Nasheed, Banyan Tree Maldives, expressed gratitude to the Maldivian government and the organizers of the Forum on behalf of all the participants, and highlighted the need for aiding the tourist industry to implement the 3R initiative effectively.

On Sunday afternoon the second pre-event focused on the signing by City and Atoll Councils of the Maldives of the Statement of the Saafu Raajje (“Clean Maldives”) Initiative to promote environmentally friendly and sustainable

waste management practices. Umar Naseer, Minister of Home Affairs, and Abdullah Jihadh, Minister of Finance and Treasury, spoke on the importance of the Initiative. Deputy Minister Amir, MEE, reviewed the country’s waste management plan. Murthaza outlined the key elements of the Initiative. Participants signed the Saafu Raajje Initiative Statement and then heard a closing statement from Abdullah Shareef Abdul Fahtaah, Thaa Atoll Council President.

OPENING CEREMONY

OPENING STATEMENTS: On Monday morning, Ali Amir, Deputy Minister, MEE, Maldives, opened the Forum and welcomed participants.



Umar Naseer, Minister of Home Affairs, Maldives

Thoriq Ibrahim, Minister, MEE, Maldives, emphasized that waste management is a challenge shared by all Asia-Pacific nations, especially a SIDS such as Maldives. He noted various waste policy measures adopted by Maldives and its planned investments in waste management infrastructure.



Yasuhiro Ozato, State Minister of the Environment, Japan

Yasuhiro Ozato, State Minister of the Environment, Japan, noted Japan’s role in developing the Forum and its support for implementation of 3R policies and the Ha Noi Declaration by Asia-Pacific nations.

Chikako Takase, Director, UNCRD, noted how the agenda of the Sixth Forum is organized to reflect 3R as an economic industry and its role in sustainable tourism, the water-waste nexus and protection of marine and coastal ecosystem management.

Shoko Noda, UN Resident Coordinator, Maldives, noted a number of youth initiatives in Maldives regarding waste, as well as UN support for the development of Maldives’ waste management plans, policies and guidelines.

KEYNOTE ADDRESS: Ahmed Adeeb Abdul Gafoor, Vice President, Maldives, underscored his country’s reliance on and commitment to sustainable tourism development, the special challenges for SIDS, and the goal of institutionalizing community based waste systems. He highlighted the need for resource efficiency in the face of an ever-growing population in the region.

PLENARY SESSION 1: EVOLVING 3R TRENDS AND DEVELOPMENTS IN ASIA AND THE PACIFIC

Thoriq Ibrahim, Minister, MEE, Maldives, chaired the session on Monday morning, and Choudhury Rudra Charan Mohanty, UNCRD, facilitated the discussions. The session convened under the theme “How do they matter in post-2015 development context?”

Prasad Modak, President, EMC-India, presented a background paper on evolving 3R policies and trends in Asia and the Pacific, from the Tokyo 3R Forum (2009) to the Surabaya 3R Forum (2014). He highlighted urbanization as a major challenge to successful 3R implementation in the Asia-Pacific region, and underscored the high cost of inaction. He

said there is stakeholder fragmentation within the 3R policy space and that the entire life cycle of all products should be considered.

Heinz Schandl, Commonwealth Scientific and Industrial Research Organisation (CSIRO), presented a background paper on evolving resource efficient economies in Asia and the Pacific. He emphasized the need to decouple economic activity from ever-growing resource use and emissions, in particular through innovation and transformative policies,



Masahito Fukami, Ministry of the Environment, Japan

and suggested extending the mandate of the Regional 3R Forum to facilitate discussions on perceived conflict between 3R and economic growth, and on regional financing mechanisms.

Highlighting the efforts on promoting 3R through international cooperation, Masahito Fukami, Ministry of the Environment, Japan,

introduced the Japanese experience of mainstreaming 3R into a legal framework for a sound material-cycle society.

Saraswati Prasad, India, said government 3R policy alone cannot solve the problem unless it makes business sense. He stressed the need for a holistic approach to 3R entailing available technologies, research, information, communication, and public education.

Ali Amir, MEE, Maldives, discussed his country's waste management plan. He explained that a solid waste regulation will be adopted that would establish the principle of individuals, households, businesses and government entities



Tomoko Nishimoto, Regional Director, International Labor Organization (ILO) Regional Office for Asia and the Pacific

paying for the management of the wastes they generate, and would set guidelines and assist in the preparation of island- and atoll-level waste management plans. The law will also impose extended producer responsibility (EPR) for some wastes. The national government will be responsible for providing the necessary

infrastructure and equipment for all inhabited islands, providing financial and technical assistance, and tracking waste management. Nine regional waste centers are envisioned, with waste-to-energy (WTE) installations.

Tomoko Nishimoto, Regional Director, International Labor Organization (ILO) Regional Office for Asia and the Pacific, presented on linkages between 3R, promoting decent work and the Sustainable Development Goals (SDGs). She stressed the need for an integrated approach and mentioned some governments, such as India, have already formed inter-ministerial coordination mechanisms to work towards holistic implementation of the SDGs.

PANEL DISCUSSION: During the panel discussion, Ajwad Musthafa, MEE, Maldives, emphasized the regulatory, infrastructure and human resource challenges of setting up waste management facilities in over 300 islands, and introduced various policy options, such as merging waste

management with utility services. Minjur Dorji, Thimphu City, Bhutan, discussed how his city had reduced organic wastes going to disposal, and increased recycling.

Kazunobu Onogawa, Director, Institute for Global Environmental Strategies (IGES), noted that the First 3R Forum was dominated by concerns around appropriate waste management, while the Sixth represented a shift in emphasis toward resource efficiency.

Asked by facilitator Mohanty whether Asia-Pacific nations had the right institutions and policy frameworks in place to support the integration of 3Rs into resource efficiency and macroeconomic policy, Prasad responded that most do not yet have a coordinating mechanism to bring the principles into practice. Schandl noted that while a few countries, such as China, had strong central coordination promoting a circular economy, most still lack the mechanisms to translate national policy goals into local implementation by regional governments and municipalities.

PLENARY SESSION 2: ENABLING A 3R SCIENCE-POLICY-BUSINESS INTERFACE IN BUILDING SMART, RESILIENT, INCLUSIVE, LOW CARBON AND SUSTAINABLE CITIES AND COMMUNITIES

Mohamed Muizzu, Minister of Housing and Infrastructure, Maldives, chaired the session on Monday afternoon, and Agamuthu Periathamby, University of Malaya, facilitated the discussions.



