

# **“State of the 3Rs in Asia and the Pacific” project**

**Yasuhiko Hotta**  
**6<sup>th</sup> Regional 3R Forum  
in Asia and the Pacific**

# Background

- Since the launch of the 3R Initiative in 2005, a lot of experience and information has been shared among countries.
- The Regional 3R Forum in Asia and the Pacific has accumulated lots of information through the form of background papers and country reports.
- There was a 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.
- In February 2014 at the 5<sup>th</sup> Regional 3R Forum in Asia and the Pacific in Surabaya, a group of experts gathered and discussed about the proposal of “the 3R white paper in Asia and Pacific” (tentative title).
- Participants of the second drafting committee meeting on 25<sup>th</sup> Feb in Tokyo in 2015 agreed to proposed the title of report to “*State of the 3Rs in Asia and the Pacific*”

# Overview of

## “State of the 3Rs in Asia and the Pacific”

- “State of the 3Rs in Asia and the Pacific” is a synthesis and status report to assess current status of 3R policy implementation in the region based on country reports to Regional 3R Forum in Asia and the Pacific and other national authorized reports.
- Status of 3R implementation will be summarized for each country.
- It is planned that State of the 3Rs in Asia and the Pacific will be published at Regional 3R Forum in AP (early 2017).

# Expected Outputs

- **Regular submission of synthesis and status report** of 3R policy implementation in the region to Regional 3R Forum in Asia and the Pacific by UN-CRD/IGES
- **Regular update of data** regarding selected 3R policy indicators in relation to the Hanoi 3R Declaration (2013-2023) for member countries of Regional 3R Forum in Asia and the Pacific
- **Establishment of a knowledge platform** on progress of 3R policy implementation at local and national level (including regular update of country chapter)
- **Assist to establish thematic expert working groups** on various common themes on 3R policy in the region, Idea of working groups aims to develop common understanding/guideline/policy discussion papers to facilitate multi-stakeholders dialogues for effective promotion and implementation of 3Rs and resource efficiency related policies, tools and technologies
- State of the 3Rs in Asia and the Pacific will be **prepared by top-regional and country experts on the 3Rs and waste management policy.**

# Structure of “State of the 3Rs in Asia and the Pacific”

**I: Introduction**

**II: State of Implementation of Waste Management and 3R policies in Asia and Pacific region**  
**(synthesis chapter/report)**

**III: Case of progress of 3Rs in Asia and Pacific region**  
**(country chapters/reports)**

*\* may be annex*

# Contents of *Synthesis chapter* (tentative)

## 1. Background

- ◆ Why focus on Asia and the Pacific?
- ◆ Overview of waste management issues in Asia and the Pacific.

## 2. Discussion on effectiveness of 3R approach

- ◆ Outcomes from 3R approaches
- ◆ Benefits of 3R and environmentally sound waste management

## 3. International Comparison on implementation of 3R related activities

### ◆ Comparison of 3R indicators

- ① Total MSW Generated and Disposed and MSW Generation Per Capita
- ② Overall Recycling Rate and Target (%) and Recycling Rate of Individual Components of MSW
- ③ Amount of Hazardous Waste Generated and Disposed in Environmentally Sound Manner
- ④ Indicators based on macro-level material flows
- ⑤ Amount of agricultural biomass to be used
- ⑥ Marine & coastal plastic waste quantity
- ⑦ Amount of E-waste Generation, Disposal and Recycling. Existence of policies and guidelines for E-waste management
- ⑧ Existence of policies, guidelines, and regulations based on the principle of extended producer responsibility (EPR)
- ⑨ GHG Emission from waste sector

### ◆ Evaluation of Hanoi 3R goals

## 4. Conclusions and lesson learnt from country chapters

## 5. Mid/Long term recommendations

**Executive drafting committee**, composed of selected experts, with supports from UNCRD, IGES and MOEJ will develop synthesis part including analytical framework for synthesis part. It will be done keeping in mind economic status of the countries.

