



3R Implementation in Indonesia

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Conference**
Tokyo, 30 Oct – 1 Nov, 2006.

Ministry of Environment - Republic of Indonesia



Contents :

1. 3R Implementation :

- Surabaya, Jakarta & Bandung City → MSW
- Composting Subsidy Program → MSW
- Micro & SME's → reduced/saved water & reuse methane gas

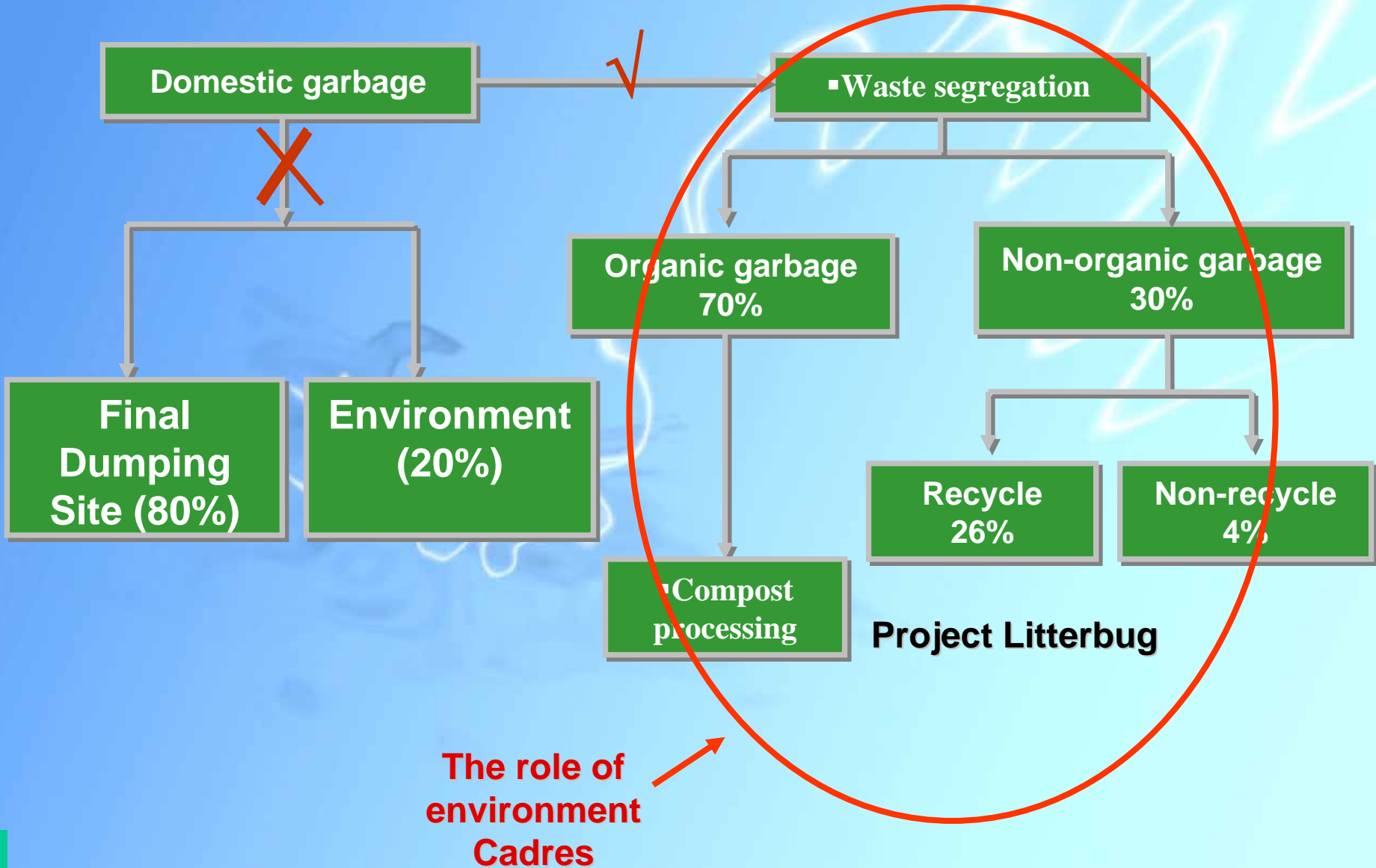
2. Measures for Establishing the 3R – based Society