Shin-ichi Sakai, Kyoto University, Japan

C.R.C. Mohanty, UNCRD, on behalf of the UN Environment Programme's (UNEP) International Environmental Technology Centre (IETC), presented on enabling frameworks for promotion of 3R Science and Technologies and Technology Transfer, underscoring that environmentally sound technologies (ESTs) are indispensable and the private sector must be actively

involved.

Shin-ichi Sakai, Kyoto University, presented on the need for science-policy interface for 3R implementation. He highlighted the challenges of addressing waste from disasters, and introduced the "3C" (clean, cycle and control) concept for dealing with hazardous wastes and persistent chemicals.

Junichi Sono, Kitakyushu City, discussed the experience of the first eco-city in Japan for resource recycling, low carbon, and natural symbiosis societies, and how multi-stakeholder partnership contributed to decouple environmental degradation and economic development. Akira Ogihara, Kawasaki City, Japan, highlighted the municipal efforts of Kawasaki in creating a recycling society, and noted separation at source as an important component for waste management.

Koh Kim Hock, National Environment Agency, Singapore, introduced how sustainable waste management helped his country to overcome resource constraints, with 60% of waste currently recycled and projected to increase 10% by 2030, as part of the Singapore Sustainable Blueprint 2015.

Abu Hasnat Md. Maqsood Sinha, Executive Director, Waste Concern, reviewed the challenges of urban solid waste management in Bangladesh. Noting the high organic content

of such waste in his country, he said Bangladesh had focused on composting, recovering resources and delivering several co-benefits in the process, particularly in reducing greenhouse gas emissions.

Muhammad Khurshid, Director General, South Asia Co-operative Environment Programme (SACEP), presented on capacity development and coordination of 3R in the South Asian countries. He recommended strategic actions for 3R, including, *inter alia*: 3R centers of information, best practices, knowledge sharing and technical support; 3R training programs and guidelines; enhanced coordination and networking; clear targets for waste reduction and recycling; and development of market-based waste recycling enterprises.

PANEL DISCUSSION:

In the panel discussion, Jacqueline A. Caancan, Department of Environment and Natural Resources, the Philippines, urged a science-based 3R policy approach on solid waste management, and stressed the need for affordable waste management technologies. Jagdeep Singh Deo Karpal Singh, Penang State Government, Malaysia, noted the huge capacity gap of SIDS and rapidly developing urban states in comparison with Japan, and expressed full support for the Maldivian policy to ban plastic bags. Vaughan Levitzke, Chief Executive, Zero Waste South Australia, stressed the importance of engaging the research sector more strongly for evidence-based 3R policy, and said EPR, along with design for the environment, green industries and the 3R approach, should be considered together.

Mohamed Faiz, Minister of State, Ministry of Housing and Infrastructure, Maldives, discussed the challenges of waste management planning in Maldives, including the lack of land availability for facilities and the cost of transporting wastes. Kazuyoshi Okazawa, Chairman, Japan Federation of Waste Management Associations and Foundations, discussed the need for appropriate policies and partnership between government and private companies in order to develop waste management technologies and prompt technology transfer.

PLENARY SESSION 3: SUSTAINABLE TOURISM INDUSTRY IN SIDS

Mohamed Shainee, Minister of Fisheries and Agriculture, Maldives, chaired the session on Monday afternoon, and Surya Prakash Chandak, Honorary Director, Centre for Development Communication, India, facilitated the discussions. This session convened under the theme “Benefiting from 3R and resource efficiency.”

Shun Fung Chiu, De La Salle University, the Philippines, presented the background paper on the contribution of 3Rs in sustainable tourism development and protection of marine



Jacqueline A. Caancan,
Department of Environment and
Natural Resources, the Philippines



Shun Fung Chiu, De La Salle University,
the Philippines

ecosystems. He underscored the need to adapt 3R to local tourism settings, to view waste as a resource, and “holistic life-cycle thinking.”

Moosa Zameer, Ministry of Tourism, Maldives, presented a case study on 3Rs, the tourism industry and marine ecosystems in Maldives. He noted that 3R implementation in Maldives must be adapted to the country’s “one island one resort” tourism concept.

In a video message, Taleb D. Rifai, Secretary-General, UN World Tourism Organization, said Asia-Pacific is the most dynamic tourism region in the world. He suggested scaling up resource efficiency and waste management in the tourism industry, and stressed that if managed responsibly and ethically the tourism industry can make a big contribution to sustainable development, generate decent jobs and offer trade opportunities.

Ma Bella Guinto, Secretariat of the Pacific Regional Environment Programme (SPREP), presented the benefits of 3Rs for marine ecosystem services and the tourism industry for Pacific island countries. Cautioning that landfills could become “ocean fills” for small islands and atolls, she highlighted that poor segregation systems and collection networks for recyclable waste goods remain key challenges for the waste management systems for the Pacific islands.

Kowlessar Prakash, Ministry of Local Government and Outer Islands, Mauritius, presented a case study on managing plastic wastes in SIDS. He discussed Mauritius’: PET bottle regulation, which requires a permit to use PET bottles; registration system and refund scheme for recyclers and exporters of PET bottles; and plans to ban plastic bags.

PANEL DISCUSSION:

Samuel Manetoali, Minister of Environment, Climate Change, Disaster Management and Meteorology, Solomon Islands, said the tourism industry can be the driver for “3R+R” (reduce, reuse, recycle and return) activities, and for combating climate change and creating employment opportunities in SIDS.

Pasu Loharjun, Ministry of Industry, Thailand, introduced industrial waste management policies and permit systems that promote 3R awareness and implementation in his country. He noted one lesson learnt is on incentivizing the private sector to continue improving and delivering impact on 3R.

Yuko Sakita, Asian 3R Citizens’ Network, discussed a project to recycle scrap compost and fish farming feed to provide vegetables and fish to seaside hotels in Japan.

Ahmed Nazeer, Secretary General, Maldives Association of the Tourism Industry, discussed some of the practical difficulties faced by Maldives resorts in trying to practice composting.

PARALLEL COUNTRY ROUNDTABLE DIALOGUES

Participants met in five parallel thematic roundtables on Tuesday morning.



Pasu Loharjun, Ministry of
Industry, Thailand

ROUNDTABLE 1: ECONOMIC OPPORTUNITIES FROM 3R ~ URBAN SECTOR: Muhammad Khurshid, Director General, SACEP, chaired this session, and K.D. Bhardwaj, Asian Productivity Organization, facilitated discussions.

