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# **3R Whitepaper and the Indicators of 3R Goals Achievements**

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# Asia and the Pacific 3R White Paper

- **Synthesis and status report** to assess **current status of 3R policy implementation** in the region based on country reports to Regional 3R Forum in AP.
- **Status of 3R implementation** will be summarized **for each country**.
- The work on **core set of indicators for monitoring Hanoi 3R declaration and Asia and the Pacific 3R White Paper** would be an integrated work.
- **Drafting committee** will be organized. About 2 years project to start.
- To be published at **8<sup>th</sup> Regional 3R Forum in AP (early 2017)** (TBC)

# Background

- Proposal from **Ministry of the Environment of Japan** to launch the project to develop a **synthesis and status report of 3R implementation** in Asia and the Pacific with data and its periodical publications.
- Since the launch of the 3R Initiative in 2004, a lot of experience and information was shared among countries.
- Regional 3R Forum in Asia and the Pacific started to accumulate **lots of information through the form of background papers and country reports.**
- A group of experts gathered and discussed about the proposal of white paper at the 5<sup>th</sup> Regional 3R Forum in Asia and the Pacific in February 2014 in Surabaya.



**CORE SET OF 3R  
PERFORMANCE  
INDICATORS FOR  
REGIONAL 3R FORUM IN  
ASIA AND THE PACIFIC**

# Background

- 2012: Launch of the **working group of 3R policy indicators** of Asia Resource Circulation Research Group in close **collaboration with UNCRD** to support **Regional 3R Forum** in Asia and the Pacific.
- March 2013: Provided **background paper and 8 factsheets** for 3R policy indicators for the 4<sup>th</sup> Regional 3R Forum
- The 4<sup>th</sup> Regional 3R Forum **requested to work on core set of 3R policy indicators.**
- **2 working group meetings** to discuss core set of 3R policy indicators in December 2013 and January 2014.



# Asia Resource Circulation Policy Research Group

- **An expert network to facilitate 3R policy research** in close collaboration with Regional 3R Forum in AP.
- **Experts from 8 Organizations:** IGES, IDE-JETRO, NIES of Japan, University of Malaya, Asian Institute of Technology, Bandung Institute of Technology, and UNCRD. The initiative is funded by Ministry of the Environment of Japan.
- Three WGs: 1) **3R Policy Indicator**, 2) Policy Research on Promoting Environmentally Sound Recycling Industries and Mechanisms, and 3) **REDUCTION** policy
- **Four working group meetings** (Bangkok: Dec. 2012, Tokyo: Feb. 2013, Phitstanulok: Dec. 2013, Surabaya: Jan. 2014)

# Indicators for 3Rs in Municipal Solid Waste

Indicator	Overview	Related Goals of Hanoi 3R Declaration
<b>Indicators for 3Rs in municipal solid waste</b>		
<b>I. Total MSW Generated and Disposed and MSW Generation Per Capita (by weight)(Primary Indicator)</b>	<ul style="list-style-type: none"> <li>MSW generation is a fundamental indicator.</li> <li>The use of total MSW generation and MSW generation per capita indicators would enhance governmental planning and decision-making capacity in MSW management.</li> </ul>	<b>Goal 1:</b> Significant reduction in the quantity of municipal solid waste generated.
<b>II. Overall Recycling Rate and Target (%) and Recycling Rate of Individual Components of MSW (Primary Indicator)</b>	<ul style="list-style-type: none"> <li>Recycling rate is one of the representative indicators of 3R policy performance</li> <li>Many countries in Asia have incorporated it into national 3R targets.</li> <li>Can show how recycling activities can contribute to reduce waste going to final disposal sites.</li> </ul>	<b>Goal 3:</b> Significant increase in recycling rate of recyclables

# Indicators for 3Rs in Industrial Sector

## III. Amount of Hazardous Waste Generated and Disposed in Environmentally Sound Manner (Primary Indicator)

- For proper management of hazardous waste a country need to standardize the hazardous waste classification and to establish a comprehensive inventory of hazardous waste data.
- Proper management of hazardous waste can ensure legal recycling activities.
- Thus, this indicator can indicate a country's capacity in hazardous waste management.

Goal 9: Develop proper classification and inventory of hazardous waste

## IV. Indicators based on macro-level material flows (Secondary Indicator)

- This indicator can show image of industrial structure and material balance of the country.
- It can show material footprint of the country.

Goal 5: Encourage the private sector to increase resource efficiency and productivity  
Goal 17: Improve resource efficiency and resource productivity



# Indicators for 3Rs in Rural Areas

<b>V. Amount of agricultural biomass used (Primary Indicator)</b>	<b>The indicator can help to identify level of utilization of agricultural biomass and may help to identify proper intervention point for promotion of reuse and recycling of agricultural biomass to maximize use</b>	<b>Goal II: Promote full scale use of agricultural biomass waste and livestock waste through reuse and/or recycle measures</b>
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# Indicators for 3Rs of New and Emerging Wastes