# Contents of Country chapter

A. Waste Definition and Categorization

B. Country's Basic Policy Direction Past and Future

C. 3R indicators based on 9 core indicators proposed at the regional 3R Forum in Surabaya

- ① Total MSW Generated and Disposed and MSW Generation Per Capita
- ② Overall Recycling Rate and Target (%) and Recycling Rate of Individual Components of MSW
- ③ Amount of Hazardous Waste Generated and Disposed in Environmentally Sound Manner
- ④ Indicators based on macro-level material flows
- ⑤ Amount of agricultural biomass to be used
- ⑥ Marine & coastal plastic waste quantity
- ⑦ Amount of E-waste Generation, Disposal and Recycling. Existence of policies and guidelines for E-waste management
- ⑧ Existence of policies, guidelines, and regulations based on the principle of extended producer responsibility (EPR)
- ⑨ GHG Emission from waste sector

D. Experts Assessment on 3R Policy implementation

# Participating Experts

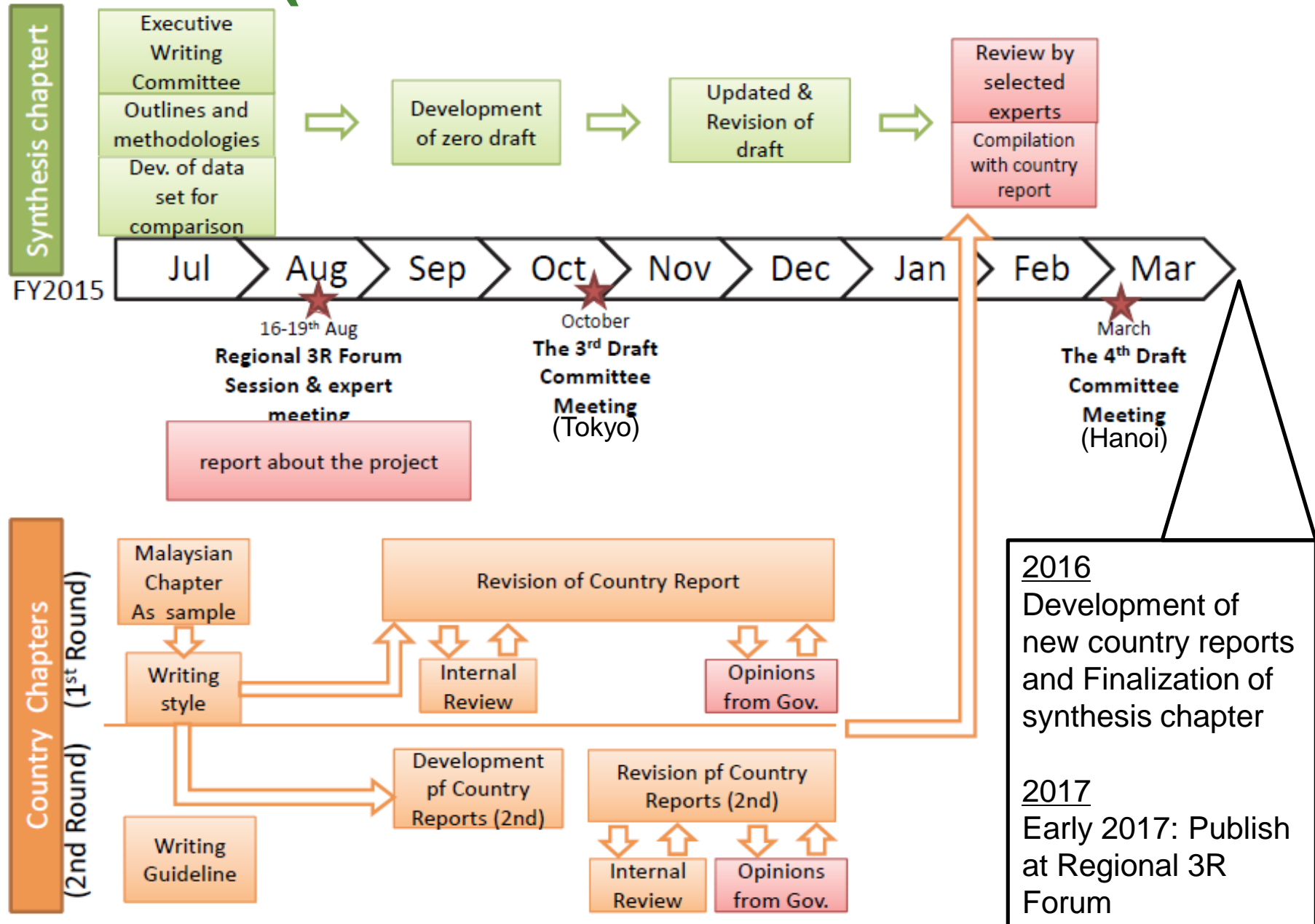
Country Experts will develop its own country chapter based on the writing guideline for country chapter.