3. Current Issues

4. Formulation of National 3R Strategy

Environment Program : Surabaya & Jakarta Case

Waste Management Concept



Surabaya & Jakarta Programs :

- Training for Environment Cadres
- Technical Assistance for local community in technology and environmental programs
- Rehabilitation of waste management infrastructure/facilities and sanitation
- Greening programs
- Environment campaign through media
- Evaluation and monitoring of the program

Key Success Factor of Project :

1. 3 (three) R Concept
2. Strong Understanding about the real problem
3. Cadres Development
4. Hub Creation



Cadres : "Mobilize Community as The Agent of Change"

Environment Program through Cadres



Greening

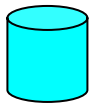


Medicine trees

Program:

Garbage Segregation & Processing = REDUCE 96%

Organic 70 %



1 - 2 household compost unit

or



Transferred into communal
composting

Anorganic Recycle 26%



Non-organic
garbage collection

“Mobilize Community as The Agent of Change”



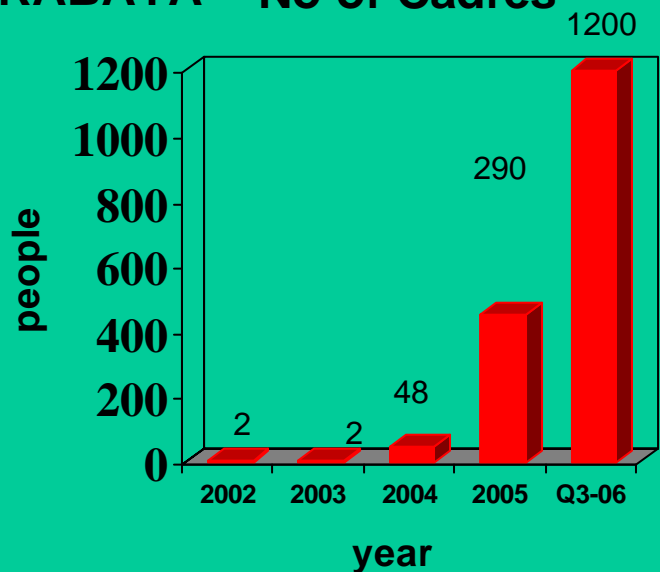
SUCCESS STORY

Major Progresses of Replication

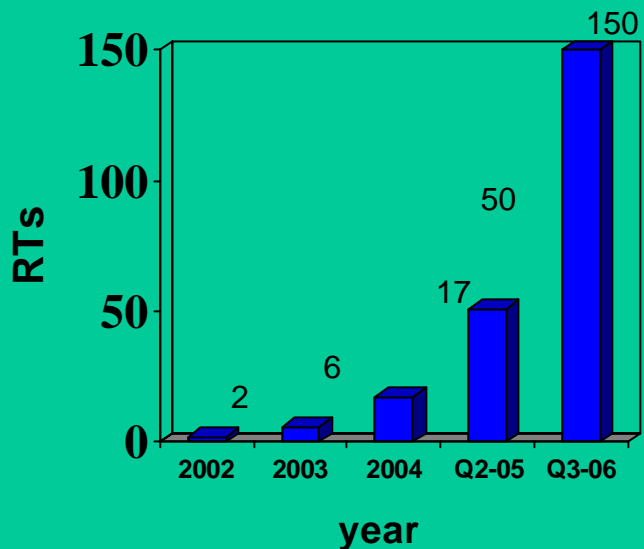


SURABAYA

No of Cadres

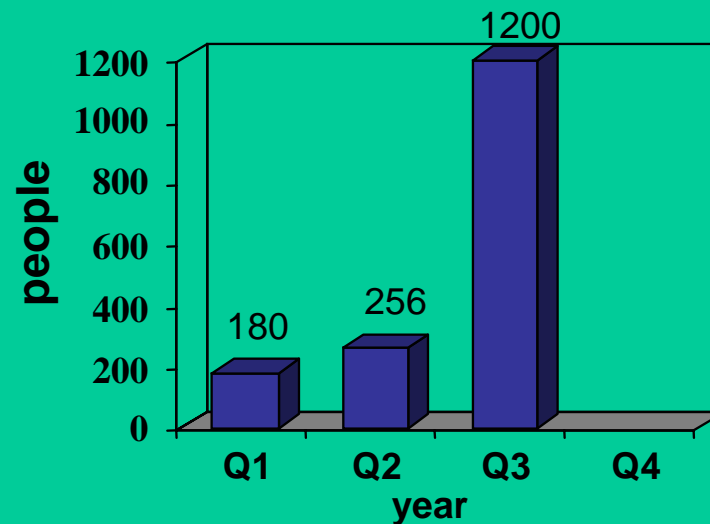


No of RTs

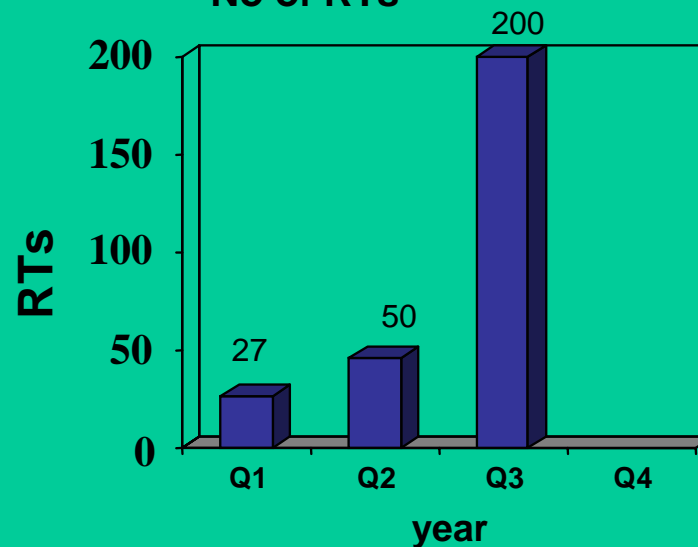


No of Cadres

JAKARTA



No of RTs

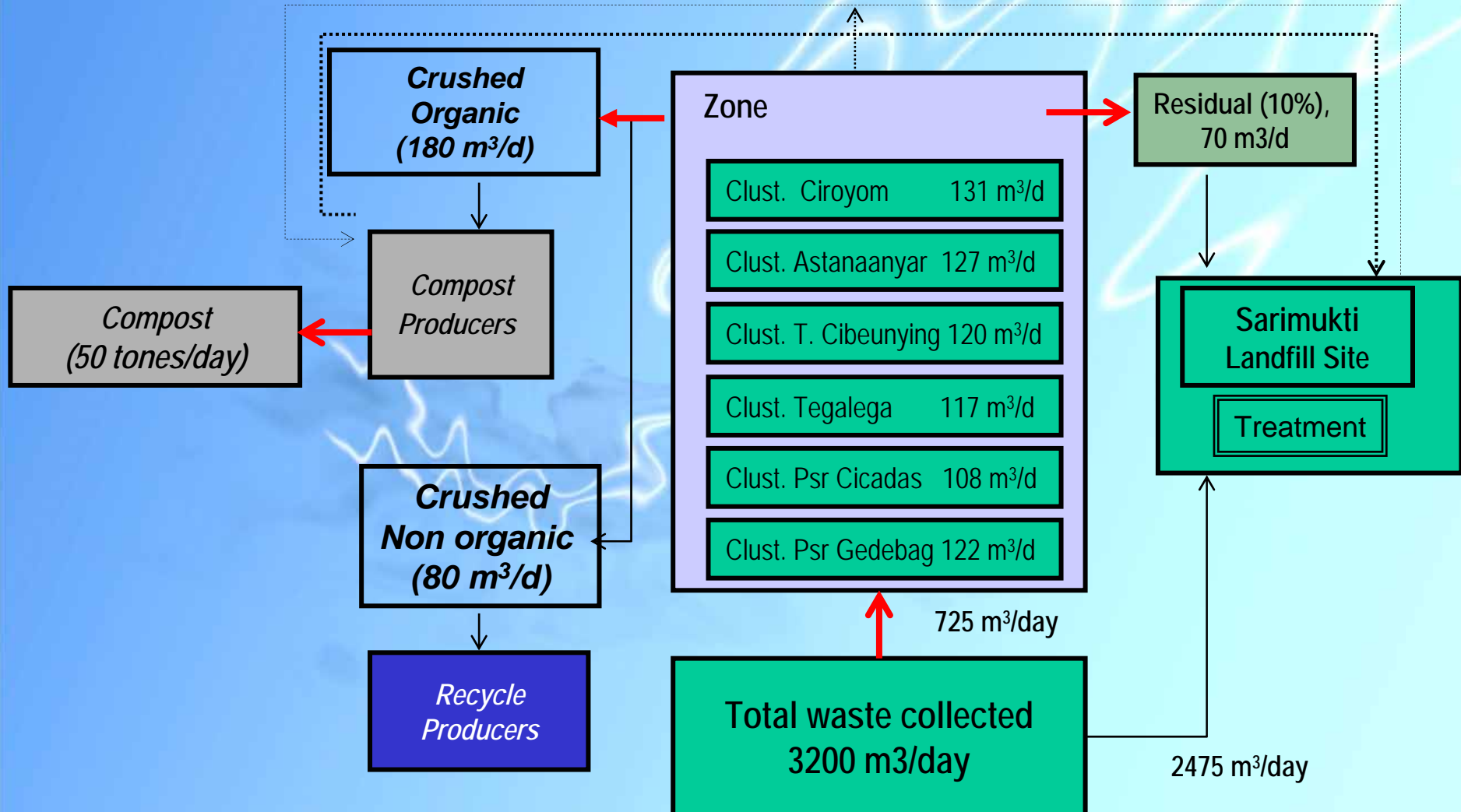


3R's Implementation in Bandung City

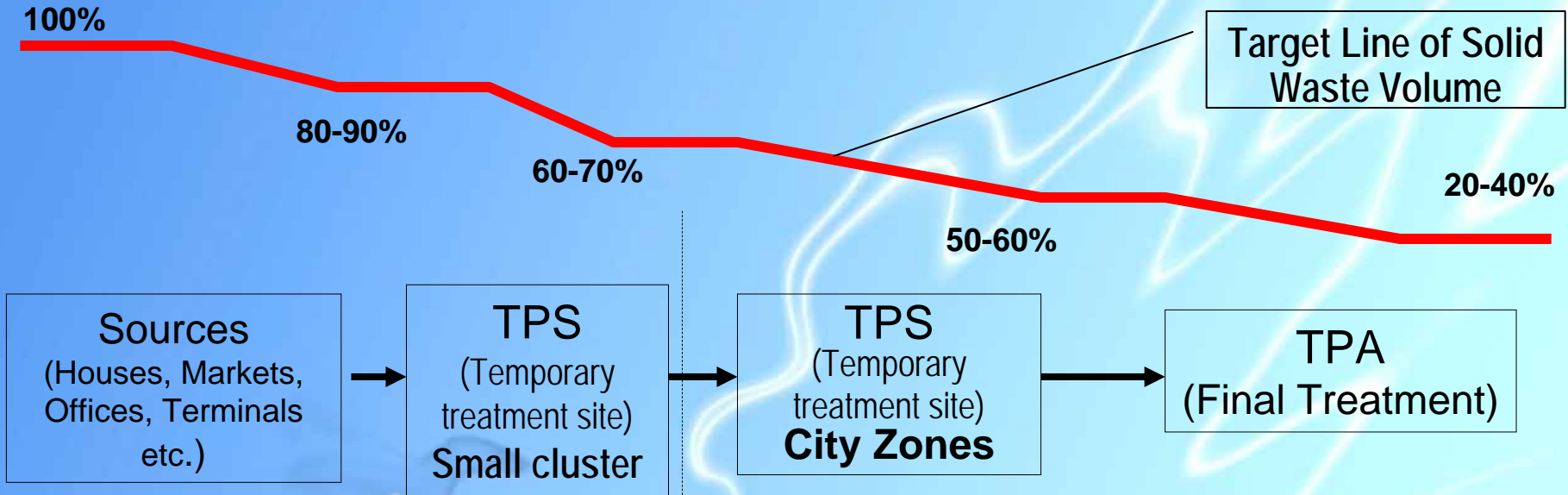
- **Garbage sliding** (February 2005) → Social conflict → No landfill site → emergency situation (“mountain”/stack of garbage in many parts of the city)
- **A collaboration** (MoE, Dept of Public Work, provincial govt, local govt and local community) to cope emergency situation → temporary dump site
- **Comprehensive measures** in managing domestic solid waste for the greater Bandung, based on 3R principle
- **The main objective** is to reduce the volume of solid waste inside the city prior transferring them to final treatment
- **The main measures** :
 - segregation at sources
 - transfer to clustered plant for further segregation and crushing
 - transfer to producers of recycle center for composting as well as other recycle measure (paper and plastic).
- **December 2006's** estimation : reduce the waste up to 30%