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<p><b>VI. Marine &amp; coastal plastic waste quantity (Primary)</b></p>	<p>Quantification of plastic waste will give a correlation on the pollution intensity in marine environment. At the same time, there is a necessity for integrated action among countries to curb cross-border migration of wastes.</p>	<p>Goal 12: Strengthen regional, national, and local efforts to address the issue of waste, in particular plastics in the marine and coastal environment.</p>
<p><b>VII. Amount of E-waste Generation, Disposal and Recycling. Existence of policies and guidelines for E-waste management (Primary)</b></p>	<p>With this indicator, health and safety of stakeholders engaged in e-waste recycling could be monitored. Recycling of e-waste could be regulated to avoid illegal and environmentally unsound activities.</p>	<p>Goal 13: Ensure environmentally sound management of e-waste</p>
<p><b>VIII. Existence of policies, guidelines, and regulations based on the principle of extended producer responsibility (EPR)</b></p>	<p>This indicator can be used to monitor to what extent EPR is reflected in national recycling policies in encouraging manufacturers, importers and retailers to share the financial and physical responsibilities of collecting, recycling, and disposal of recyclable wastes.</p>	<p>Goal 15 Progressive implementation of EPR</p>

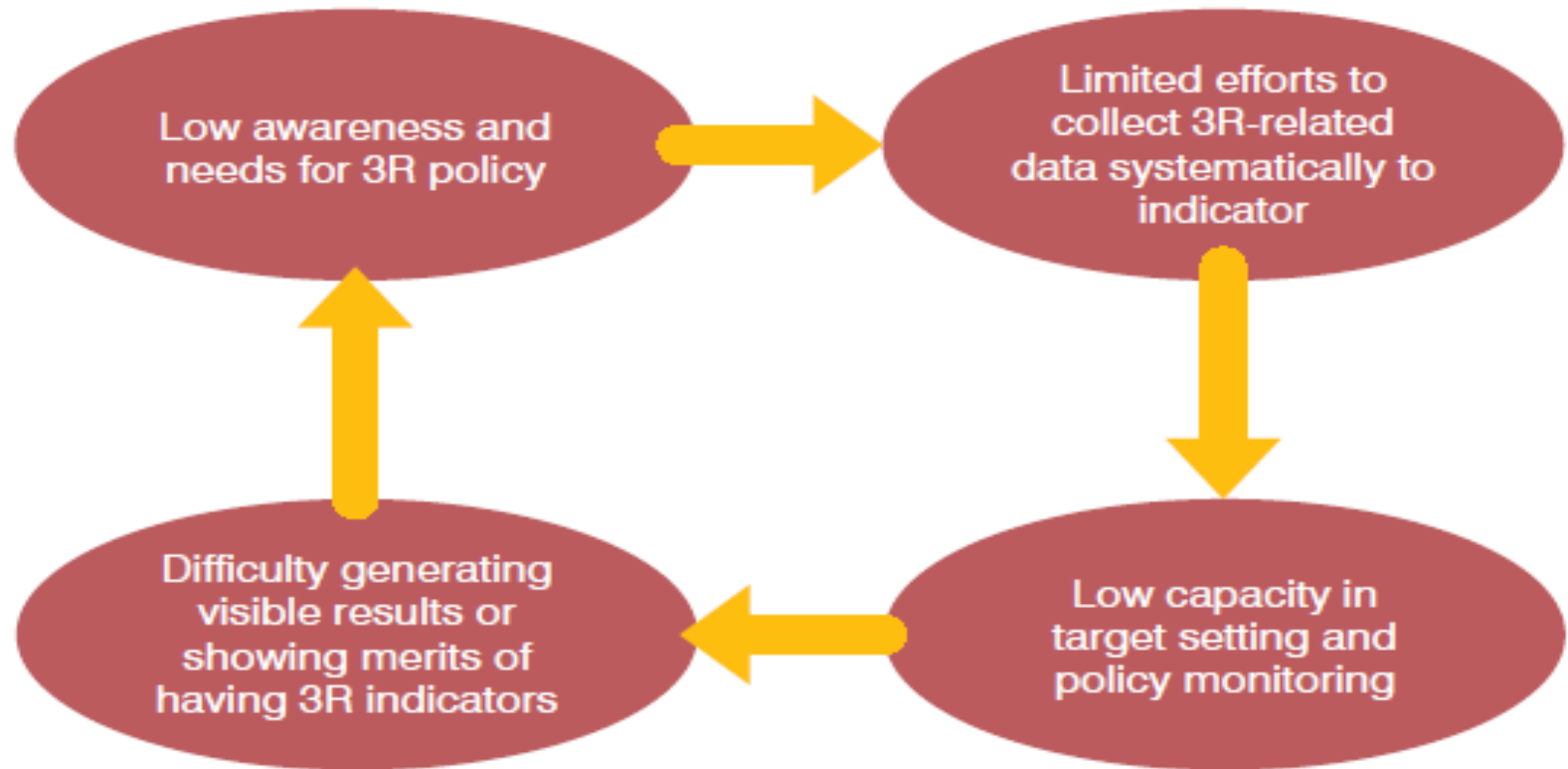
# Indicators for 3Rs in Cross-cutting Issues

**IX. GHG Emission from waste sector**

- Improving waste management and promotion of the 3Rs has climate co-benefits.
- Climate change continues to be the one of top priorities in international environmental agenda.
- Attract increasingly available climate-related funding.
- Increase capacity of local government on estimation and reporting of **GHG** and climate benefit

**Goal 18: Maximize co-benefits from waste management technologies for local air, water, oceans and soil pollution and global climate change**

# Need to break vicious cycle



Source: Aoki-Suzuki et. al. 2012

# To break vicious cycle

International collaboration focusing on

- 1) establishment of a national focal point to strengthen the institutional setup and improve coordination on data collection and 3R indicator development in each country,
- 2) development of model cases illustrating how targetsetting and following-up of indicators can provide an improved informational basis for policy design and evaluation, and
- 3) Training and capacity development in forming collaborations between policy makers, academia and research institutes to develop methodology and guidelines.