


CITY AND RESOURCE EFFICIENCY AND 3R



Presented by
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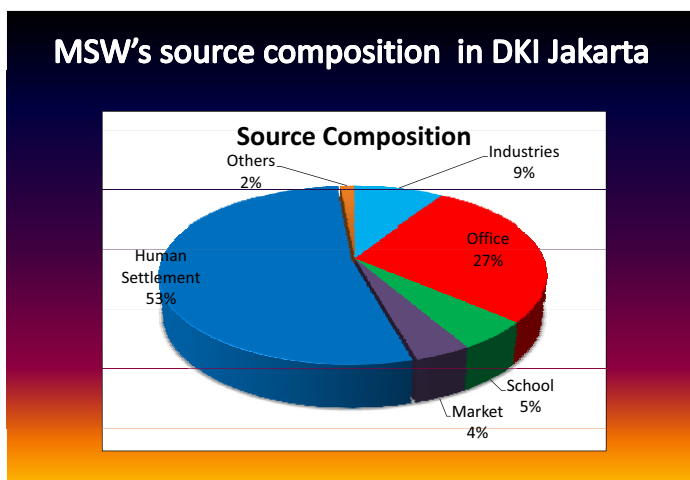
DKI JAKARTA : 5 Cities + 1 District



Central Jakarta

- Strategic position
- Pop : 881,000 inh.
- Municipal Solid Waste (MSW) : 1200 T/d

Population = (8.8 + 1.2 commuter) = 11,000 million inhabitants
Waste generated : 29,344 M3/day or 6,525 Ton/day;
Prediction next 10 years → 7,800 Ton/day



6 Sites MSW Treatment in Jakarta



3R : Result and Target in Jakarta

Year 2009, the **3R effort** can reduced **7%** of total waste generated.

Based on 5 years plan 2007-2012, the reduction target up to 2012 is **15%** (**980 Ton/day**) of total waste generated.



Central Jakarta : Problem & Solution

PROBLEMS :

- Lack of awareness → traditional way & NIMBY
- Lack of knowledge and skill
- Air & water pollution
- Inefficiency in water and energy consumption

POLICY :

- 2008 : Mayor's Instruction :
- Households & neighborhood shall minimize waste generated → Preventing, segregating & 3R
- Public facility, school, hospital & other social facility & commercial area shall minimize waste generated and also provide segregating facility
- Implement training, competition and campaign → clean air, clean water, clean land and green area
- Pilot project development → Composting, WWT from food restaurant and eco office

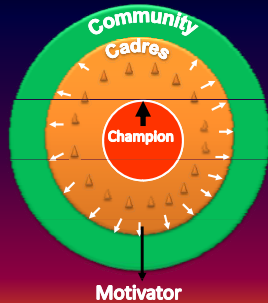
Public-Private Partnership

1. Training for Environment Cadres
2. Technical Assistance for local community in technology and environmental programs
3. Rehabilitation of waste management infrastructure/ facilities and sanitation
4. Greening programs
5. Environment campaign through media
6. Evaluation and monitoring of the program



Key Success Factor

- 1 Waste Minimizing & 3R Concept
- 2 Cadres Development
- 3 Strong Understanding about the real problem
 - Waste Generated
 - Resource inefficiency → water & energy
- 4 Hub Creation → Rawasari Project



Cadres : "Mobilize Community as The Agent of Change"

ECO-TECH GARDEN

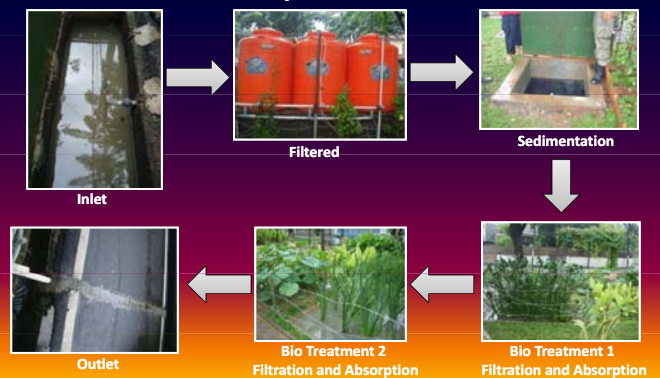
- This is a collaboration project between Central of Jakarta government, Public Work Department and National Oil Company- Pertamina.
- The project purpose is to treat waste water from street vendor (grey water) by using eco-technology in small garden
- Grey water per 8 hours : 1,820 L Or 0.04 L/sec.
- The capacity :

Pollutant	Measurement (mg/L)	Efficiency of treatment	Effluent (mg/L)
COD	158	85%	23.7
Detergent	6.65	55%	2.99
Ammonia (NH3N)	12.3	80%	2.46

Eco-Tech Garden – Cideng District



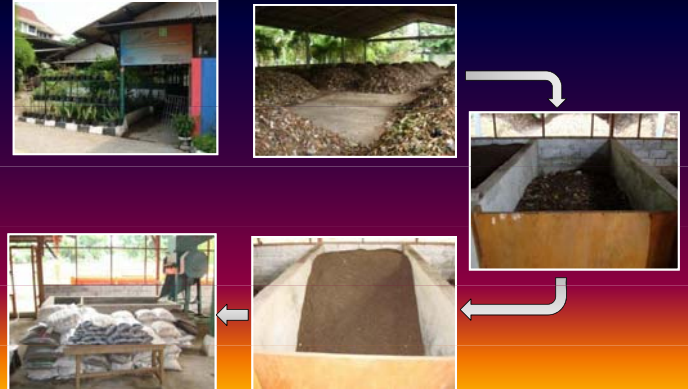
Eco-tech garden : grey water treatment proces



Laboratory Analysis

No	Parameter	Unit	Sample		Efficiency of process (%)
			Before Processing	After Processing	
1	Colour		Yellow	Yellow	
2	Odor		strong	no odor	
3	Deposit				
4	pH		6.82	7.01	1.4
5	DO	mg/L	299	152	32.6
6	Conductivity	uS/cm	567.07	288.77	32.5
7	Ca ²⁺	mg/L	0.057	0.029	32.6
8	Mg ²⁺	mg/L	0.028	0.027	1.8
9	Na ⁺	mg/L	0.057	0.032	28.1
10	K ⁺	mg/L	0.033	0.031	3.1
11	NH ₄ ⁺	mg/L	0.031	0.029	3.3
12	Cl ⁻	mg/L	31.063	5.625	69.3
13	NO ₃ ⁻	mg/L	-	-	-
14	SO ₄ ²⁻	mg/L	65.834	3.372	90

Composting - Rawasari





THANK YOU / TERIMA KASIH

Despite apparent differences in politics, economics and culture, cities in developing countries and the industrial world have many problems in common. (Janice E. Perlman & Molly O'Meara Sheehan)

What is needed now is "better practices" and "collaborative cities"

We invite all of HLS on ESC participants to visit our two "pilot project":

1. *Small Scale Integrated MSW Treatment (composting and dropping center)*
2. *Small Scale Food Restaurant WWT Plant*