

As of 20 July 2021



United Nations Centre for  
Regional Development



Ministry of the Environment  
Japan

Ministry of the Environment,  
Government of Japan

## **Provisional Programme of Experts' Workshop for the Second State of the 3Rs and Circular Economy in Asia and the Pacific**

**Date of Workshop III:** 20 July 2021 (Tuesday)

**Japan Time:** 14:30-16:00 PM

**Format:** WeBex (Online Platform)

**Theme:** Wastewater Treatment

**Co-organizers:**

Ministry of the Environment, Japan (MOEJ)

United Nations Centre for Regional Development (UNCRD) of Division  
for Sustainable Development Goals (DSDG) / UN DESA

\*Duration of Webinars: Approximately 90 minutes

## PROGRAMME OF WORKSHOP

**Date: 20 July 2021 (Tuesday)**

**Japan Time: 14:30-16:00 PM**

**Theme: Wastewater Treatment**

### Short Introduction

This workshop is on the sub-section “3.2.8. Wastewater Treatment” of the report of “The Second State of the 3RS in Asia and the Pacific - Advancing Circular Economy in Asia and the Pacific Towards Achieving the Sustainable Development Goals (SDGs) –”. This workshop aims to describe challenges in wastewater treatment and advanced technologies of recycling opportunities in Asia and the Pacific.

**Reference 1:** *Table of Content of report*

*“The Second State of the 3RS in Asia and the Pacific  
- Advancing Circular Economy in Asia and the Pacific  
Towards Achieving the Sustainable Development Goals (SDGs) –”*

**Reference 2:** *Table of Content of chapter “Wastewater Treatment”.*

### Discussion Points

#### Discussion Points

- Any major issues including new emerging issues that needs to be highlighted in this section.
- Any potential source of data, information, reports which could be useful for developing this chapter.
- Any specific box, graph and chart that could be included in this chapter. (For example, any new policy initiative that is very effectively working in a country should be add in box)

**Chair: Prof. Sadhan Kumar Ghosh, President, International Society of Waste Management, Air and Water (ISWMAW), Professor, Jadavpur**

<p><b><u>Experts</u></b></p> <ul style="list-style-type: none"> <li>• <b>Dr. Khai Ern Lee</b>, Associate Professor - Institute for Environment and Development (LESTARI) and Deputy Director - Centre for Research and Instrumentation Management (CRIM), Malaysia</li> <li>• <b>Prof. Arun Kumar</b>, Indian Institute of Technology, Delhi, India</li> <li>• <b>Prof. Viet-Anh Nguyen</b>, Director, Institute of Environmental Science and Engineering, Hanoi University of Civil Engineering, Vietnam</li> <li>• <b>Mr. Mitsuo Kitagawa</b>, Senior Advisor for Wastewater Management and Water Pollution Control, Japan International Cooperation Agency, Japan</li> <li>• <b>Mr. Amit Jain</b>, Managing Director, IRG Systems South Asia Pvt. Ltd, India</li> <li>• <b>Mr. Yasuki Yamamoto</b>, Senior Environment Engineer, Office for Promotion of Sound Material-Cycle Society, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment, Japan</li> </ul>	<p>University, Kolkata, India</p> <p><b><u>Facilitator / Moderator:</u></b> <b>Mr. Choudhury Rudra Charan Mohanty</b>, Environment Programme Coordinator, United Nations Centre for Regional Development (UNCRD)- DSDG/UN DESA, Japan</p> <p><b><u>Rapporteur:</u></b> <b>Prof. C. Visvanathan</b>, Professor of School of Environment, Resources and Development, Asian Institute of Technology, Thailand and <b>Dr. Anupam Khajuria</b>, Researcher, United Nations Centre for Regional Development (UNCRD)- DSDG/UN DESA, Japan</p>
<p><b>End of Workshop</b></p>	

**Reference 1: Table of Contents of the report**

***“The Second State of the 3RS in Asia and the Pacific - Advancing Circular Economy in Asia and the Pacific Towards Achieving the Sustainable Development Goals (SDGs) –”***

1. Background and Scope of Work

- 1.1. About the State of 3Rs in Asia and the Pacific Project
- 1.2. Regional 3R and Circular Economy Forum in Asia and the Pacific, Ha Noi 3R Declaration, and 3R Monitoring Performance Indicators
- 1.3. Structure of this Report

2. Urgent Needs and Multiple Benefits of Implementing 3Rs and Circular Economy Approach in Asia and the Pacific

- 2.1. 3R and Resource Efficiency as the Heart of Circular Economy
- 2.2. Key Factors for Promoting Circular Economy in Asia and the Pacific
  - 2.2.1. Circular Economy towards Sufficiency Economy
  - 2.2.2. Sound Material Flow and Accounting towards Sufficiency Economy
  - 2.2.3. Technology as a Driver for Clean Energy and Green Industry towards Sufficiency Economy
  - 2.2.4. The Importance of Public-Private-Partnership (PPP) for Advancing Circular Economy
  - 2.2.5. 3Rs and Circular Economy under COVID-19 Pandemic  
This sub section will aim to address what 3Rs and Circular Economy can offer aftermath of COVID-19