C.R.C. Mohanty, UNCRD, opened discussion by presenting on 3R-related business opportunities in sustainable urban practices. Noting that Asia-Pacific is a net importer of raw materials and natural resources, he urged cities and business to move away from linear economic thinking to a resource-efficient or circular economy, and to explore potential business



Toshiaki Yoshioka, Tohoku University, Japan

opportunities in sustainable urban development based on 3R, noting potential opportunities such as energy and water efficiency, green buildings, wastewater reuse, urban agriculture, bio-economy, green chemistry, and nanotechnology. He suggested that public-private partnerships are key to expanding sustainable urban

business. He also discussed three examples from Bangladesh of economic opportunities to be found in urban waste concerning composting, plastic recycling and recovery of lead from lead-acid batteries.

Toshiaki Yoshioka, Tohoku University, Japan, discussed the use of waste plastics as chemicals and fuel. He explained how recycled PET can be used to make a wide variety of products. He stressed that after the first few iterations of recycling, some plastics become difficult to recycle because of the accumulation of additives such as plasticizers, stabilizers and flame retardants. He discussed the potential for using plastics as feedstock for coke ovens and blast furnaces in steel production.

Jae-Hyuk Hyun, President, Korea Society of Waste Management, discussed the Republic of Korea's 3R policies and programs targeting urban waste, noting

that his country has reduced the waste fraction heading to landfills to 16% using a volume-based charging system, whereby households purchase waste disposal bags according to volume. He also noted a comprehensive WTE policy that aims to generate 70% of the country's energy needs from waste and biomass. He detailed how resource circulation businesses are thriving in his country, and mentioned that the Resource



Jouko Saarela, Finnish Environment Institute (SYKE)

Circulation Law pending in parliament would: support the business chain through finance and technology; mandate the use of recycled products; promote recycled resources; and aim to make his country a zero-landfill country by 2030.

Chair Khurshid said that the takeaway message should be that the Korean experience shows that recycling can become a significant business.

Jouko Saarela, Finnish Environment Institute, discussed Finland's National Waste Plan "Toward a Recycling Society," which aims to reduce municipal waste going to landfill to 20% in 2016, from 59% in 2006.

Markus Reuter, Outotec, Finland, discussed opportunities and limits in recycling and the circular economy. He stressed that recycling policies need to be based on engineering knowledge in order to be realistic, pointing out that recycling rates for bulk metals such as steel I-beams are high because the recycling process is straightforward, while recycling rates for e-waste tend to be low because so many different materials can be involved, often in small quantities. He suggested a focus on product design and using a "real recycling index" he had developed that details mass energy balance calculations for each product.

In the ensuing discussion, participants asked for more information on the projects cited in Bangladesh and discussed the need for, and challenges involved in, creating a useful waste and recycling database, and the lack of involvement of the private sector in waste management and recycling in many Asia-Pacific countries.

ROUNDTABLE 2: ECONOMIC OPPORTUNITIES THROUGH 3R - CONSTRUCTION AND DEMOLITION (C&D) WASTE: Iruthisham Adam, Minister of Health, Maldives, chaired this session, and Mohamed Ali Janah, President, Maldives Association of Construction Industry, facilitated the discussion.

Sudhir Mishra, Indian Institute of Technology, opened discussion by presenting on 3R-related business opportunities in C&D wastes. Panel participants provided brief presentations and case studies on: resource recovery from C&D waste; the cost-benefit of C&D waste management throughout the waste chain; the potential for recycling and use of prefabrication technology in building construction in Maldives; and on C&D waste recycling in Japan.

The roundtable discussion identified several needs for the region regarding C&D waste, including, *inter alia*: collection of relevant country data; sharing of best practices; development of protocols for inspection, planning of demolition and handling of the C&D waste generated; and developing model documents on technical, commercial and regulatory aspects of C&D waste handling. Participants also suggested further Forum discussion



Markus Reuter, Outotec, Finland

of the special case of C&D wastes created by natural disasters, and best practice in dealing with hazardous materials, particularly asbestos, found during dismantling older buildings.

ROUNDTABLE 3: ECONOMIC OPPORTUNITIES THROUGH 3R ~ BIOMASS WASTE: Phee Boon Poh, Penang State Government, Malaysia, chaired this session, and Periathamby Agamuthu, University of Malaya, facilitated the discussions.

Facilitator Agamuthu opened discussion by presenting on the opportunity for Asia and the Pacific offered by circular economic utilization of agriculture and biomass waste. Panel participants provided brief presentations regarding: the economic feasibility of biomass utilization for power generation; hydrogen energy from biomass waste; and the economic potential of biomass utilization in Japan and Thailand.

Major points raised during the roundtable included: government incentives are key to overcoming challenges for effective biomass utilization, such as competition with other resources or lack of technology; a stable biomass supply is key and should be supported through policy incentives, proper zoning and logistics; many imported biomass technologies are not suitable for local biomass feedstock, and projects should be adopted to local conditions and reflect local interests.

ROUNDTABLE 4: ECONOMIC OPPORTUNITIES THROUGH 3R ~ WASTE ELECTRICAL AND ELECTRONICS

EQUIPMENT (WEEE): Koh Kim Hock, National Environment Agency, Singapore, chaired this session, and Ibrahim Shafii, Secretariat of the Basel, Rotterdam and Stockholm Conventions, facilitated the discussion.

Sunil Herat, Griffith University, Australia, opened discussion by presenting on the business and economic potential of resource recovery and recycling from e-waste. Noting that e-waste is a highly mixed waste stream including “anything with a battery or power plug,” he said that among 41.8 million metric tons of e-waste generated in the world in 2014, 38% of e-waste was produced in Asia, and that the informal e-waste sector is of top concern given the dangerous chemicals and metals involved in the recycling practices. He highlighted the business opportunities for recovering valuable materials from e-waste, and recommended a four-step approach for environmentally sound management of e-waste, including to: strengthen collection systems; understand the current financial, policy, and institutional set-up; examine policy measures implemented similar to EPR; and incorporate expertise from an EPR panel on the technological, policy and financing aspects of e-waste management.