| <b>Country Report</b>       | <b>Cat*</b>                                      | <b>Name</b>                      | <b>Organization</b>  |
|-----------------------------|--|----------------------------------|--|
| <b>Malaysia</b>             | <b>A</b>   | <b>Prof. Agamuthu Pariatamby</b> | <b>University of Malaya</b>  |
| <b>Viet Nam</b>             | <b>A</b>   | <b>Dr. Nguyen Trung Thang</b>    | <b>ISPONRE</b>   |
| <b>Indonesia</b>            | <b>A</b>   | <b>Prof. Enri Damanhuri</b>      | <b>Bandung Institute of Technology</b>                             |
| <b>Thailand</b>             | <b>A</b>   | <b>Dr. Tharee Kamuang</b>        | <b>The Promotion of Low Carbon City across Thai Municipalities</b> |
|                             |  | <b>Dr. Janya Sang-Arun</b>       | <b>IGES</b>  |
| <b>China</b>                | <b>A</b>   | <b>Dr. Chen Liu</b>              | <b>IGES</b>  |
|                             |  | <b>Prof. Nie Yongfeng</b>        | <b>Tsinghua University</b>   |
|                             |  | <b>Prof. Jin Yiyang</b>          | <b>Tsinghua University</b>   |
| <b>Japan</b>                | <b>A</b>   | <b>Prof. Shinichi Sakai</b>      | <b>Kyoto University</b>  |
|                             |  | <b>Prof. Masaru Tanaka</b>       | <b>Tottori University of Environmental Studies</b>                 |
|                             |  | <b>Prof. Yuichi Moriguchi</b>    | <b>University of Tokyo</b>   |
|                             |  | <b>Prof. Toshiaki Yoshioka</b>   | <b>Tohoku University</b>   |
|                             |  | <b>Dr. Masahiro Osaka</b>        | <b>National Institute of Environmental Studies (NIES)</b>          |
|                             |  | <b>Prof. Hiroki Hashizume</b>    | <b>Tama University</b>   |
|                             |  | <b>Dr. Atsushi Terazono</b>      | <b>National Institute of Environmental Studies (NIES)</b>          |
| <b>Dr. Michikazu Kojima</b> | <b>Japan External Trade Organization (JETRO)</b> |                                  |  |
| <b>Philippines</b>          | <b>B</b>   | <b>Dr. Vella Atienza</b>         | <b>University of Philippines Los Banos(UPLB)</b>                   |
| <b>Bangladesh</b>           | <b>B</b>   | <b>Prof. ATMN Amin</b>           | <b>North South University</b>                                      |
| <b>India</b>                | <b>B</b>   | <b>Dr. Kurian Joseph</b>         | <b>Anna University</b>   |
| <b>R.O. Korea</b>           | <b>B</b>   | <b>Dr. Giljong Oh</b>            | <b>National Institute of Environmental Research(NIER)</b>          |
| <b>Pacific Countries</b>    | <b>Island B</b>                                  | <b>Makoto Tsukiji</b>            | <b>SPREP</b>   |
|                             |  | <b>Dr. Ma Bella Guinto</b>       | <b>SPREP</b>   |

\*: Country Group A: zero draft. Country Group B chapter under preparation.