3. Trends of 3R and Circular Economy in Asia and the Pacific

- 3.1. Trends in 3Rs and Waste Management Policies and Responses  
This part section will mainly build on by updating the First State of the 3Rs in Asia and the Pacific by addressing the same set of nine indicators selected from the Ha Noi 3R Declaration (2013-2023).
  - 3.1.1. Reduction in the Quantity of Municipal Solid Waste Generated (Goal 1)
  - 3.1.2. Increasing Recycling Rate of Recyclables (e.g., plastic, paper, metal, etc.) (Goal3)
  - 3.1.3. Inventory of Hazardous Waste (Goal 9)
  - 3.1.4. Agricultural Biomass Waste Management (Goal 11)
  - 3.1.5. Eliminating Marine Plastics (Goal 12)
  - 3.1.6. E-Waste Management (Goal 13)
  - 3.1.7. Implementation of Extended Producer Responsibility (EPR) (Goal 15)
  - 3.1.8. Improving Resource Efficiency and Resource Productivity (Goal 17)

### 3.1.9. Co-benefits for Local Air, Water, Oceans, and Soil Pollution and Global Climate Change (Goal 18)

## 3.2. Growing Volume and Diversification of Waste Streams with Presence of New Emerging Waste Streams

This section will focus on the emerging waste streams and issues corresponding to the goals and indicators of the Ha Noi 3R Declaration (2013-2023)

(SDG Tier1 and Tier 2 indicators will be used as applicable for 3.2.1. to 3.2.5.)

### 3.2.1. Plastic Waste

- Indicator 1: Total generation and recycling rate (%) of plastic
- Indicator 2: National policies concerning plastic waste
- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.2. Electronic waste

- Indicator 3: Formal standards, certification system, and licensing procedures established and enforced
- Indicator 4: Number of state-of-the-art recycling facilities for e-waste
- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.3. Chemical and Hazardous Waste

- Indicator 5: Proper classification and inventory of chemical and hazardous waste developed
- Indicator 6: Existence of framework for bilateral and multilateral cooperative activities toward efficient, legal, and appropriate trade of chemical and hazardous waste
- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.4. Construction and Demolition Waste (including Disaster waste)

- Indicator 7: Number of sectoral policies and programmes that have integrated 3R concepts
- Indicator 8: Existence of basic data on construction and demolition wastes required for policy-making, planning, implementation, and monitoring
- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.5. Agricultural Biomass Waste

- Indicator 9: Amount of biomass waste and livestock waste generated
- Indicator 10: Amount of biomass waste and livestock waste recycled
- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.6. Food Waste

- Indicator 11: Food waste landfilled per capita

- Indicator 12: Percentage of food loss at each stage of food supply chain

- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.7. Health Care and Medical Waste

- Goal 16 & 32

- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.8. Wastewater Treatment

- SDG Tier1 and Tier 2 indicators as applicable

### 3.2.9. Data Issues on new emerging waste streams

- SDG Tier1 and Tier 2 indicators as applicable

## 3.3. Conventional and Frontier Technologies in Advancing 3Rs and Circular Economy in Asia-Pacific

This section will address policy and technology choices made countries in following areas

### 3.3.1. Waste-to-Energy

### 3.3.2. Biobased Plastics and Biodegradable Plastics

### 3.3.3. Used Tire for Roads Construction

### 3.3.4. Plastics as Alternative Timber (for example-Case of Australia)

### 3.3.5. Application of Smart Technology

### 3.3.6. End of Life Batteries

### 3.3.7. Carbon Neutralization Technology

## 3.4. Progress towards Implementation of the Ha Noi 3R Declaration (2013-2023)

### 3.4.1. 3R Policy Implementation in Asia and the Pacific

This sub-section will address policy progress in 3Rs and circular economy among countries

### 3.4.2. Nationally Implemented 3R-Related Programmes, Projects, and Master Plans

- Introduction of a fee for plastic bags in Japan / New Integrated Plastics Resource Management Policy of Japan (for example)

- Similar cases in Asia and the Pacific

## 4. Experts' Assessment of Policy Readiness for Related Ha Noi 3R Goals and Progress at National Level

This chapter will have comprehensive overview of the countries' progress made on the Ha Noi 3R Goals (2013-2023)

## 5. Main Recommendations

***Reference 2: Table of Content of the Chapter “Wastewater Treatment”***

3.2.8. Wastewater Treatment

3.2.8.1. Regional overview on wastewater treatment

- i. Water consumption in the region
- ii. Sewerage and drainage systems in the region

3.2.8.2. Overall assessment on national regulations on wastewater treatment and sanitation

- i. National-level wastewater regulations
- ii. Domestic and industrial wastewater flows
- iii. Sanitation guidelines on wastewater treatment

3.2.8.3. Wastewater treatment and recycling management

(This 3.2.8.3. should be developed in consideration of following indicators under SDG6. Related SDGs Indicators)

- i. Proportion of domestic and industrial wastewater flows safely treated

(Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

SDG6: Ensure availability and sustainable management of water and sanitation for all)

- ii. Water- and sanitation-related official programmes
- iii. Development assistance for proper wastewater treatment
- iv. Co-benefit of water saving and sanitation improvement by wastewater treatment

3.2.8.4. Conclusion and Way Forward