

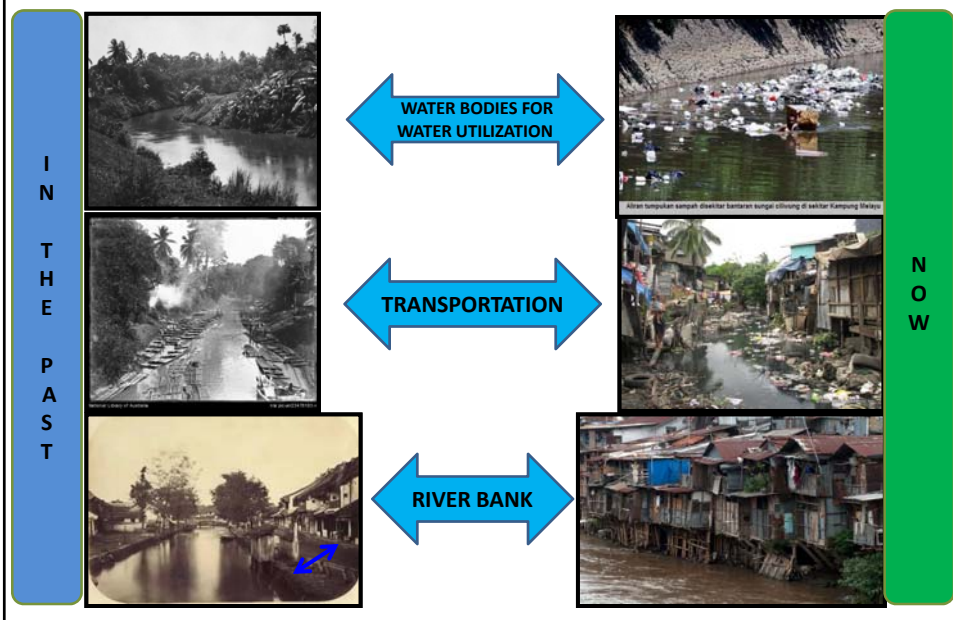
MOE of INDONESIA'S EXPERIENCE IN SMALL SCALE DOMESTIC WASTE WATER TREATMENT

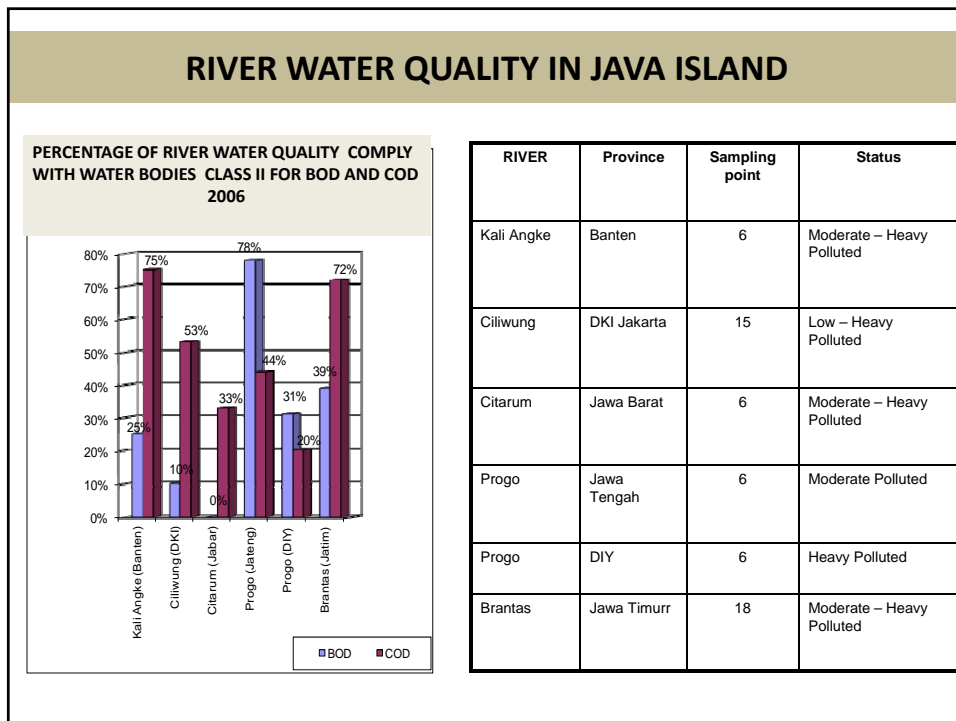


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MoE of INDONESIA
FEBRUARY 2013