# Schedule (summer 2015- March 2016)



# Assistance necessary from National Governments

- Comment to a publication draft of respective country report. UNCRD/IGES will circulate a country report to respective country of the regional 3R forum in Asia and the Pacific.
- Encourage and support your country experts to participate to develop country chapter.

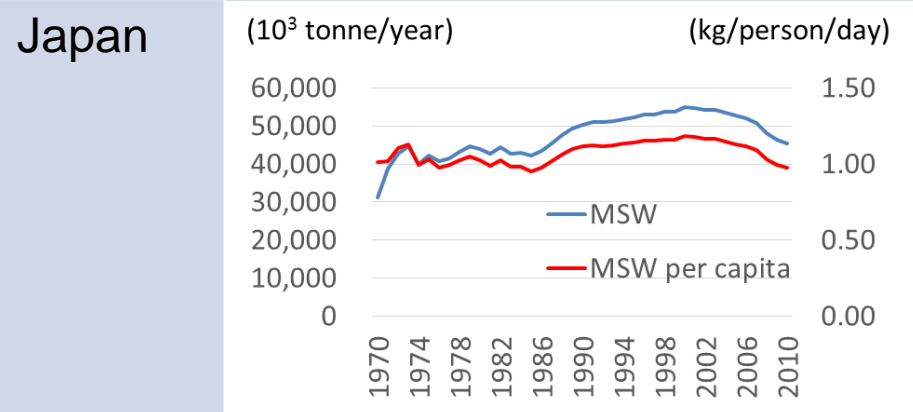
## Responsibilities

- editorial responsibility will be under editorial committee co-organized by UNCRD and IGES.
- IGES and UNCRD will be responsible for the contents.
- The project is currently funded by Ministry of the Environment of Japan.

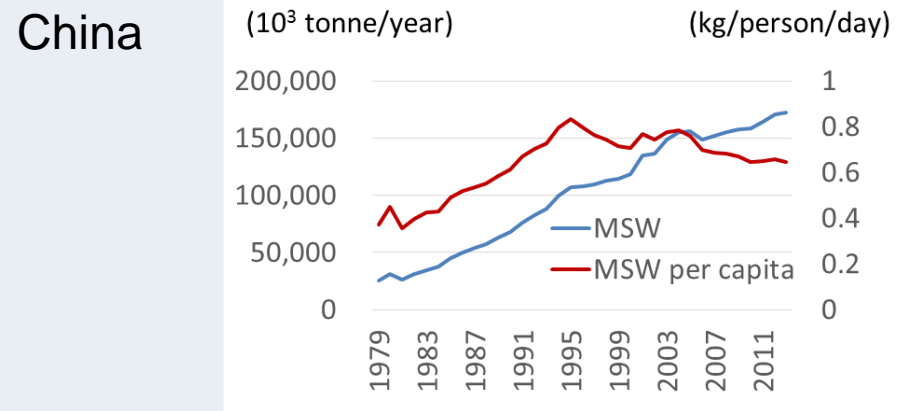
# **Images of some data for Synthesis Chapter**

# C ① : MSW Generation & MSW Generation per capita

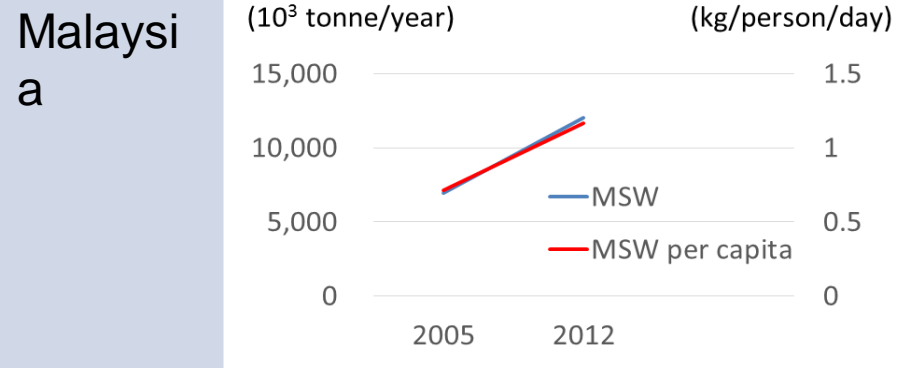
| Country | Trend | Notes |
|---------|-------|-------|
|---------|-------|-------|



