

# ***JICA's Efforts in 3R & Solid Waste Management; Good Practice and Lessons Learned***

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***The Regional 3R Forum in Asia  
Nov. 12, 2009***



**3R Program (Malaysia)**

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Global Env. Department  
JICA**

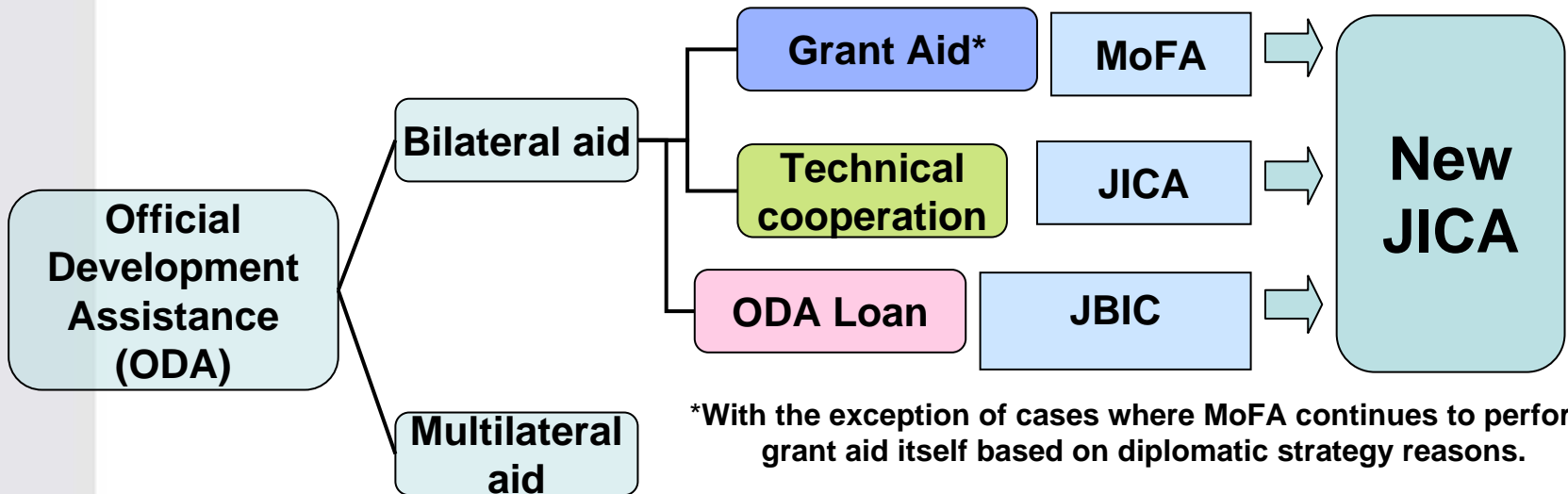
# Today's Topics

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1. **JICA's approach to Solid Waste Management (SWM)**
2. **3R projects in Asia supported by JICA**
3. **Good practices : Hanoi 3R project**
4. **Lessons learned and future challenges related to 3R in SWM**

# About 'New' JICA

- Founded on October 1, 2008
- Integration of All ODA schemes  
(Technical Cooperation, Grant Aid and ODA loan)
- Annual Commitment is about US\$ 10 billion



\*With the exception of cases where MoFA continues to perform grant aid itself based on diplomatic strategy reasons.

# JICA's Approach in SWM

- **3R concept should be taken account of in every SWM project.**
- **Capacity Development for not only administration of municipality but broader stakeholders should be focused on in SWM projects.**
- **Comprehensive approach from planning ,human resource & institutional development to infrastructure development in SWM, utilizing TA , grant aid and ODA loans.**

# JICA's Comprehensive Approach to Support SWM



# JICA Project MAP(Waste Management) ①

**Mongolia**

- The pilot project of manure production facility by livestock waste and solid waste in Central Province (Tuv) (GTC) (2001/6—2002/6)
- The Study on Solid Waste Management Plan for Ulaanbaatar Municipality (DS) (2004/12—2007/3)
- The Study on Solid Waste Management Plan for Ulaanbaatar Municipality (GA) (2006/9—2007/5)