Participants provided brief presentations on the regulatory and business perspectives of e-waste management. Sunee Piyapanpong, Ministry of Natural Resources and Environment, Thailand, introduced an emerging WEEE legal framework based on the EPR principles and a national integrated WEEE management strategy in Thailand. Tomoko Nishimoto,



Sunil Herat, Griffith University, Australia

Regional Director, ILO, said a human-centered approach to e-waste management is essential for increasing employment, minimizing occupational hazards and risks, and sustaining business profits in the region. She also underscored recommendations for the progressive formalization of the e-waste sector through green jobs. Masaki Takao, Japan Environment Planning, introduced the business strategy of resource recovery and recycling e-waste in his company, focusing on technologies for oil and recycling the plastic parts of mobile phones, and for valuable metals recovery; holistic process and logistics management systems; and common infrastructure for cross-sectoral recycling; and consumer engagement.

In the ensuing discussion, participants focused on the role of the informal e-waste recycling sector; the need for data-driven policy and resources; and the possible costing impact of EPR. Participants noted the importance of formalizing and incorporating the informal sector into WEEE management systems to create “win-win” situations, and stressed the need for occupational safety and health training. Participants underscored the resource constraints for investing in WEEE recovery and recycling facilities, and highlighted that in order to set up a market-based waste management system, data inventory and enabling regulations are needed. On EPR, some participants expressed concern about the cost to end-consumers. Noting the concept of “product stewardship,” Herat said cost increase is inevitable and all stakeholders involved in the electronics market will become responsible.

ROUNDTABLE 5: SPECIAL SESSION ON SIDS - HOW 3R AND RESOURCE EFFICIENCY CAN CONTRIBUTE TOWARDS THE OBJECTIVES AND ASPIRATIONS UNDERLINED IN THE S.A.M.O.A. PATHWAY:

Mohamed Shainee, Minister of Fisheries and Agriculture, Maldives, chaired this session, and Heinz Schandl, CSIRO, facilitated discussion.

Frances Brown-Reupena, Ministry of Natural Resources and Environment, Samoa, opened discussion by presenting the S.A.M.O.A Pathway, the outcome of the Third International Conference on SIDS. She reiterated the special case of SIDS and said the S.A.M.O.A. Pathway recognizes the 3Rs plus two additional Rs: recover and “return to sender.” In regards to these additional Rs, she stressed the importance of partnerships.



Ma Bella Guinto, SPREP

Faafetai Sagapolutele Uitime, Japanese International Cooperation Agency (JICA), provided an introduction to J-PRISM, a project promoting regional initiatives on solid waste management in the Pacific. Key priorities, he said, are waste minimization based on 3R principles, improving waste disposal sites and a sustainable operational mechanism with the overall objective of strengthening the region’s capacity.

Ma Bella Guinto, SPREP, discussed that waste and pollution control is one of SPREP’s four focus areas, and outlined its regional training and capacity building initiatives for waste

management. She said that training methodology includes classroom based training, in-country training, vocational training, site visits, as well as awareness raising.

Rosemary Apa, Ministry of Environment, Climate Change, Disaster Management and Meteorology, Solomon Islands, presented the case of waste management in Taro Island and Choiseul Bay, noting that the 3R approach is essential to protecting ecosystem services for the small population there and that climate change makes sustainable waste management more challenging.

Hideshige Takada, Tokyo University of Agriculture and Technology, Japan, framed his presentation on marine plastic pollution by showing the Japanese artist Hokusai's famous painting, "The Great Wave off Kanagawa," transposed with plastic waste in the tsunami's swell. After detailing the problem, he urged moving away from single-use plastics and instead promoting the use of biomass-based containers made from fast growing tropical plants, for example.

Guinto delivered a second presentation on sustainable waste management, discussing the Cleaner Pacific 2025 initiative that streamlines formerly disparate strategies for, *inter alia*, asbestos, e-waste and healthcare wastes, with a goal of integrating monitoring and reporting, improving recovery, and enhancing management of residuals that cannot be recycled or reused.

Chair Shainee closed the session by noting that it is important to think about how products are designed and created before they become waste. He said there is an opportunity for SIDS to capitalize on the large portion of their waste streams that are organic, saying that SIDS have a narrow window of economic opportunity when organic wastes can be turned into products such as fertilizers.

PLENARY SESSION 4: EPR AND INDUSTRIAL ECOLOGY GRANTS FOR SUSTAINABLE MATERIAL MANAGEMENT - CHALLENGES AND OPPORTUNITY IN ASIA

Jonas Leones, Under-Secretary, Environment and International Governmental Affairs, the Philippines, chaired this session on Tuesday, and Abdulla Ziyad, Minister of State, MEE, Maldives, facilitated discussion.

Yoshinori Suga, MoE, Japan, on behalf of the Organisation for Economic Co-operation and Development (OECD), presented a background paper on the OECD experience in enabling policy and regulatory frameworks for institutionalizing EPR. He said the OECD has compiled 40 EPR case studies from 14 countries in five product groups,

and provided policy guidance on governance, competition, design for environment (DfE), and involvement of the informal sector. He reviewed the different types of EPR schemes and the increase in their use over the last 15 years, noting that while China, Japan and the Republic of Korea have started EPR schemes, most Asia-Pacific countries are new to EPR and could benefit from the lessons learned in the OECD experience.

Ryu Hyejung, Korea Environment Corporation, presented on EPR governance in the Republic of Korea. She said the Korean EPR system, created under the Recycling Act, covers four types of packaging as well as batteries, tires, lubricants, fluorescent lamps and Styrofoam, and places a recycling target obligation on the producer which if not met results in a fine greater than the cost of recycling. She said that in 2013 the Recycling Act was revised because recycling rates for packaging and products covered by the scheme had become stagnant, so the revision added a collection obligation on producers, expanded the packaging materials covered and number of producers covered, integrated the different packaging producer responsibility organizations into one, added incentives for design for the environment and introduced environmental labeling and information schemes.

Hideki Minamikawa, President, Japan Environmental Sanitation Center (JESC), talked about how Japan solved its municipal solid waste problem, which had increased rapidly along with economic growth from 1955-1970. He highlighted the Shibuya incineration plant that has a large capacity, strict emissions controls, and generates power for the surrounding densely populated area. He discussed a home appliance recycling scheme where the cost of recycling products such as refrigerators, air conditioners, televisions and washing machines is factored into the consumer price.

Vaughan Levitzke, Zero Waste South Australia, presented on the circular economy, wherein byproducts from one process become inputs to another. He noted the economic benefits from what he called the "remanufacturing sector," noting that in the state of South Australia the sector contributes \$500 million to GDP and employs 5,000 people. He emphasized product stewardship incentives, such as refunds for bottle and can collection.

