# Session Ⅲ Group Discussion on Sector Specific Issues

## WG 4 : Waste Sector

# List of participants

- Mr. Haneda Sri Mulyanto      (Indonesia)
- Mr. Khamphone Keodalavong    (Lao PDR)
- Ms. Azlina Othman      (Malaysia)
- Dr. Sirintornthep Towprayoon * (Thailand)
- Dr. Damasa M. Macandog      (Philipines)
- Dr. Seungdo Kim      (Republic of Korea)
- Mr. Byong-bok Jin      (Republic of Korea)
- Mr. Wonseok Baek      (Republic of Korea)
- Mr. Byong-Ok Yoo      (Republic of Korea)
- Mr. CheonHee Bang      (Republic of Korea)
- Dr. Masato YAMADA      (Japan)
- Dr. Tomonori ISHIGAKI *      (Japan)
- Mr. Hiroyuki UEDA*      (Japan)
- Dr. Kosuke KAWAI      (Japan)
- Dr. Takefumi ODA      (Japan)
- Dr. Edit Nagy-Tanaka      (Japan)

16 persons.

* : participants of WGIA6

# Recommendation from WGIA6

There are two topics carried over from WGIA6.

- For Data collection system

    – Establishment of  data collection  format

    – Identification of country specific waste stream

    – Guidelines for four separate levels of  data collection systems namely :

        no data, not enough data, poor data quality  and  good quality data .

- "WGIA7 should focus more on wastewater emission."

# Schedule of Working Group

**9:30~10:50**    **Theme 1:**
**Improvement of data collection scheme for the Waste Sector**
**Chair: Seungdo Kim,    Rapporteur: Byong-bok Jin**

| | | |
|---|---|---|
| 9:30~9:35 | Takefumi Oda | Introductory presentation |
| 9:35~9:45 | Wonseok Baek | Change of MSW Composition by Landfill Ban of Food Waste |
| 9:45~9:55 | Kosuke Kawai | How to Accumulate the Waste Data in each Asian Country |
| 9:55~10:50 | All | Discussion |
| ***10:50~11:00*** | | ***Tea Break*** |

**11:00~12:20**    **Theme 2:**
**Information exchange on wastewater handling**
**Chair: Sirintornthep Towprayoon,    Rapporteur: Takefumi Oda**

| | | |
|---|---|---|
| 11:00~11:10 | Hiroyuki Ueda | GHG Emissions from Wastewater Treatment and Discharge in Japan |
| 11:10~11:20 | Tomonori Ishigaki | Possibly Co-benefit? Advanced Wastewater Treatment Process |
| 11:20~12:20 | All | Discussion |

# Hand-outs for Discussion

➢ **For theme 1, we had prepared some materials.**

- To share Japan`s data collection method

    – **'Japan's data collection system for statistics of waste disposal'**
    – **'How to estimate time-series data in Japan'**

- To identify participants country specific waste stream

    – **'Answer for questionnaires from participants'**
        - Before we hold this session, we have received five answers to the question naires on the newly established format, from Malaysia, Mongolia, Korea, Philippines and Japan.
    – **'Country report on WM in Laos'**

# Theme 1: Improvement of data collection scheme for the Waste Sector

Chair: Seungdo Kim

Rapporteur: Byong-bok Jin

# Main discussion

* Improvement of data collection scheme for the waste sector

  - How about the state of data collection in each country?

  - How can we establish the data collection format of waste sector in Asian countries?

  - What method is available for estimation of waste generations?

# Change of MSW Composition attributed by Ban on Direct Landfill of Foodwaste in Korea

(Wonseok Baek,  ROK)

- Direct landfill is prohibited in Seoul, metropolitan cities, small cities of Korea from 2005 by enforcement regulations of wastes control act ('97.7.19. revised)

   → In fact, this act was enacted in 1995, but due to many disputes, took effect on January 1, 2005

- In the result, the present generated quantity of foodwaste is similar to before, but the ratio of landfilled quantity was decreased from 84% in 1997 to 2% in 2005 and the ratio of composed quantity was increased from 10% in 1997 to 92% in 2005

# Change of MSW Composition attributed by Ban on Direct Landfill of Foodwaste in Korea

- In the future, compared with primary landfill in 2000, methane generation will be decreased by maximum 5%

- By change on national policy of foodwaste disposal, GHG emissions of waste sector are decreased in landfill and increased in incineration and composting

# How to accumulate the waste data in each Asian country

(Kosuke Kawai, Japan)

- For Japan, prefectural governments and municipalities are in charge of accumulating each industrial data and municipal solid waste data by waste management and public cleansing law

  - Prefectural governments grasp the status of waste generation and disposal from reports from related businesses

  - Municipal governments shall analyze municipal solid waste qualitative data at incineration plants at least four times a year with KANSEI VOL.95

# How to accumulate the waste data in each Asian country

- It is impossible to collect the ALL national waste data because of financial and technical problems
- For accumulating quantitative data, it is important to estimate the waste data properly for the time being and to adopt reliable methods for analyzing the waste data
- To this end, it is essential to construct data collection system.

# How to accumulate the waste data in each Asian country

- To accumulate the waste data, each country must have essential considerations

  - Cooperation of municipalities is vital for national governments to accumulate the waste data in each Asian country

  - Research Institutes should encourage municipalities to accumulate the waste data & provide guidelines how to collect data

  - It is critical to develop centralized data collection system with measurable, reportable and verifiable manner

# Theme 2: Information exchange on wastewater handling

Chair: Sirintornthep Towprayoon

Rapporteur: Takefumi Oda

# Presentation 1

- **Hiroyuki Ueda**
- **GHG Emissions from Wastewater Treatment and Discharge in Japan**
  - Overview of Japan`s GHG emissions
  - Sharing experiences

  ## Conclusions

- Category 6.B (emission from wastewater handling) has some specific problems compared with other categories in the waste sector.
- Human, institutional and financial resources are often limited. However, many things are to be resolved for accurate 6.B inventory.

➢ Following topics are Discussed
  - Reasons for the decrease of 6B emissions in Japan
  - Regulations/laws about waste water handling

# Presentation 2

- ## Tomonori Ishigaki
  - – Possibly Co-benefit? Advanced Wastewater Treatment Process
    - Advanced waste water treatment
    - Evaluation of advanced treatment

### Conclusions
- Importance of Operation-related GHGs (especially electricity) on GWP evaluation
- Negative correlation between Eutorophication potential and Global Worming Potential values of the nutrient removal processes
- Step-feed nitrification-denitrification process
  - – possible candidate for co-benefit process.

## ➤ Following topics were discussed
  - – Waste water treatment depends on the characteristics of the country

# General Discussion

– The participant countries shared their experiences

– Problems:

- data is insufficient or not available.
- lack of funds to support waste water treatment
- national system  and database are not yet established
- more regulations/laws are needed for environmental pro tection and waste management

# Recommendations for next WGIA

1) Information sharing among us about new waste management policy schemes, introduced in the individual countries

2) Provision of our knowledge and data to waste managers, which would make them know more about GHG emissions and climate change

These conclusions are not only related wastewater handling but also solid waste management