**Pakistan**

- Capacity Building for Solid Waste Management (TC) (2005/4—2006/3)

**China**

- The Japan-China Friendship Environmental Protection Center Project (Phase 2)(TC) (1996/2—2001/1)
- The Project for improvement of solid waste management in Xian (GA) (2002/10—2003/2)
- Xinjiang Uygur Autonomous Region Yining City Comprehensive Environmental Renovation Project (LA) (2005/4—2011/9)
- Promotion of Circular Economy (TJ) (2006—2008)
- Promotion of Circular Economy (Expert) (2006/8—2008/8)
- **Establishment of Urban Environmental Improvement System and Resources Recycling System in China (GTC) (2007/7—2009/12)**
- **Model Project; Support Da-tong City Construct the Resource Circulative Society (GTC) (2008/4—2011/3)**

**All Asia**

- Environmental Management Policy (TJ) (2006—2008)
- **Solid Waste Management Training for realizing the Improvement Measures (TJ) (2007—2009)**

**Nepal**

- CD for solid waste management (TJ) (2002—2006)
- The Study on the Solid Waste management for the Kathmandu Valley (DS) (2004/1—2005/8)

**INDIA**

- Solid Waste Management project in Delhi (TC) (2003/7—2003/12)
- **Kolkata Solid Waste Management Improvement Project (LA) (2006/2—2010/11)**

**Bangladesh**

- Solid Waste Management Study in Dhaka City (DS) (2002/11—2005/3)
- **Strengthening of SWM in Dhaka City -Clean Dhaka Project (TC) (2007/2—2011/2)**

**Sri Lanka**

- The Study on Improvement of Solid Waste management in Secondary Cities of Sri Lanka (DS) (2002/3—2003/12)
- **Capacity Upgrading Project for the National Solid Waste Management Support Center (TC) (2007/3—2011/3)**

**Indonesia**

- Capacity Building for Indonesian Ecolabel Program (TC) (2005/7—2006/3)
- Program development for Indonesian ecolabel program (TC) (2006/3—2007/2)
- Maintenance and operation of solid waste disposal norms (Ex) (2000/8—2000/10)
- Maintenance and operation of solid waste disposal norms (Ex) (2002/2—2002/2)

**DS: Development Study**  
**TC: Technical Cooperation**  
**GTC: Grassroots Technical cooperation**  
**GA: Grant Aid**  
**LA: Loan Aid**  
**TJ: Training course in Japan**  
**GT: Group training in third countries**  
**Ex: Expert**  
**Red is on-going project**

**JICA Pproject MAP(Waste Management) ②**

**Thailand**

- The Study on Master Plan on Industrial Waste management in the Bangkok Metropolitan Area and its Vicinity (DS) (2001/2—2002/9)
- A pilot project to Construct a Recycling System in Southern Thailand (TC) (2002/10—2005/10)
- Study for Development of Waste management System in Local Communities (DS) (2003/8—2003/11)
- Capacity development for young officer in SWM (GTC) (2008/4—2010/3)

**Vietnam**

- Improving Solid waste management (TJ) (1998—2003)
- HaiPhong City Environmental Improvement Project (I) (LA) (2005/4—2011/12)
- Program for the Trainee from Shizuoka City's Friendship City Hue, Vietnam (GTC) (2006/4—2009/3)
- The Project for Implementation Support for 3R Initiative in Hanoi City (TC) (2006/11—2009/11)
- HaiPhong City Environmental Improvement Project (II) (LA) (2007/6—2015/8)

**Cambodia**

- Study on Solid Waste Management in Phom Penh Municipality (DS) (2003/2—2005/3)