Plan for the 3R's Implementation in Bandung City



3R's Approach in Bandung



- Community/sources based management → Reduce, segregation, composting, recycle
- Incentive by local government, eg:
 - To buy a compost
 - To give equipment or facilities
- Using the principles of no service no money, no waste no charge

- Solid waste management by local government (note: subject to cooperate with private sector)
- Segregation
 - Composting
 - Recycle
 - Incinerator → energy
 - Sanitary Landfill → Methane capture and energy (CDM)

Local Community - NGO - Local Govt. - Provincial. Govt - Central Govt

← Involvement Intensity →

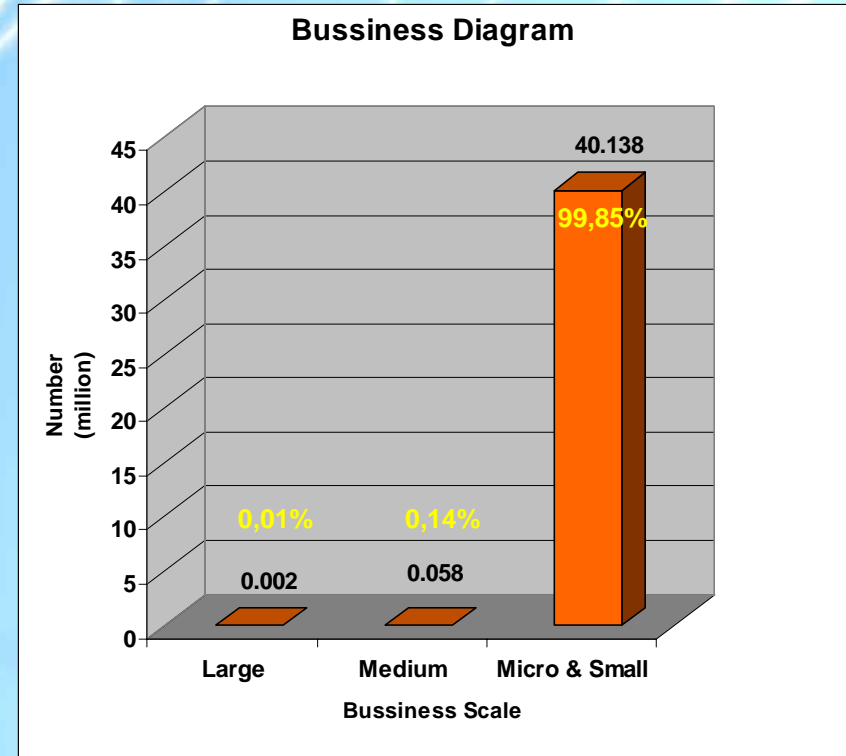
Composting Subsidy Program

- In 2004-2009, GEF through the World Bank give grant of **US\$10 million** to support the project of MSW composting subsidy;
- The project has **produced 217 tones/day** compost which is exceed the target of 200 tones/day and involved **45 compost producers** (mostly small scale enterprises);
- Potentially can **reduce emission of 12,500 Ton of methane gas**;
- This project could be **a model to promote 3R's implementation** in the community and local level.



3R Implementation in Micro and SME's

- The number of Micro & SME's in Indonesia is 41 million;
- 99% of which are micro and small enterprises.
- Micro enterprises / home's industries are almost 30 million units :
 - Represent of 99,4% employment
 - Contribute 56,7% of GNP (annual growth rate 2.4%)
 - Contribute 19,35% of national's export