Jinhui Li, Executive Director, Basel Convention Regional Centre for Asia and the Pacific, presented the EPR in the context of the Chinese Circular Economic Law. Noting that there are different EPR models, he said it is crucial to extend the producers' responsibilities to the entire product life cycle. He underscored that as a vehicle for implementing EPR the



A view of the conference room during the session



Li Zhang, Ministry of Housing and Urban-Rural Development, China

WEEE fund in China has effectively enhanced the recovery rate of e-waste, and cautioned that even with various legal and policy instruments put into place, the current EPR framework in China only covers a limited scope of products.

PANEL DISCUSSION: In the panel discussion, Ibrahim Fazul Rasheed, Malé Water and Sewerage Company, Maldives, said implementing EPR remains challenges given the lack of clear

responsibilities among stakeholders, lack of transparency and free-riding, and called for incentives provided to the private sector. Sunee Piyapanpong, Ministry of Natural Resources and Environment, Thailand, said the lack of human resources and budget at the local level exposes challenge for effective EPR measures and suggested a voluntary approach to implement EPR. Dato Halimah Hassan, Ministry of Natural Resources and Environment, Malaysia, introduced the pilot projects on household e-waste collection and management supported by Japan, and said Malaysia is now facing the question of which EPR model is best suited to the country.

COUNTRY BREAKOUT SESSIONS ~ COUNTRY MAJOR ACHIEVEMENTS AND INITIATIVES ON IMPLEMENTATION OF HANOI 3R DECLARATION (2013~2023)

Participants met in five parallel “breakout sessions” on Tuesday afternoon, each to hear country presentations focused on their major achievements, current initiatives, critical challenges, and major plans for 3R.

COUNTRY BREAKOUT GROUP 1: This Group was chaired by Aishath Shiham, Minister of Education, Maldives, and facilitated by Ibrahim Abdul Razzaq, Chief Executive Officer, Maldives Transport and Contracting Company.

China highlighted the challenges of waste segregation, food waste recycling, and lack of quality waste management systems, and mentioned that future plans include: promoting waste reduction and segregation at source; improving waste collection, transportation, and treatment capacity and technologies; and promoting further recycling of food waste and construction and demolition waste in China.

Bangladesh said that current waste management focuses on end-of-the-pipe solutions, and highlighted the National 3R Strategy for Waste Management, with the goal of achieving complete elimination of waste disposal in open dumps, rivers and flood plains by 2015. He cited the major challenges as lack of institutional capacity, technical know-how, and financing and investments for waste management.

Indonesia highlighted the “waste bank” initiative implemented in 80 cities and landfill gas capture and utilization projects in three cities, and said waste management is not mainstream policy at the national or local level, with limited budget and capacity at local government level posing great challenge for implementing 3R.

Kiribati said it had introduced a container deposit scheme, and is considering generating economic and employment opportunities from management of e-waste, scrap metals collection from end-of-life vehicles, and waste oil. She said

data is needed for making informed policy decisions, and Kiribati will continue development of its waste management strategy in collaboration with regional and international partners.

Samoa discussed its involvement in J-PRISM, its ban on non-biodegradable plastic bags, pilot composting facilities and biogas digester technologies, and monitoring of waste streams. She identified major 3R challenges as weak monitoring and enforcement, limited human resources and financial constraints, and limited institutional capacity including in the private sector.

Thailand highlighted that the Draft National Waste Management Master Plan (2016-2021) that will offer an opportunity for implementing 3R policies in his country.

COUNTRY BREAKOUT GROUP 2: Mohamed Hussain Shareef, Minister at the President’s Office, Maldives, chaired the session. Masaru Tanaka, Tottori University, Japan, facilitated the session. He underscored the challenges of getting policymakers to listen to 3R proposals and overcoming citizen concerns about nearby waste management facilities, a situation he called “garbage wars.”

Malaysia provided an overview of its waste management situation, noting that this September the country will institute mandatory separation of waste and that it hopes to increase the recycling rate from 13% to 20% by 2020.

Myanmar said that its challenges include weak implementation, lack of awareness about solid and hazardous waste, lack of proper technology, limited financing, and a need for capacity building.

Mongolia said that safe disposal of demolition waste is a costly challenge, with the presence of asbestos being a major problem, noting that many Mongolian buildings were constructed during a time when the hazardous substance was touted as a “wonder material.”

Palau noted it established a beverage container deposit fee program in 2011 that benefitted the community by generating public funds and reducing waste. He also highlighted initiatives including a compost facility, plastic-to-energy project, and a glass craft program.

The Solomon Islands said challenges include limited education and awareness, and highlighted partnerships as a means to move forward on waste management issues.

Tuvalu said major achievements include the diversion of green waste for composting, the export of cans and bottles overseas for recycling, and a new hazardous waste storage program. She noted that the country is exploring partnerships with overseas companies that can help them handle transport of waste, and that it plans to update its solid waste management plan and implement the Cleaner Pacific 2025 Plan.

Viet Nam focused its comments on waste management in Ho Chi Minh City, where more than 50% of waste in the city is food residue. Although this is a major problem, he said, the government is experimenting with anaerobic technologies to process the waste and create liquid fertilizer, and is developing partnerships with private companies and sister cities like Osaka, Japan.



Calvin Ikesiil, Ministry of Public Infrastructure, Industries, and Commerce, Palau



The dais during plenary session 5

Japan highlighted reporting and measurement challenges, due to unclear definitions of concepts such as “e-waste.”

Facilitator Tanaka said it is important to consider what is best for a certain country’s situation: energy recovery or material recovery. Chair Shareef discussed the relationship between lifestyle, consumption and waste. He noted the strong contribution of Japan in terms of cross-country collaboration, and said that all countries present have been “touched” by Japan’s partnership efforts. Using the example of asbestos, he said that countries should work together and can borrow and learn from one another.

COUNTRY BREAKOUT GROUP 3: This Group was chaired by Mohamed Saeed, Minister of Economic Development, Maldives, and facilitated by Mohamed Nimal, Managing Director, Fenaka Corporation Limited, Maldives.

Afghanistan reported that its 3R policy is still “very basic and scattered,” with a current campaign to reduce plastic bag use. He indicated strong interest in the reuse of construction materials. Lao PDR reported its main challenges are the low capacity of local institutions and the lack of engagement of private investors in 3R activities.