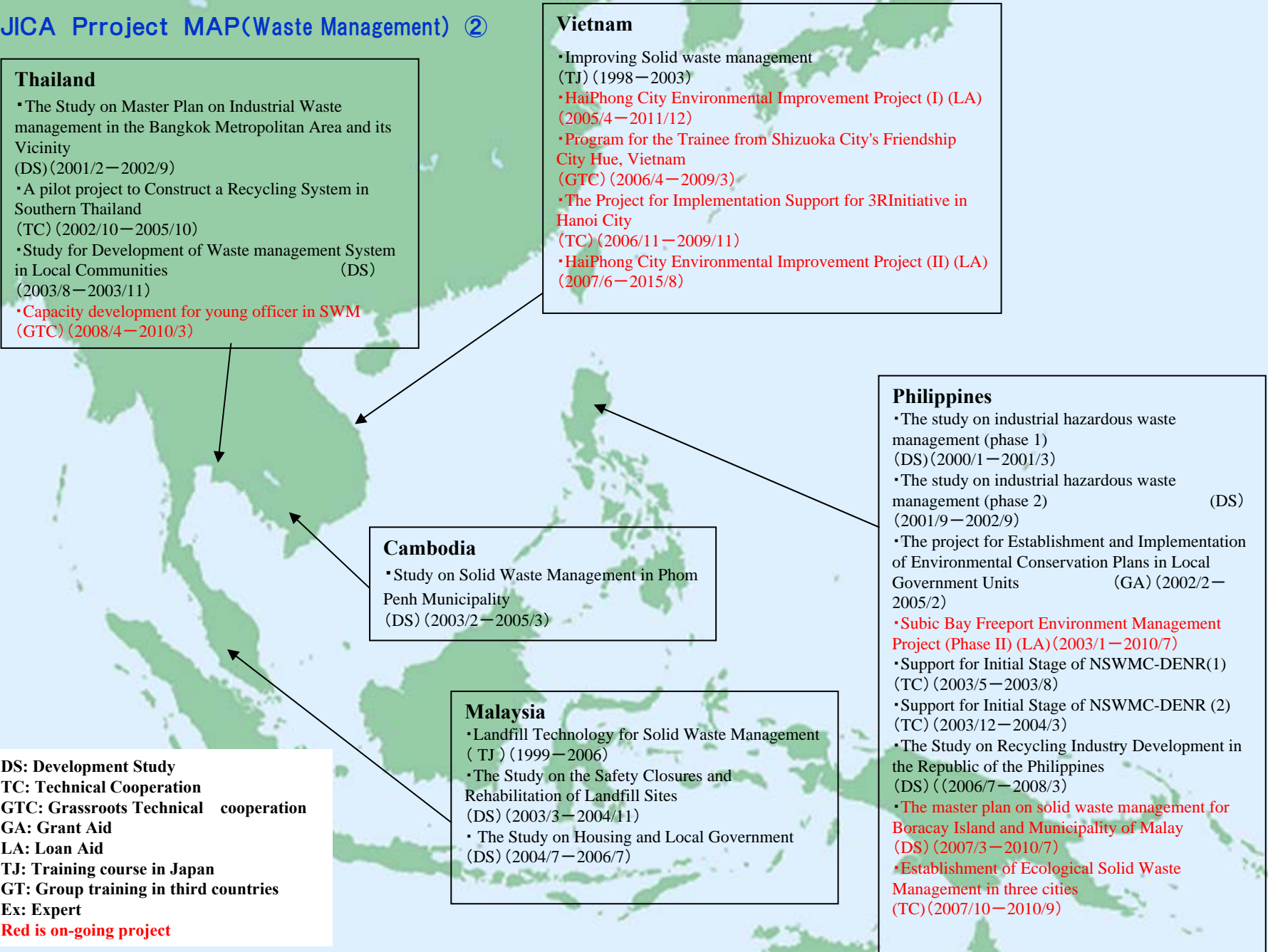
**Philippines**

- The study on industrial hazardous waste management (phase 1) (DS) (2000/1—2001/3)
- The study on industrial hazardous waste management (phase 2) (DS) (2001/9—2002/9)
- The project for Establishment and Implementation of Environmental Conservation Plans in Local Government Units (GA) (2002/2—2005/2)
- Subic Bay Freeport Environment Management Project (Phase II) (LA) (2003/1—2010/7)
- Support for Initial Stage of NSWMC-DENR(1) (TC) (2003/5—2003/8)
- Support for Initial Stage of NSWMC-DENR (2) (TC) (2003/12—2004/3)
- The Study on Recycling Industry Development in the Republic of the Philippines (DS) ((2006/7—2008/3)
- The master plan on solid waste management for Boracay Island and Municipality of Malay (DS) (2007/3—2010/7)
- Establishment of Ecological Solid Waste Management in three cities (TC) (2007/10—2010/9)