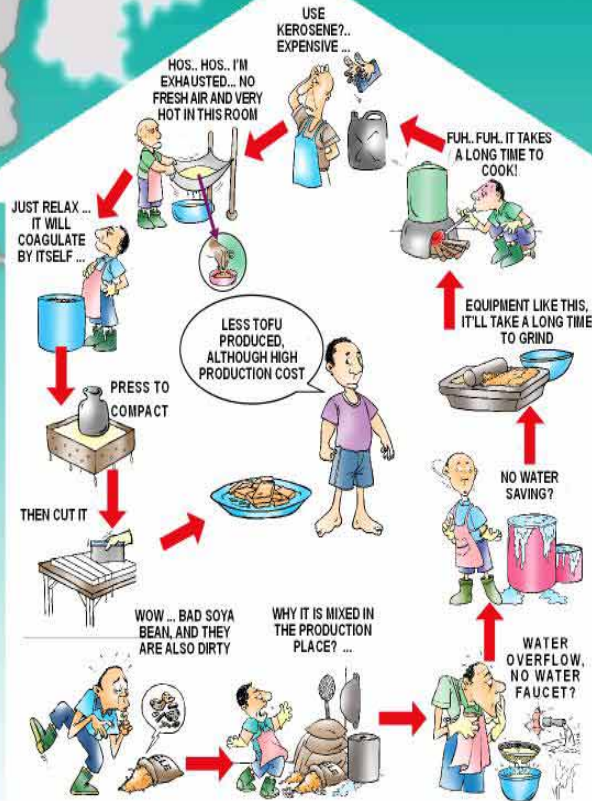


Micro and SME's

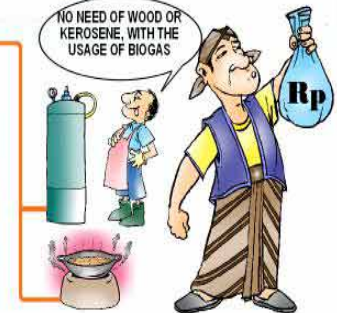
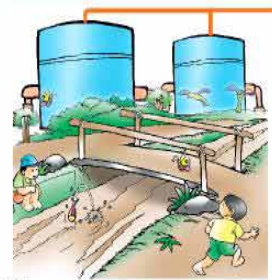
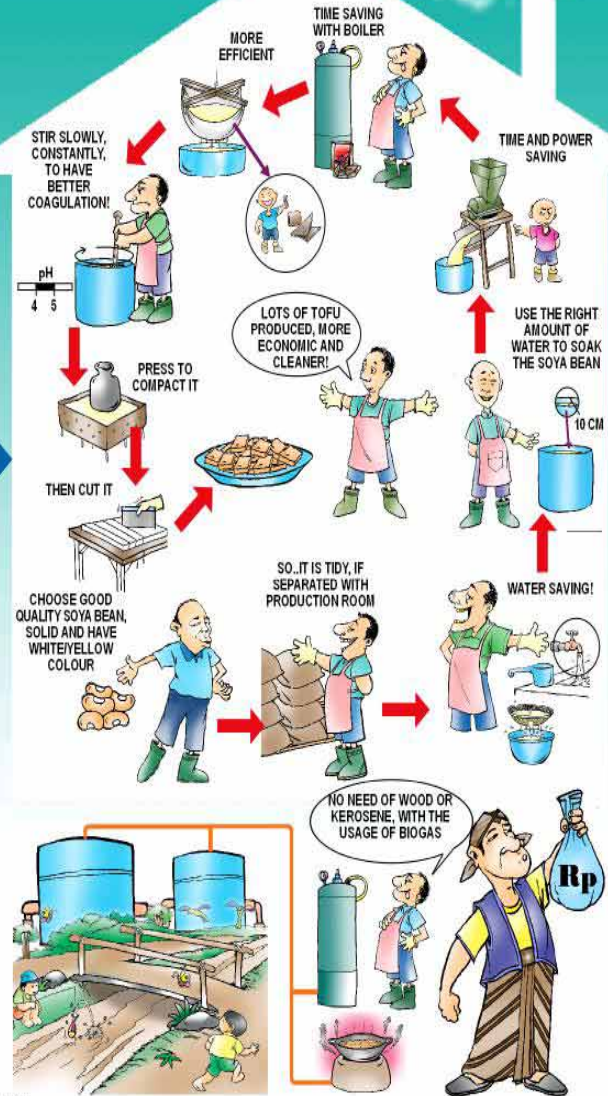
- Electroplating, Textile Product (Batik), Slaughter House, Tapioca, Tofu (Soya bean curd), etc
- **3R's implementation in Tofu Traditional Industries :**
 - Total Number of Tofu Industries : **43.415 units** need 32 million tones of Soya bean/year
 - **Total use of water : 640 millions litter/year**
 - Enhancing good housekeeping → **save water up to 46% or potentially 300 millions litter/year**
 - Alternatives of 3R measures:
 - **Reuse/recycle of solid waste/residue** : Animal feed, Sauce, Tofu Crackers, Nata de Soya (Jelly bean) and various foods
 - **Waste water treatment → Bio gas**
 - 1 ton of Soya bean/day → 15.000 litter of biogas/day
 - Could serve demand of fuel for 8 households daily
 - Reducing the potential release of methane 10.000 litter/day
 - Total Tofu Industries **potentially reduce emission of 320 millions litter of methane gas per day**