The Republic of Korea reviewed its volume-based fee system for municipal waste, its deposit-refund system for drink containers, an EPR scheme for certain packaging and products, and the online exchange market for recyclable resources. It said the current challenge is to promote application of 3R to industrial wastes.

Niue discussed its integrated waste management plan, waste oil collection system and small-scale recycling of aluminum cans, and stressed the challenges it faces as a SIDS, such as economies of scale and distance to recycling markets. Tonga noted many waste management projects supported by foreign aid and that a national waste management strategy will be approved soon. Cambodia discussed its campaign against plastic bags, a contest to recognize “clean and green” cities, the Green Industry Award, and setting quantitative targets for waste management to be reached by 2030.

COUNTRY BREAKOUT GROUP 4: This Group was chaired by Dunya Maumoon, Minister of Foreign Affairs, Maldives, and facilitated by Ajwad Musthafa, MEE, Maldives.

Bhutan noted a number of recent policy and legislative initiatives, but stressed that despite having good policy on paper, enforcement is weak. She noted a number of grassroots initiatives aimed at getting temples and monasteries involved in 3R, plans to amend the waste regulation policy, launch a pilot project on zero waste and a plastic-to-oil project, outsourcing solid waste management to the private sector, and incorporate 3R concepts in school curriculums.

Maldives reported on its new national waste management policy, plans to create nine regional waste management centers and to explore WTE options, the Malé 3R Declaration and

the Saafu Raajje Initiative. He stressed that as is the case with many SIDS, the biggest challenges Maldives faces are isolation and limited land availability.

Noting that a recent poll showed citizens consider waste management Nepal’s largest environmental problem, Nepal said nonetheless public perceptions about how they contribute to the problem is low and will be addressed by a public awareness campaign. He said Nepal’s biggest challenges are lack of technical, institutional and financial capacity. Currently hospital waste management is being targeted, with plans for work on e-waste and greening the value chain.

Singapore said its key challenges are waste growth and land scarcity, which have led it to set a national goal of becoming a zero waste nation through a mix of reducing consumption, reusing and recycling to conserve precious resources and free up scarce land for uses other than waste management. He said Singapore has set a national target of 70% recycling by 2030, and it is bringing together government, communities and businesses to improve the waste management infrastructure and launch appropriate programs toward reaching the zero waste goal.

Emphasizing that it is a young country starting almost from scratch, Timor-Leste reported it is setting up waste management legislation and institutions and has launched a campaign to educate its citizens about the 3Rs.

During a short discussion period Singapore was asked several questions about its policies and practices, including what sort of collection centers it uses and how it sorts waste, and disposal techniques bottom ash from incinerators. Chair

Maumoon observed that the achievements of Singapore proved that size alone does not determine a country’s destiny.

COUNTRY BREAKOUT GROUP 5: This Group was chaired by Abdulla Jihad, Minister of Finance and Treasury, Maldives, and facilitated by Abdullah Mohamed Didi, MEE, Maldives.

Australia discussed the national waste policy adopted in 2009, the Australian Packaging Covenant, and initiatives undertaken by the government of New South Wales. The Russian Federation reported it has introduced a source segregation program, adopted new legislation on the production and consumption of waste, and an awareness campaign promoting source separation and recycling among youth. The Philippines introduced its program on eco-



Abdulla Jihad, Minister of Finance and Treasury, Maldives



The dais during plenary session 6

labeling and product packaging as well as green procurement regulations, and highlighted the challenge of ensuring proper source segregation of recyclable and recoverable materials.

PLENARY SESSION 5: REPORTING BACK BY THEMATIC PARALLEL ROUNDTABLE DIALOGUES, COUNTRY BREAKOUT SESSIONS AND THE NGO SIDE EVENT

Md Amir Hossain, Minister of Industries, Bangladesh, chaired the session. Ahmed Solih, Ministry of Tourism, Maldives, was the facilitator.

Rapporteurs from the parallel roundtables and country breakout groups reported back on the discussions during their sessions held the prior day. Participants also heard a report back from the NGO side event held on 16 August. Yukio Taira, Asian 3R Citizens' Network, reported on activities to create "closed-loop communities" based on best-practices for 3Rs such as community composting and community cleanup campaigns. Mohamed Shumais, Live & Learn Maldives, said NGOs can play a wide role in 3R, and that youth networks are an essential catalyst. He said that 3R is not just about high tech systems but can start with simple changes.

Facilitator Solih summarized the key points made during the session, underscoring the need for, *inter alia*, data collection, technology transfer, political will, public-private partnerships, raising awareness and financing. In closing, Chair Hossain highlighted the importance of countries sharing experiences and lessons learnt.

PLENARY SESSION 6: WASTE AND FRESHWATER NEXUS - 3R FOR WATER SECURITY IN ASIA AND THE PACIFIC

Abdullahi Majeed, State Minister, MEE, Maldives, chaired the session on Tuesday afternoon, and C.R.C. Mohanty, UNCRD, facilitated discussion. Mohanty stressed that a number of Asia-Pacific countries are already heading towards water stress and that water security is highly relevant for 3R in the region.

Sunil Herat, Griffith University, Australia, presented a background paper on 3Rs for water security in Asia and the Pacific prepared with Chettiyappan Visvanathan, Asian Institute of Technology. Saying 80% of rivers in the region are in poor health mainly polluted from agricultural and industry sectors and domestic sewage, he underscored that few wastewater discharges are treated and 3R provides a holistic solution to close the waste management loop. He also called for a "circular water economy" entailing adequate infrastructure, technology, institutional support, finance, as well as social and cultural acceptance.

Saraswati Prasad, Ministry of Drinking Water and Sanitation, India, presented on how the 3Rs and sustainable waste management system can save the major lifeline rivers of India. He highlighted that the type and level of waste management is one of the most important factors influencing the health of Indian rivers and water security, and that has severe implications for freshwater. Noting municipal sewage contributes to 75% of point-source river pollution, he stressed that in urban areas the sewage treatment capacity only deployed less than one third, and the sanitation coverage in

rural areas is more limited. He said similar to the Maldivian vision on waste management, the Swachh Bharat ("Clean India") Mission has raised the ambition of providing access to toilet facilities to all by 2019, to be realized through solid and liquid waste management projects and community-based behavior change.