**Malaysia**

- Landfill Technology for Solid Waste Management ( TJ ) (1999—2006)
- The Study on the Safety Closures and Rehabilitation of Landfill Sites (DS) (2003/3—2004/11)
- The Study on Housing and Local Government (DS) (2004/7—2006/7)

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# *3R Project in Hanoi*

- Hanoi Nov. 2006 – Nov. 2009 (3 Years)
- People's Committee, Hanoi URENCO(C/P)
- JICA experts have been working with C/P

## 1. Model Projects

- ✓ Source Separation
- ✓ Compost Improvement
- ✓ Environmental Education & PR

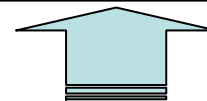
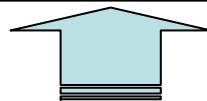
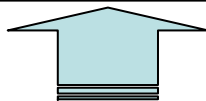
## 2. Preparation of Strategic Paper/ Action Plan of 3R in Hanoi city

## 3. Capacity Development through 1-2 activities

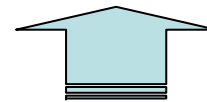
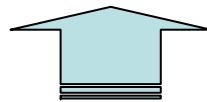
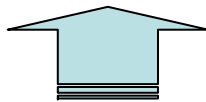


Empowerment body "**3R Stars**"

*3R Partners*  
*3R Supporters*  
*3R Volunteers*



**"Participatory Approach"**  
by stakeholders



**"Behavior Change"**  
in source separation of waste

# 3 Questions

- What kinds of tools are used for encouraging stakeholders participation in 3R activities?
- How the stakeholders participation is organized and maintained?
- What has achieved by the 3R project?

**What kinds of tools are used for encouraging stakeholders participation in 3R activities?**

# "3R Song"



DVD ca nhạc - Karaoke - Trò chuyện - Phim tài liệu  
Music DVD - Karaoke - Interview - Documentary film



Những ngôi sao  
3R Hà Nội  
Hanoi 3R stars

# *TV-Commercial on Source Separation*



[www.3r-hn.vn](http://www.3r-hn.vn)



# Environmental Education on "3R"









# Eco-Bag Promotion



HỘI THẢO CỘNG ĐỒNG PHƯỜNG  
COMMUNITY MEETING IN NGUYỄN  
PHƯỜNG... DU, NGÀY 06 T



# PR Goods







# Mottainai Fair





NGUYỄN THỊ HỒNG (Hồng Nhung) Meeting

CHƯƠNG TRÌNH ĐẠP XE VÌ MÔI TRƯỜNG C4E CYCLING FOR ENVIRONMENT.