CLEANER PRODUCTION IN HOME INDUSTRIES OF TOFU



CLEANER PRODUCTION APPLICATION

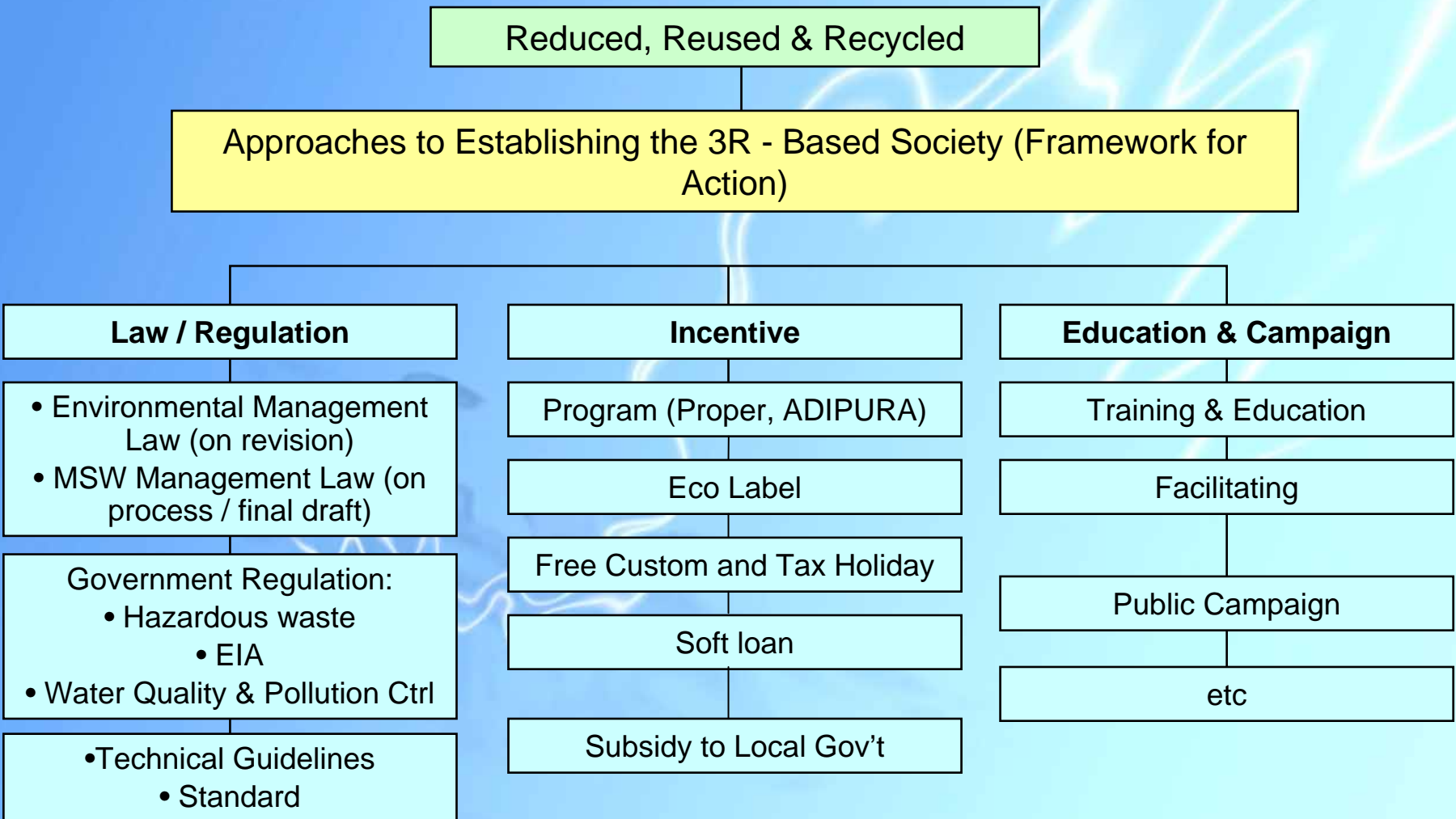


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FOR FURTHER INFORMATION :
 Indonesian Cleaner Production Centre (ICPC/Pusat Produksi Bersih Nasional (PPBN) - Kementerian Lingkungan Hidup
 Gedung B Lt. 5 - Jl. Di Panjatan Kav. 24 - Jakarta 13410 - Telp. : +62-21-85906170 - Fax. : +62-21-8516171
 Website : www.ppbn.or.id - Email : ncp@indo.net.id



Measures for Establishing the 3R - Based Society in Indonesia



MSW Management Act (draft)

**MSW = Residue of human daily activities and /
or of nature processes**

**Sisa kegiatan sehari-hari manusia dan / atau
dari proses alam yang berbentuk padat.**

OBJECTIVES

- ❑ To reduce MSW generation**
- ❑ Towards well MSW Management (segregation, collection, transportation, and process in the Final Disposal)**
- ❑ Towards healthy & clean environment**



Current Issues

- **E-Waste**

- Legal Aspects:

- Government regulation on Hazardous Waste
- Feasibility Study (on going)

- Issues:

- Pre-condition (reuse of some components) of product e.g. TVs, PCs, & Mobile Phone;
- Illegal import of battery included in e-products e.g. Toys, Home Appliances

- **Food Waste**

- Legal aspects: No particular regulation

- Measures: Feedstock for fisheries, Compost

- Issues:

- Expired food particularly canned food
- Food preservation substances are shifted to be more environmental friendly e.g. crab shells

- **Medical Waste**

- Legal aspects:

- Government regulation on Hazardous Waste
- Health Ministerial Decree of Hospital Sanitary

- Types of waste: Domestic, infectious, Pathological & Hazardous

- Measures:

- Guidelines on Medical Waste Management
- Segregation, Incinerator



Formulation of National 3R Strategy*

(result of first Inception Meeting, 6-7 September 2006)

