Eighth Regional 3R Forum in Asia and the Pacific
"*Achieving Clean Water, Clean Land and Clean Air through 3R and Resource Efficiency- A 21st Century Vision for Asia-Pacific Communities*"
Indore, Madhya Pradesh, India, 9-12 April 2018

City Report

(Draft)

<Kitakyushu, Japan>

This city report was prepared by Kitakyushu, Japan as an input for the Eighth Regional 3R Forum in Asia and the Pacific. The views expressed herein do not necessarily reflect the views of the United Nations.

EIGHTH REGIONAL 3R FORUM IN ASIA AND THE PACIFIC
9-12 April 2018, Indore, Madhya Pradesh, India

CITY REPORT: [City Name: Kitakyushu, JAPAN]

Guideline for City Reporting on Major Initiatives/Achievements in 3R areas

The main objective of the City Reporting is to share among international community the progress, achievements and best practices, including various challenges faced, in the areas of **3R (Reduce, Reuse, Recycle)** and sustainable waste management. This would help development agencies, donors, including development banks, in assessing the needs and challenges of cities to better plan their existing and future capacity building programmes and operations in the field of 3Rs and sustainable waste management.
It would be appreciated if a consolidated city report could kindly be prepared by answering the following questions and submit to the **Secretariat of the Regional 3R Forum in Asia and the Pacific** by email to 3R@uncrd.or.jp

Timeline for submission: **28 February 2018**
Secretariat of the Regional 3R Forum in Asia and the Pacific
United Nations Centre for Regional Development

CITY REPORT: [City Name: Kitakyushu, JAPAN]	
Q 1	**What are the roles of local government stipulated in the 3R-related policies, acts, laws, or regulations?**
	The Article 4 of the Waste Management and Public Cleansing Law stipulates municipal responsibilities in Japan, that is, promotion of voluntary activities of residents concerning weight loss of solid waste within its own area, implementation of appropriate treatment including 3R, and improvement of treatment facilities, etc. In addition, The Article 6 of the same law stipulates that municipalities have to formulate its own municipal waste management plan, and the Article 7 that municipal mayor will permit municipal waste treatment business (including 3R). Thus, municipalities have overall responsibility for the management of solid waste. On the other hand, regarding as industrial waste generated in business activities, since waste generators are responsible for the disposal stipulated in the above law, the 3Rs' activities will also be decided by business operators considering costs, social responsibility, etc. Among the local governments in Japan, prefectures and large cities are responsible for formulating a waste management plan (Article 5), permission for industrial waste treatment business (Article 14), and permission to install waste treatment facilities (Article 15), etc. Through these efforts, 3R of industrial waste is promoted as well. Additionally, in the Waste Reduction and Proper Treatment Ordinance of the City of Kitakyushu, as the responsibility of our municipality, the Article 3 stipulates to promote to reduce amount of waste and develop proper waste management by restraining the generation of waste through various measures, and promoting reuse or recycling."

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Q 2	**Are 3R policies integrated in your city development strategy or master plan?** (Please attach photo(s) of your city's waste management facility if available.)

☑ Yes => Please share goals/visions/major achievements/important lessons learnt that could be replicated elsewhere.

☐ No => Please go to Q7 (please also answer Q5, 6, and 8)

In 2012, the City of Kitakyushu formulated the "Kitakyushu Fundamental Plan for Establish a Recycling-based Society (revised 2016)", as a departmental plan for the "Basic Master Design of the City of Kitakyushu" and the "Basic Environmental Plan" based on the Environment Basic Ordinance of the City.

In the "Kitakyushu Fundamental Plan for Establish a Recycling-based Society", some goals related to waste reduction are as follows.

I) Solid waste

1. Daily generation of municipal solid waste per capita

FY2003	→	FY2014	→	FY2020
705g		506g		Less than 470g

2. Recycling Rate

FY2003	→	FY2014	→	FY2020
15%		26.3%		More than 35%

3. CO2 emissions generated by solid waste disposal

FY1990	→	FY2009	→	FY2020
178,000t		122,000t		Less than 100,000t

II) Industrial waste

Promoting proper treatment and aiming for reduction of final disposal volume.

Please attach photos with caption, if available:

Kitakyushu Eco-Town Project: Facilitating resource circulation and eco-industries