PANEL DISCUSSION: Abdul Matheen Mohamed, MEE, Maldives, said without proper waste management freshwater will be contaminated, therefore 3R is not only a model to be applied for waste management, but also for water management in all countries. He highlighted planning and urban development as integral for water and waste management, and that financing is needed to advance water recycling and reuse technologies.

Muhammad Maududur Rashid Safdar, Ministry of Environment and Forests, Bangladesh, said water management is about the quality of lives, and it can be improved through embedding 3R principles in a systematic way, supported by policy regimes, technological options, and better governance.

Muhammad Khurshid, Director General, SACEP, and Emani Kumar, ICLEI - Local Governments for Sustainability, also supported linking waste management with waste managing.

Koh Kim Hock, National Environment Agency, Singapore, said that limited water resources forced his country to look for other means to ensure water security, and water recycling and reuse technologies are of strategic importance.

PLENARY SESSION 7: STATE OF THE 3RS IN ASIA AND THE PACIFIC



Kazunobu Onogawa, IGES

Sadat Mansoor Naderi, Minister of Urban Development Affairs, Afghanistan, chaired this session on Wednesday morning, and Kazunobu Onogawa, IGES, facilitated discussion, which focused on the Chair's Summary, "A guiding document for improved decision making towards effective implementation of 3R at local and national levels."

Yasuhiko Hotta, IGES, presented the draft outline, objectives and scope of "State of the 3Rs in Asia and the Pacific - A Guiding Document for Improved Decision Making towards Effective Implementation of 3R at Local and National Level." He said the intended follow-up would be to regularly gather and update the data in the report, create a knowledge platform on progress of 3R policy implementation at the local and national levels, and establish thematic expert working groups on various common 3R themes in the region.

Janet Salem, UNEP, presented on UNEP's work to develop resources use indicators in six domains covering 26 Asia-Pacific countries over a 40-year time frame. She said UNEP is now looking into how this data can be linked into setting national development goals and the SDGs.

Emani Kumar, ICLEI, presented on the SUNYA-Towards Zero Waste in South Asia Project funded by the European Union and implemented by the seven partner cities in five South Asian nations. He reviewed the results, and cited among the lessons learned as: community support is vital; segregation is essential for 3R; solutions need to be city-specific and in some cases locality-specific; and policy support is needed in areas such as integrating the informal sector.

PANEL DISCUSSION: During the ensuing discussion, panelists spoke on, *inter alia*, the need to sensitize citizens to the use of natural resources; the need for reliable and authoritative data; the importance of developing interlinking indicators to measure progress that can be applied to a policy context; the need to understand the full life cycle impacts of products; strengthening institutions; and implementing vigorous awareness campaigns.

C.R.C. Mohanty, UNCRD, said that the Ha Noi 3R Declaration is a strong policy instrument and that now countries need to measure progress toward its goals.

Responding to a question regarding follow-up procedure, Mohanty noted the importance of training programs, supporting countries to develop their 3R strategies, and using the 3R forum as a high level conference to influence policymaking and achieve resource efficiency. Chair Naderi closed the session by noting that 3R is vital globally and particularly for countries that are experiencing massive urbanization.

PLENARY SESSION 8: ADOPTION OF THE CHAIR'S SUMMARY

Thoriq Ibrahim, Minister, MEE, Maldives, presented a draft Chair's Summary of the Forum. Participants from Afghanistan and Malaysia suggested adding household e-waste collection and follow-up procedures on e-waste management to the summary. The draft Chair's Summary was adopted following minor edits in plenary.

The document includes the Malé 3R Declaration as an annex, and states the way forward, including to: design new initiatives to enhance trade, connectivity and investment contributing to mainstream sustainable resource management, waste minimization and low-carbon development; create certificates and labeling systems to inform buyers about the sustainability performance of traded goods and services; and to extend the 3R remit to facilitate a broader public debate on the importance of sustainable resource management for the future prosperity in the region.

The document also suggested: establishing a regional advisory panel of eminent scientists and community leaders to support evidence-based policy making processes; setting up a network of regional innovation centers to drive innovation and provide practices and technologies based on the existing cleaner production centers; phasing out subsidies conflicting with resource efficiency and waste minimization objectives, and that lower-income households should be directly compensated for higher prices; monitoring the environmental impact of trade agreements and market liberalization in the trade sector; developing regional financing mechanisms to support innovative projects based on the 3R principles; and designing curricular



Chikako Takase, Director, UNCRD



Thoriq Ibrahim, Minister of Environment and Energy, Maldives, presenting a carved sculpture to Vaughan Levitzke, Zero Waste South Australia

and training courses to strengthen the capacity for local and city governments to mainstream and implement 3R policy. The document also recognizes the contribution of the 3Rs to achieving the SDGs and the post-2015 development agenda.

CLOSING SESSION

Noting the Chair's summary is steppingstone for the Ha Noi 3R Declaration and the post-2015 agenda, Chikako Takase, Director, UNCRD, expressed appreciation to all participants and the support of the host country and ministries as well as the government of Japan for the continued financial support.

Masahito Fukami, Ministry of the Environment, Japan, on behalf of Vice-Minister Soichiro Seki, expressed gratitude to the government of Maldives and all the participants for a dynamic discussion and collaboration in the region. He also extended thanks to UNCRD, and stressed that Japan remains committed to supporting 3R principles, especially on EPR.

Saying the 3R Forum has helped with the design and implementation of better policy intervention and improving the overall governance on waste management in Maldives, Minister Ibrahim, said his government will work on providing a conducive environment for sustainable waste management approaches, and engaging the business sector to capitalize market opportunities. He then announced Australia will host the next 3R Forum in Adelaide, and handed over a carved sculpture to Vaughan Levitzke, Chief Executive, Zero Waste South Australia, as the chair of the Seventh 3R Forum scheduled to convene in 2016. Levitzke welcomed all participants to the next 3R Forum, and presented a video introducing the city of Adelaide.

Vladimir Maryev, Director, International Center for Best Available Technologies, Russian Federation, announced the 2015 Global Forum of the International Partnership for Expanding Waste Management Services of Local Authorities to be held in Moscow, Russian Federation in October 2015, and invited all 3R Forum participants to attend. He also indicated the Russian Federation's interest in hosting the 3R Forum in the future.

Ali Amir, Deputy Minister, Ministry of Environment and Energy, Maldives, thanked the various ministries in Maldives and all participants for making the 3R Forum a success. He closed the meeting at 1:18 pm.