SR-HN

SR-HN

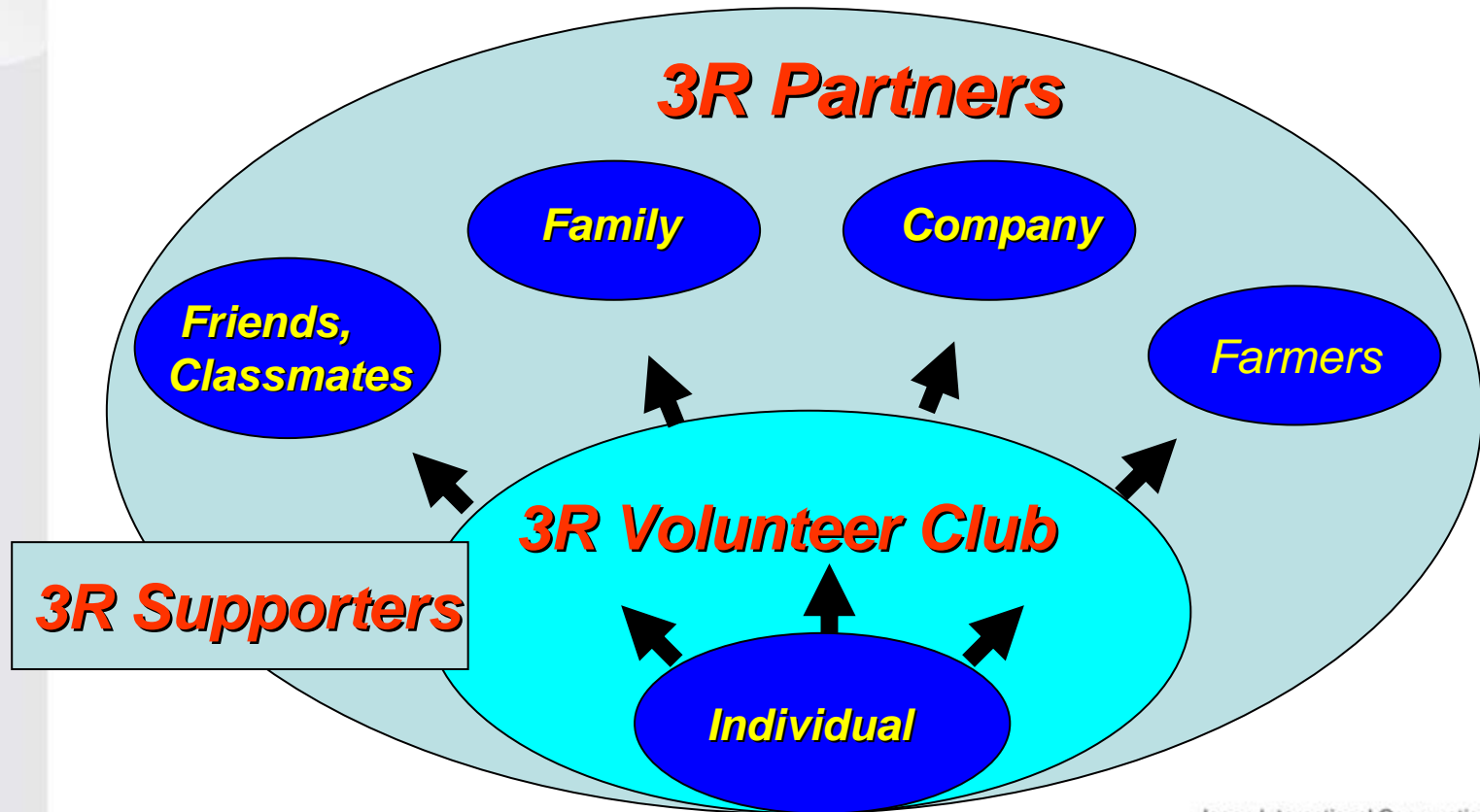
SR-HN

Recycle  
Reduce Reuse  
Repair  
Share  
JICA UNHCR

# How the stakeholders participation is organized and maintained?

# "3R Stars"

**Awareness Raising & Partnership Building  
from 3R Volunteers to 3R Partners**





# 3R Supporters (Youth Union)





# 3R Supporters

(Women's Union)