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Q 3	**What are the major challenges and constraints faced by your city in implementing 3R policies and programmes?** (Please answer only if your answer to Q2 is "Yes")	
	Financial constraints:	* Financial burden of renewal and reconstruction cost of incineration facilities and sorting facilities of waste cans and bottles, scheduled almost every 30 years due to aging (Regarding as funding of the cost, the national subsidy is from 1/3 to 1/2, and the government issued bonds up to 90% of the remaining amount, and the remaining balance will be maintained at the municipal burden of Kitakyushu.)
	Institutional/governance challenges:	* Basically, the number of municipal environmental workers tends to shrink due to private consignment of garbage collection work etc. * Along with change in work content and increase in work volume, improvement of skills is required for working staffs.
	Policy gaps:	* Increase in waste volume caused by activate consumption along with economic promotion, and promotion degree of recycling industry * Penetration rate of recycled products due to high cost etc.
	Other challenges such as technical capacity, human resources etc.:	* Gradual growth in recycling rate due to inadequate and incorrect waste separation by citizens.
Q 4	**What programme is in place in your city in support of NGOs activities towards promotion of 3Rs?**	
	I) 3R Activity Promotion Award By awarding and introducing individuals and organizations actively working on 3R, such as civil society groups etc., we would like to encourage them, and stimulate further activities to spread. II) Collection incentive for waste paper recycling To citizen groups working on waste paper collection, we will give grants corresponding to the amount of waste paper collected. In recent years, old clothes are subject to incentives. III) Lending of waste paper storage In order to promote recycling, we lent warehouses to citizen's groups to keep waste paper. IV) Seminars for garbage composting container utilization Promoting to introduce composting container by holding study lecture that conveys methods and know-how to citizens and organizations that wish to make garbage composted.	

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Q 5	**Is there any collaborative 3R activities/projects/partnerships involving cities (e.g., city-to-city cooperation) and organizations at international level?**
	☑ Yes => Please brief the project(s) including objectives, project partners, target, period, budget etc. ☐ No The City of Kitakyushu is conducting environmental international projects in the Asian countries. We are utilizing national funds such as CDM project and ODA project. Typical examples of projects are as follows. I) Developing project of intermediate treatment and composting business for recycling of waste in Surabaya, Indonesia *In order to reduce in the amount of waste in Surabaya, Kitakyushu has implemented a variety of projects such as supporting to promote the application of composting technology for organic waste developed locally, and demonstrating to collect resources from household garbage etc. since 1997. *Since 2012, we have improved "Intermediate treatment facility for recycling of waste", where household garbage is collected, sorted and recycled, then valuables are sold, and organic waste is composted to sell to fertilizer companies. - Cooperated with waste pickers who make a living collecting valuables, such as plastic and metals, from waste under often difficult labor conditions - Contributing to extend lifespan of final disposal site by waste reduction II) Waste Management Improvement Project in Phnom Penh, Cambodia *In addition to the development of waterworks & water business improvement project that has been called “The Phnom Penh Miracle”, that is, declaring tap water potable, we launched to work on problem solving in related to garbage collection and transport, reduction of household garbage, and recycling etc. in pilot areas, and also to provide technical guidance on final waste disposal site management in 2017. III) Strengthening community-based solid waste management project in Mandalay, Myanmar * In order to promote proper disposal of waste, we have dispatched experts to guide garbage separation, collection, and transport since 2016, while cooperating with UNEP, IGES, etc. - IGES with UNEP providing maximum 50,000USD in FY2017-18

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	Please attach photos of the project (s) with caption, if available:  *Intermediate treatment facility for recycling of waste, In Surabaya*  *"The Phnom Penh Miracle" Technical guidance of waterworks by City of Kitakyushu*
Q 6	**What major future prospects or opportunities does your city have in 3R areas?**
	"Kitakyushu Fundamental Plan for Establish a Recycling-based Society" was formulated in 2011, and revised 2016. Its period is in 2011-2020.

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Q 7	**What type of 3R infrastructure and facilities your city is equipped with? Please tick the appropriate.**			
	Type of 3R infrastructure and facilities	**Adequate/ Significant**	If adequate, how many treatment facilities (in number)	**Not-adequate / Non-significant**
	☑ waste collection facility	☑	All entrusted to private companies	☐
	☑ waste segregation facility	☑	2 Recycling Centers for waste cans and bottles, 1 Recycling Center for plastic packaging materials	☐
	☐ waste storage facility	☐		☐
	☐ waste processing & treatment facility	☐		☐
	☐ resource recovery facility	☐		☐
	☐ waste recycling facility	☐		☐
	☑ waste to energy facility	☐	3 incineration facilities(Processing power, power generation capacity) - 720t/24h, 23,500kW - 600t/24h, 6,000kW - 810t/24h, 17,200kW	☐
	☑ eco-industrial zones	☐	Kitakyushu Eco-Town Project - 25 private recycling plants (PET bottles, home appliances, automobiles, office equipment, and fluorescent tubes, etc.)	☐
	☑ science parks/theme parks relevant to 3R	☐	Kitakyushu Environment Museum, Kitakyushu Eco-Town center, Kitakyushu Science and Research Park (Faculty of environmental engineering of the Univ. of Kitakyushu, Kyushu Institute of Technology, Waseda Univ., Fukuoka Univ.)	☐
	☐ others (please specify:)	☐		☐