UPCOMING MEETINGS

UN Summit for the Adoption of the Post-2015 Development Agenda: Mandated by the UN General Assembly (Resolution 68/6), the UN Summit will adopt the post-2015 development agenda, and will be convened as a high-level plenary meeting of the General Assembly. **dates:** 25-27 September 2015 **venue:** UN Headquarters **location:**

New York City, US **contact:** Office of the President of the UN General Assembly **www:** <https://sustainabledevelopment.un.org/post2015/summit>

ICCM4: The Fourth International Conference on Chemicals Management (ICCM4) will consider the Overall Orientation and Guidance, progress in achieving the objectives of the Strategic Approach to International Chemicals Management's (SAICM) Overarching Policy Strategy, existing emerging policy issues, the nomination of environmentally persistent pharmaceutical pollutants as a new EPI, highly hazardous pesticides, and chemicals management beyond 2020. **dates:** 28 September - 2 October 2015 **location:** Geneva, Switzerland **contact:** SAICM Secretariat **phone:** +41-22-917-8532 **fax:** +41-22-797-3460 **email:** saicm.chemicals@unep.org **www:** <http://www.saicm.org>

IPLA Global Forum 2015: The International Partnership for Expanding Waste Management Services of Local Authorities (IPLA) will hold its 2015 Global Forum under the theme "Science-Policy-Business-Community Interface. Towards a Resource Efficient Nation: Minimum Landfilling and Maximum Resource Recovery." IPLA has developed by the UNCRD since 2011. **dates:** 6-8 October 2015 **location:** Moscow, Russian Federation **contact:** Forum Secretariat **phone:** +8-903-530-42-63 **email:** ipla.russia@gmail.com **www:** <http://www.ipla-russia.com/#!iplaglobalforum/c15gy>

49th Meeting of the GEF Council: The GEF Council meets twice per year to approve new projects with global environmental benefits in the GEF's focal areas, provide guidance to the GEF Secretariat and agencies, and discuss its relations with the conventions for which it serves as the financial mechanism, such as the Stockholm and Minamata Conventions. **dates:** 20-22 October 2015 **location:** Washington D.C., US **contact:** GEF Secretariat **phone:** +1-202-473-0508 **fax:** +1-202-522-3240/3245 **email:** secretariat@thegef.org **www:** <http://www.thegef.org/gef/node/10108>

Tenth International Conference on Waste Management and Technology (ICWMT10): Organized by the Basel Convention Coordinating Centre for Asia and the Pacific, and sponsored by UNEP, the Stockholm Convention Regional Centre for Capacity-Building and the Transfer of Technology in Asia and the Pacific, China's Ministry of Environmental Protection and others, ICWMT10 aims to promote exchange and cooperation on management policy, technology and experiences on solid and hazardous waste. Under the theme of "Towards Environmental Quality Improvement," participants will discuss, *inter alia*, e-waste management policy, POPs waste management and disposal, mercury waste management, hazardous waste management, and regional and subregional chemicals management. **dates:** 28-30 October 2015 **location:** Mianyang, Sichuan Province, China **contact:** Chen Yuan, BCRC for Asia and the Pacific **phone:** + 86-10-62794351 **fax:** + 86-10-62772048 **email:** cwmt@tsinghua.edu.cn **www:** <http://2015.icwmt.org>

2nd INTERPOL-UNEP International Environmental Compliance and Enforcement Conference: Open to executive level representatives of NGOs and the private sector, the 2nd INTERPOL-UNEP conference will discuss, *inter alia*, waste management vulnerabilities and law enforcement interventions; innovative tools and practices for intelligence sharing and investigations; the role of law enforcement in meeting sustainable development goals; and vibrant networks and capacity development. **dates:** 16-17 November 2015 **location:** Singapore **contact:** INTERPOL Secretariat **e-mail:** environmentalcrime@interpol.int **www:** <http://www.interpol.int/Crime-areas/Environmental-crime/Events/Meetings/2nd-INTERPOL-Environmental-Compliance-and-Enforcement-Events>

Seventh Session of the Intergovernmental Negotiating Committee on Mercury (INC7): This is intended as the last meeting of the INC and will prepare for the first COP.

dates: 7-11 March 2016 **location:** Amman, Jordan **contact:** Interim Secretariat **fax:** +41-22-797-34 60 **email:** mercury.chemicals@unep.org **www:** <http://www.mercuryconvention.org>

Third 3R International Scientific Conference on Material Cycles and Waste Management: The conference will provide a platform for academic activities that promote a 3R society, covering a wide range of interdisciplinary discussions, including: physics, chemistry, engineering, medicine, policy science, economy, and law, as keystones that support 3R development. **dates:** 9-11 March 2016, **location:** Ha Noi, Vietnam **contact:** Misuzu Asari, 3RINCS Secretariat **phone:** +81-75-753-7700 **fax:** +81-75-753-7710 **email:** info@3rincs.org **www:** <http://3rincs.org>

Seventh Regional 3R Forum in Asia and the Pacific: The Forum is intended to serve as a framework for 3R policy dialogue among high-level government representatives from Asia-Pacific countries, city mayors and administrators and other professional, as well as technical assistance for country projects, and information sharing and networking for the promotion of 3R policies in Asia and the Pacific. **date:** July 2016 (TBC) **location:** Adelaide, Australia **contact:** C.R.C. Mohanty, UNCRD **phone:** +81-52-561-9416 **fax:** +81-52-561-9374 **e-mail:** mohantyc@uncrd.or.jp **www:** <http://www.uncrd.or.jp>

GLOSSARY

3R	Reduce, reuse, recycle
C&D	Construction and demolition
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DfE	Design for the Environment
EPR	Extended producer responsibility
IETC	International Environmental Technology Centre
IGES	Institute for Global Environmental Strategies
ILO	International Labour Organization
JICA	Japan International Cooperation Agency
MEE	Ministry of Environment and Energy, Maldives
MoE	Ministry of the Environment, Japan
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
PICs	Pacific Island countries
SACEP	South Asia Co-operative Environment Programme
S.A.M.O.A.	SIDS Accelerated Modalities of Action
SDGs	Sustainable Development Goals
SMEs	Small and medium enterprises
SIDS	Small island developing States
SPREP	Secretariat of the Pacific Regional Environment Programme
UNCRD	United Nations Centre for Regional Development
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNWTO	World Tourism Organization
WEEE	Waste electrical and electronic equipment
WTE	waste to energy