# Training Workshop among 3R partners



# What has achieved by the 3R project?



before

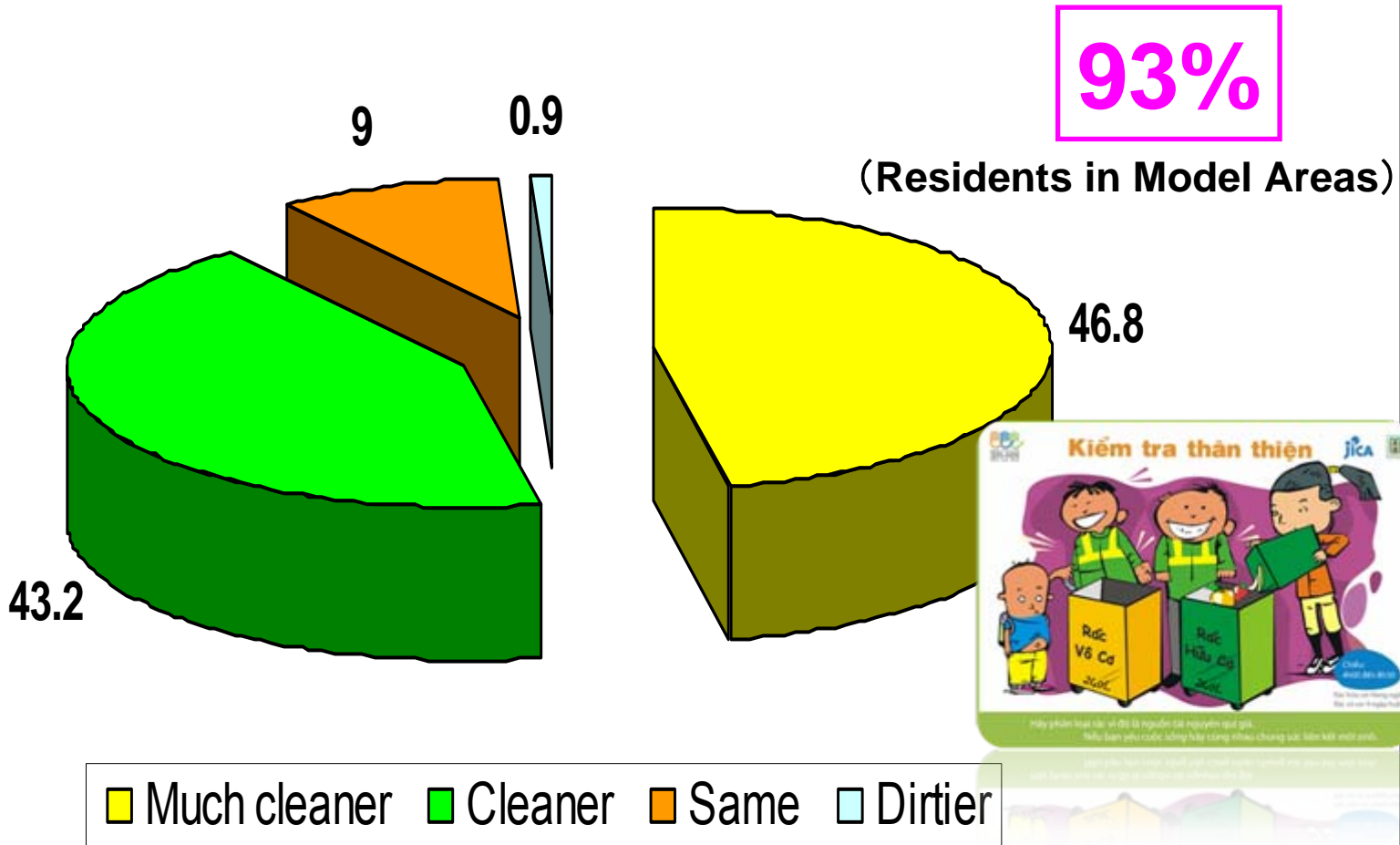


after



# "SS" is accepted by residents in