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Q 8	**Kindly provide the important 3R policies/programmes/projects/master plans that your City Government plans to undertake within next five years (2017-2022).**
	"Kitakyushu Fundamental Plan for Establish a Recycling-based Society" was formulated in 2011, and revised 2016. Its period is in 2011-2020. I. Construction of optimal regional circular area 1) Promote reduction and recycling of household garbage 2) Waste treatment coordinated with broad-area municipalities 3) Promote reduction and recycling of office garbage 4) Promote reduction and proper treatment of industrial waste 5) Further direction of waste treatment facility 6) Proper treatment and improvement of security and safety II. Contribution to formulate low-carbon society and symbiotic society 1) Promote low carbonization and nature symbiosis in waste management 2) Enhance environmental education, dissemination and awareness raising 3) Increase efficiency of waste treatment business and improve municipal services for citizens 4) Measures against illegal dumping 5) Handling of coastal landings etc. 6) Promote town beautification measures 7) Proper treatment of households wastewater III. Promotion of international environmental cooperation and businesses 1) Create, promote, and support environmental industries 2) Promote technology development in the environmental field 3) Promote eco-friendly products and introduce eco-friendly management system 4) Promote international environmental cooperation and businesses 5) Promote resource recycling in business activities 6) Foster eco-friendly consumers(green consumers) and purchase promotion of eco-friendly products and services

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Q 9	**In response to the 2030 Agenda for Sustainable Development, in particular *SDG 6* (*Water and Sanitation*), *SDG 11* (*Make cities and human settlements inclusive, safe, resilient and sustainable*) and *SDG 12* (*Ensure sustainable consumption and production patterns*), how your City is planning to advance 3R and resource efficiency related measures?**
	* The City of Kitakyushu revised its "Basic Environmental Plan" in 2018, and made it a subheading "SDGs realization plan". Based on this plan, we are working on various measures in the environmental field related to SDGs. * In relation to 3R and resource efficiency, we would like to address the following issues in order to build a world-leading circular system. - SDG6: Ecosystem conservation - SDG11: Proper management of chemical substances and harmful substances - SDG12: Promotion of 3R Plus, Improvement of resource efficiency, Reduction of food loss

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Q 10	What are the main challenges in your city concerning clean water, clean land and clean air? (Please answer the below points)			
		Yes	If yes, kindly write frequency of analyzing (number per month)	No
	Do you regularly analyze the air pollution in laboratories (NOx, air particles and other pollutants)?	☑	* The City of Kitakyushu is monitoring at all times because it is stipulated that the administration should monitor by the Air pollution Control Law. - Online Monitoring: ➢ SO_2, NOx, SPM(PM10), O_3 (19 points) ➢ PM2.5(22 points) ➢ CO (6 points) ➢ VOC(NMHC) (3points) - Analyzing by Institute of Health and Environmental Sciences, City of Kitakyushu: ➢ Benzene, Trichloroethylene, Tetrachloroethylene, Dichloromethane (4 points, 4 times/year) ➢ Asbestos (5 points, 2 times/year)	☐
	Do you regularly analyze the water contamination through chemically and biologically test (DO, heavy metal and microbial water quality)?	☑	* It is stipulated that the administration should monitor by the Water Pollution Control Law. - Rivers: ➢ pH, DO, BOD, SS (20 points & 12 times/year, 12 points & 4 times/year) ➢ E. coli group number (24points, 12times/year) ➢ Heavy metals including cadmium etc. (17points & once a year, 15 points & once in 3 years) - Marine & Ocean: ➢ pH, DO, COD (10 points & 12 times/year, 8 points & 4 times/year) ➢ Heavy metals including cadmium etc. (18points, 4 times/year), etc.	☐
	Do you regularly analyze the soil pollution (disposal of hazardous and chemical waste)?	☐	* According to the Land Soil pollution prevention Law, Land owners must implement soil contamination investigations in consideration of past hazardous substance usage situation. as long as changing the use of land over 3,000 square meters - Since it is difficult to diffuse such as water or air, it may be less necessary for administration to monitor. * The city of Kitakyushu conducts sample surveys about final disposal of waste containing hazardous substances. - Analyzing waste picked up as a sample at the disposal site entrance (2 Controlled final landfill sites, twice a year)	☐

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Q 11	**In response to the New Urban Agenda, in particular *Sustainable and inclusive urban prosperity and opportunities for all* and *Environmentally sustainable and resilient urban development*, how your City is planning to contribute to safe, inclusive and resilient city building related to 3R and sustainable waste management areas?**
	Based on the history and industrial structure of Kitakyushu city, we will promote resource recycling, low carbon and natural symbiosis with cooperation and understanding of citizens. Regarding waste management, we will proceed 3R, thermal recycling, and proper treatment while taking cost into consideration. In addition, we receive and incinerate solid waste from neighboring municipalities of 3 cities and 4 towns, and we will also contribute to environmental conservation such as resource circulation and low carbonization from a broader viewpoint.
Q 12	**[For Indian cities only], how is your city linking 3R (Reduce, Reuse and Recycle) to the Swachh Bharat Mission (Clean India Mission)? Do you think circular economic utilization of all waste streams in India would accelerate faster achievement of Swachh Bharat Mission? If so, is your city equipped with required 3R policies, programmes and infrastructures towards circular economic utilization of the waste streams?**

*Kindly submitted to the **Secretariat of the Regional 3R Forum in Asia and the Pacific** by email to 3R@uncrd.or.jp before **31 January 2018**.*
Thank you for your kind cooperation.