INSTITUTIONAL PROCESS AND MECHANISM

1. Members of Working group:

- Central & Local Government → APEKSI (Association of Municipalities in Indonesia) & BKKSI (Coordinating Agency of Regencies in Indonesia)
- Private : APINDO (Entrepreneur Association of Indonesia), KADIN (Chamber of Commerce), AMC/CMA (Industrial Estate)
- NGO : DML (Environmental Fund Partnership)
- Research/Academic Body
- BCRC (Basel Convention Regional Centre)

2. Responsibility and task of Working Group are :

- Giving inputs/information/suggestions (regulations, programmes, case studies, report, best practice)
- Review 3R strategy draft
- Take a part in consultation meeting about draft strategy
- Identify of 3R's example project/activities.

Formulation of National 3R Strategy

INSTITUTIONAL PROCESS AND MECHANISM :

3. Time Lines

Establishment of National 3R Working Group	Dec 06 – May 07
First Draft of National 3R Strategy (following the guideline)	Jan 07 – Feb 07
National Stakeholders meeting (consultation to review the first draft)	Mar – April 07
Second draft of National 3R Strategy	June 07
National/Expert Consultant	July 07
Third draft of National 3R Strategy	September 07
Review	Sep – Oct 07
Final Draft	Nov 07
Ministerial Official endorsement donor's meeting/ official launching of National Strategy	Dec 07 – Jan 08

Formulation of National 3R Strategy

STRUCTURE AND CONCEPT

- 1. Background/Contexts :**
 - Social behaviour (domestic waste), equal partnership, regulations, etc
- 2. 3R's Key Sectors and opportunities :**
 - Food & beverage packaging, SME's, agro industry, waste movement from other country etc
- 3. Strategy to promote :**
 - Training & education, international cooperation, pilot project, etc
- 4. Action Plan :**
 - Resource mobilization & implementation arrangement, etc





Thank you

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