It includes all waste except for industrial waste.  
 Total population.  
 Survey data at source.  
 Source: MOEj statistics.



Collected and transported waste by municipality. Not include recyclable waste such as paper, bottles, cans and etc.  
 Urban population.  
 Weighted data at waste transfer center.  
 Source: Statistical yearbook.



It includes all waste except for scheduled waste.  
 Total population.  
 The data is a combination of real time data collected at source and also data estimated.

# C ① : MSW Generation & MSW Generation per capita (Cont.)

| Country   | Trend   | Notes                          |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
|-----------|---|--------------------------------|----------------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|------|------|--|------|------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|------|-----|-----|---|
| Thailand  | <p>(10<sup>6</sup> tonne/year) (kg/person/day)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>MSW (10<sup>6</sup> tonne/year)</th> <th>MSW per capita (kg/person/day)</th> </tr> </thead> <tbody> <tr><td>2008</td><td>24.0</td><td>1.00</td></tr> <tr><td>2009</td><td>24.2</td><td>1.02</td></tr> <tr><td>2010</td><td>24.5</td><td>1.05</td></tr> <tr><td>2011</td><td>25.5</td><td>1.10</td></tr> <tr><td>2012</td><td>24.8</td><td>1.05</td></tr> <tr><td>2013</td><td>26.8</td><td>1.15</td></tr> <tr><td>2014</td><td>26.2</td><td>1.10</td></tr> </tbody> </table>   | Year                           | MSW (10 <sup>6</sup> tonne/year) | MSW per capita (kg/person/day) | 2008 | 24.0 | 1.00 | 2009 | 24.2 | 1.02 | 2010 | 24.5 | 1.05 | 2011 | 25.5 | 1.10 | 2012  | 24.8 | 1.05 | 2013 | 26.8 | 1.15 | 2014 | 26.2 | 1.10 | <p>Solid wastes.<br/>Total population.<br/>Survey data at source.<br/>Source: PCD, MoNRE; Thailand State of Pollution Report 2013.</p> |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| Year      | MSW (10 <sup>6</sup> tonne/year)  | MSW per capita (kg/person/day) |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2008      | 24.0  | 1.00                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2009      | 24.2  | 1.02                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2010      | 24.5  | 1.05                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2011      | 25.5  | 1.10                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2012      | 24.8  | 1.05                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2013      | 26.8  | 1.15                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2014      | 26.2  | 1.10                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| Viet Nam  | <p>(10<sup>6</sup> tonne/year) (kg/person/day)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>MSW (10<sup>6</sup> tonne/year)</th> <th>MSW per capita (kg/person/day)</th> </tr> </thead> <tbody> <tr><td>2007</td><td>6.5</td><td>0.75</td></tr> <tr><td>2008</td><td>7.5</td><td>0.85</td></tr> <tr><td>2009</td><td>8.5</td><td>0.95</td></tr> <tr><td>2010</td><td>9.5</td><td>1.00</td></tr> </tbody> </table>  | Year                           | MSW (10 <sup>6</sup> tonne/year) | MSW per capita (kg/person/day) | 2007 | 6.5  | 0.75 | 2008 | 7.5  | 0.85 | 2009 | 8.5  | 0.95 | 2010 | 9.5  | 1.00 | <p>Urban solid wastes.<br/>Urban population.<br/>Source: MONRE, SOE 2011.