Hanoi

Opinion of residents on sanitation after SS commencement



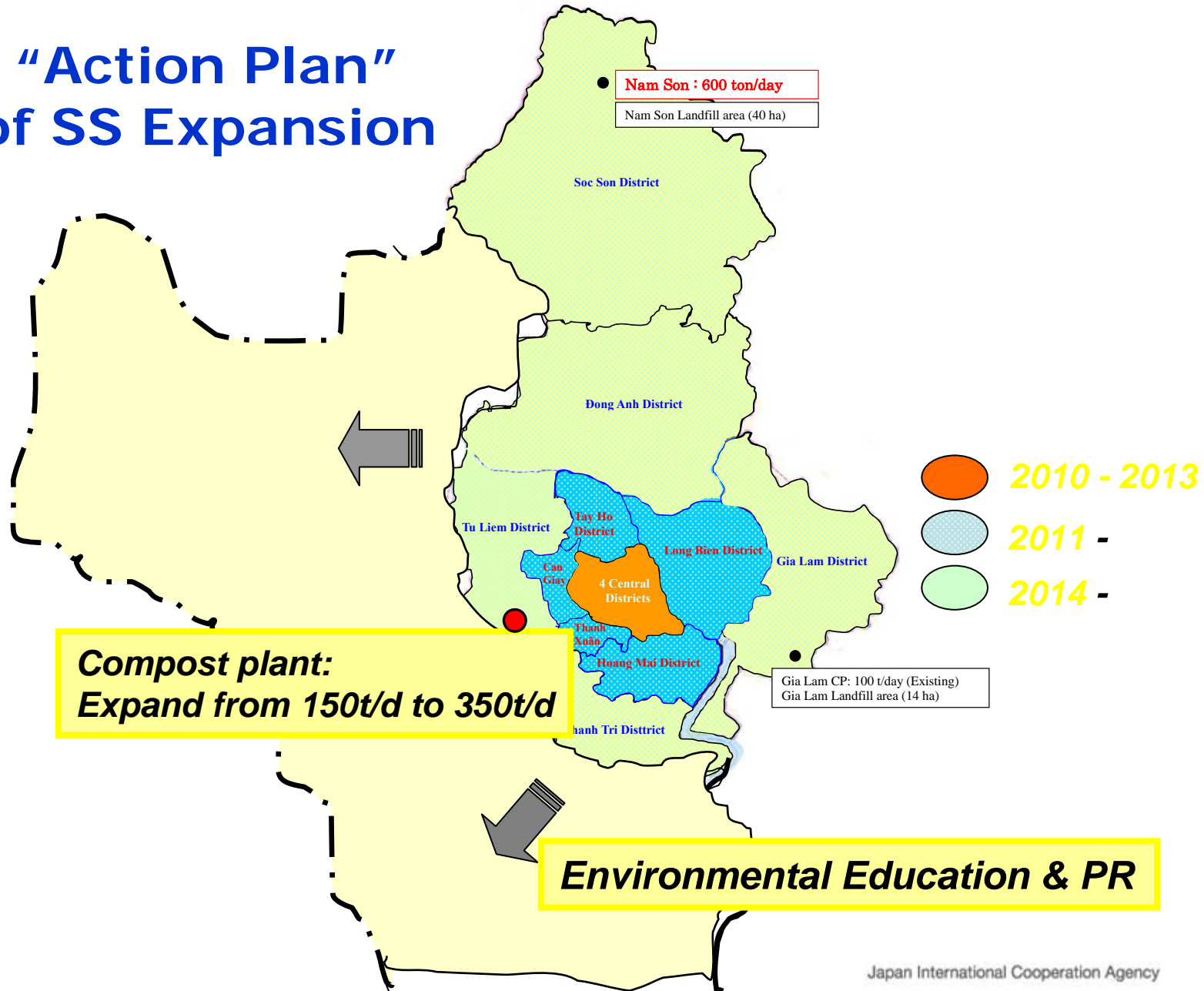
Sample nos: PTC/ 100, ND/100 residents

(Source: 3R-HN PMU, Sept. 2007)