</p> |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| Year      | MSW (10 <sup>6</sup> tonne/year)  | MSW per capita (kg/person/day) |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2007      | 6.5   | 0.75                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2008      | 7.5   | 0.85                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2009      | 8.5   | 0.95                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2010      | 9.5   | 1.00                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| Singapore | <p>(10<sup>6</sup> tonne/year) (kg/person/day)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>MSW (10<sup>6</sup> tonne/year)</th> <th>MSW per capita (kg/person/day)</th> </tr> </thead> <tbody> <tr><td>2000</td><td>2.8</td><td>1.7</td></tr> <tr><td>2001</td><td>2.8</td><td>1.6</td></tr> <tr><td>2002</td><td>2.55</td><td>1.55</td></tr> <tr><td>2003</td><td>2.5</td><td>1.5</td></tr> <tr><td>2004</td><td>2.5</td><td>1.5</td></tr> <tr><td>2005</td><td>2.55</td><td>1.55</td></tr> <tr><td>2006</td><td>2.55</td><td>1.55</td></tr> <tr><td>2007</td><td>2.55</td><td>1.55</td></tr> <tr><td>2008</td><td>2.65</td><td>1.5</td></tr> <tr><td>2009</td><td>2.65</td><td>1.5</td></tr> <tr><td>2010</td><td>2.75</td><td>1.5</td></tr> <tr><td>2011</td><td>2.85</td><td>1.5</td></tr> <tr><td>2012</td><td>2.9</td><td>1.5</td></tr> </tbody> </table> | Year                           | MSW (10 <sup>6</sup> tonne/year) | MSW per capita (kg/person/day) | 2000 | 2.8  | 1.7  | 2001 | 2.8  | 1.6  | 2002 | 2.55 | 1.55 | 2003 | 2.5  | 1.5  | 2004  | 2.5  | 1.5  | 2005 | 2.55 | 1.55 | 2006 | 2.55 | 1.55 | 2007   | 2.55 | 1.55 | 2008 | 2.65 | 1.5 | 2009 | 2.65 | 1.5 | 2010 | 2.75 | 1.5 | 2011 | 2.85 | 1.5 | 2012 | 2.9 | 1.5 | <p>It is the wastes disposed of at disposal sites.<br/>Total population.<br/>Source: NEA website.</p> |
| Year      | MSW (10 <sup>6</sup> tonne/year)  | MSW per capita (kg/person/day) |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2000      | 2.8   | 1.7                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2001      | 2.8   | 1.6                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2002      | 2.55  | 1.55                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2003      | 2.5   | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2004      | 2.5   | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2005      | 2.55  | 1.55                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2006      | 2.55  | 1.55                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2007      | 2.55  | 1.55                           |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2008      | 2.65  | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2009      | 2.65  | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2010      | 2.75  | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2011      | 2.85  | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| 2012      | 2.9   | 1.5                            |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |
| Indonesia | <p>In 2007, 38.5 million tonnes/year; 0.45 kg/person/day.</p>   |                                |                                  |                                |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |      |  |      |      |      |      |     |      |      |     |      |      |     |      |      |     |      |     |     |   |

## C ② : Recycling rate and target setting

|           | Cyclical use rate<br>(Amount of cyclical usage/(amount of cyclical usage + natural resources input)) | Waste diversion rate<br>(percentage of the total amount of utilized MSW) | Total utilization rate of industrial wastes       | Recovery rate of individual components            |
|-----------|--|--|---|---|
| Japan     | 10% in FY2000<br>→15% in FY2011<br>→17% in FY2020  | 5.3% in FY1990<br>→20.4% in FY 2012                                      | N.A.  | ○<br>Pet bottle: 9.8% in FY1997 → 90.4% in FY2012 |
| China     | N.A.   | N.A.   | 46% in 2000 → 67% in 2010 → target to 72% in 2015 | ○<br>65% in 2010 → target to 70% in 2015          |
| Malaysia  | N.A.   | 5% in 2005 → 10.5% in 2012 →22% in 2020                                  | N.A.  | N.A.  |
| Indonesia | N.A.   | 10% in 2013  | N.A.  | N.A.  |

## C ② : Recycling rate and target setting (Cont.)

|           | Cyclical use rate | Waste diversion rate (percentage of the total amount of utilized MSW)  | Total utilization rate of IW | Recovery rate of individual components   |
|-----------|-------------------|--|------------------------------|--|
| Thailand  | N.A.              | 19% in 2013 → at least 31% by 2012-2016 → 65% by 2017-2021 → 95% by 2022-2025  | N.A.                         | Containers in 2013;<br>- Aluminum 99.98 %<br>- Iron/metal 99.81 %<br>- Paper 75.22 %,<br>- glass 75.06 %<br>- Plastic 50.53 %  |
| Viet Nam  | N.A.              | 8-15%.<br>100% of MSW will be collected and treated, 90% of which will be recycled, reused, recovered for use as an energy source or to produce organic fertilizer until 2025. | N.A.                         | Junk collectors buy recyclable wastes such as paper, plastics and metals separated by households.  |
| Singapore | N.A.              | 59% in 2011  | N.A.                         | Construction debris:99%<br>Used slag:97%<br>Ferrous metals:96%<br>Scrap tyres:88%<br>Non-Ferrous metals:79%<br>Wood/timber:69%<br>Paper/cardboard:56%<br>Glass:26% Plastics:10%<br>Food waste:12%<br>Textile/leather:11% |

# C(8) : Extended Producer Responsibility

| Status of Implementation                         | Name of the Policies   | Product Items Covered by the Policy  |
|--|--|--|
| Fully Implemented                                | <ul style="list-style-type: none"> <li>• <b>Japan</b> (Container Packaging Law, Automobile recycling law, Home Appliance Recycling Law, Law for recycling of small appliances, Law for promotion of effective utilization of resources)</li> <li>• <b>China</b> (WEEE regulation, recycling technology policy of automobile)</li> <li>• <b>Korea</b> (Packaging, WEEE, ELV)</li> <li>• <b>India</b> (WEEE, Lead-acid batteries)</li> </ul> | <ul style="list-style-type: none"> <li>• Japan (Containers and packaging, electric home appliances, automobiles, etc)</li> <li>• China (WEEE and automobiles, batteries, cement bags)</li> </ul> |
| Postponement period before full implementation   | <ul style="list-style-type: none"> <li>• <b>Indonesia</b>(GP 101/2014)</li> <li>• <b>Viet Nam</b>: 50/2013/QD-TTg</li> </ul>   | <ul style="list-style-type: none"> <li>• Packaging</li> <li>• Viet Nam (WEEE, chemicals used in industry, acgriculture etc.)</li> </ul>  |
| Under preparation of specific legislations       | <ul style="list-style-type: none"> <li>• <b>Thailand</b> (The draft act on the management of WEEE and other end of life products)</li> <li>• <b>Indonesia</b> (Governmental regulation)</li> </ul>   | <ul style="list-style-type: none"> <li>• WEEE and some haz. Wastes such as dry cell batteries</li> <li>• E-waste</li> </ul>  |
| Existence of Provisions supporting EPR principle | <ul style="list-style-type: none"> <li>• <b>Japan</b> (Basic Act for Establishing Sound Material Cycle Society)</li> <li>• <b>Malaysia</b> (Environmental Quality Act, Solid Waste and Public Cleansing Act, Master Pplan of National Waste Minimization, 10<sup>th</sup> Malaysian Plan)</li> <li>• <b>China</b></li> <li>• <b>Indonesia</b> (Law on Solid Waste Managemenet)</li> </ul>  |  |
| Based on Voluntary Approach/Agreement            | <ul style="list-style-type: none"> <li>• <b>Japan</b> (voluntary take-back under Law for promotion of effective utilization of resources)</li> <li>• <b>Singapore</b> (Singapore Packaging Agreement)</li> </ul>   |  |