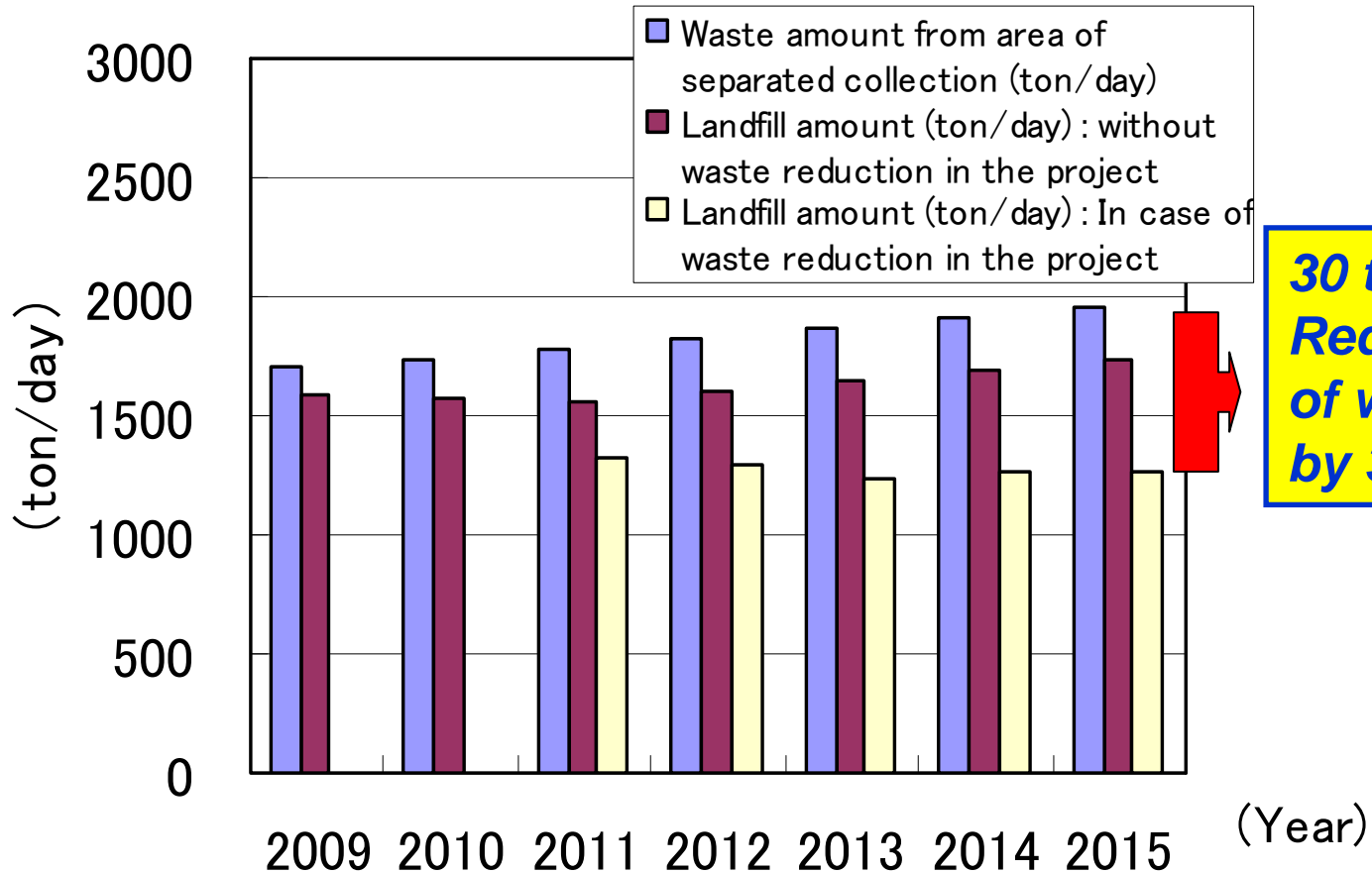
- **Source Separation (SS) has been practiced by 18,000 households in 4 wards in Hanoi city (Model Area), as planned .**
- **Additionally, 15,400 households in other 7 wards in Hanoi (out of the Model Area) has started SS.**
- **Hanoi ordinance on waste management has been revised, where responsibility of each stakeholder is clearly described.**

**This is a very important element for promotion of 3R.**

# "Action Plan" of SS Expansion







Waste amount forecast from area of separated collection and landfill amount forecast in Hanoi city

# **Lessons Learned and Future Challenges**

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- 1. Necessity of Cost / Benefit analysis in 3R**
- 2. Mechanism on expansion of pilot project of 3R to other areas**
- 3. Incorporation of GHGs reduction by 3R into project design**

# Necessity of Cost / Benefit analysis in 3R

- **3R activities lead to cost increase in waste management in general.  
(i.e. collection vehicles, compost facilities)**
- **On the other hand, volume of waste reduction will save costs for OM and investment for new disposal site.**
- **Cost/Benefit analysis including 3R in waste management is very important information for decision makers to support 3R activities.**

# Mechanism on expansion of pilot project of 3R to other area

- **Successful result of pilot project is expected to expand into other areas even after TA is over.**
- **Critical issues are;**
  - mobilization of additional financial and technical resources for 3R expansion**
  - expansion of momentum of 3R activities involving community and private sector participation, etc.**
  - collaboration between the government and other stakeholders**

# Incorporation of GHGs reduction by 3R into project planning

- **Utilization of gas generated from organic waste or reduction of organic waste itself through 3R contributes to reduction of GHGs.**
- **Co-benefit element including reduction of GHGs in 3R should be clearly taken into consideration at the stage of planning of waste management project.**

# *Thanks for listening!*



For a better tomorrow for all.  
Japan International Cooperation Agency