BACKGROUND

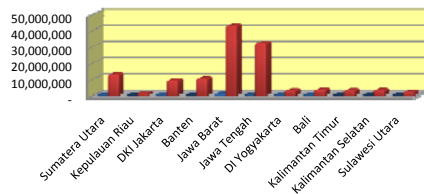




SOURCE OF POLLUTANT		
NO.	RIVER	DOMINANT SOURCE OF POLLUTANT
1	Ciliwung	Domestic waste water, livestock, garbage, industrial waste water
2	Cisadane	Domestic waste water, garbage, industrial waste water, agriculture
3	Citarum	Domestic waste water, industrial waste water, agriculture and aquaculture
4	Citanduy	Domestic waste water, industrial waste water, agriculture and aquaculture
5	Bengawan Solo	Domestic waste water, industrial waste water, agriculture, sand mining
6	Progo	Domestic waste water, industrial waste water, agriculture
7	Brantas	Industrial waste water, agriculture and horticulture, sand mining
8	Siak	Industrial waste water, domestic waste water, land erosion
9	Kampar	Industrial waste water, domestic waste water, land erosion
10	Batanghari	Industrial waste water, domestic waste water, erosion, gold and sand mining
11	Musi	Domestic waste water, sand mining, industrial waste water, land erosion
12	Barito	Refinery, coal and gold mining, horticulture, domestic waste water, oil spill, land erosion
13	Mamas	Domestic waste water, livestock, land erosion

Sewerage Treatment Plan

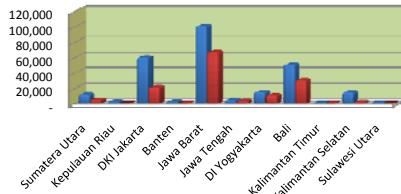
Number of population served by STP



■ Number of population connecting to STP ■ Number of population (2010)


Province	Number of population connecting to STP	Number of population (2010)
Sumatera Utara	90,497	12,982,200
Kepulauan Riau	1,500	1,679,200
DKI Jakarta	209,260	9,607,800
Banten	1,500	10,632,200
Jawa Barat	655,961	43,053,700
Jawa Tengah	63,250	32,382,600
DI Yogyakarta	71,645	3,457,500
Bali	83,440	3,890,800
Kalimantan Timur	6,870	3,553,100
Kalimantan Selatan	26,210	3,626,600
Sulawesi Utara	-	2,270,600

Installed Capacity vs Actual Capacity




■ Installed Capacity ■ Actual Capacity

Province	Installed Capacity	Actual Capacity
Sumatera Utara	12,000	5,765
Kepulauan Riau	2,852	75
DKI Jakarta	60,480	22,000
Banten	2,852	150
Jawa Barat	101,382	67,722
Jawa Tengah	5,184	3,761
DI Yogyakarta	15,500	11,082
Bali	51,000	31,185
Kalimantan Timur	800	160
Kalimantan Selatan	15,000	2,440
Sulawesi Utara	2,000	-



Water management policy in Indonesia

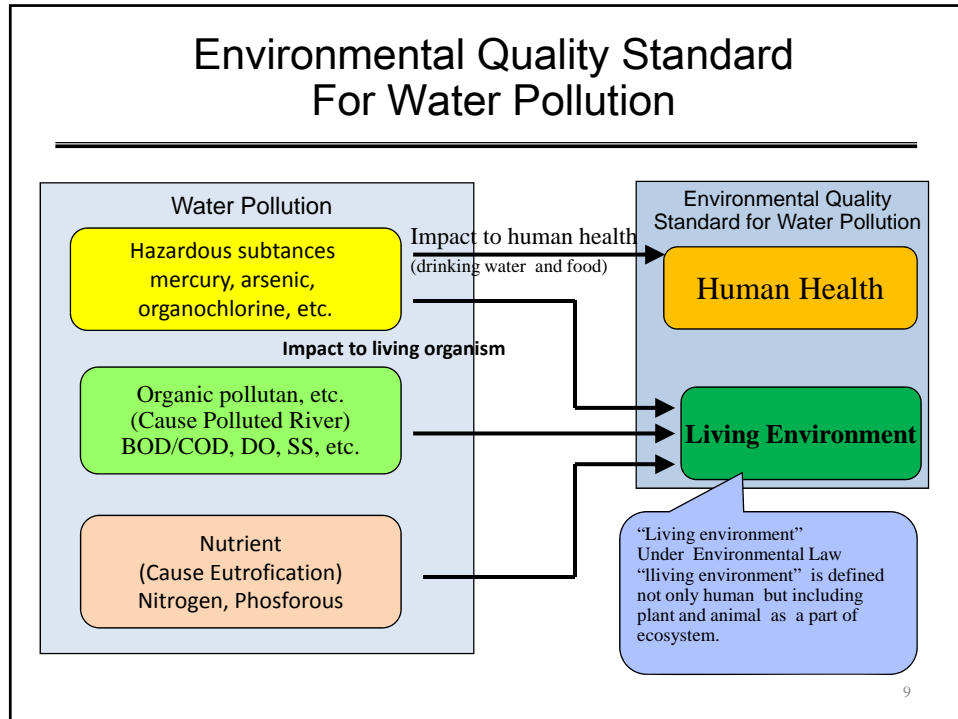
- Republic of Indonesia Act Number 32/2009 Regarding Protection and Environmental Management
- Republic of Indonesia Act Number 7/2004 Regarding Water Resources
- Government Regulation Number 38/2011 Regarding River
- Government Regulation Number 37/2012 Regarding Watershed Management
- Government Regulation Number 42/2008 Regarding Water Resources Management
- Presidential Decree, Number 33/2011 Regarding National Policy of Water Resources Management



Environmental Quality Standard and Effluent Standard in Indonesia

- Environmental Quality Standard (EQS) is based on provision of Water Pollution Control Law (Number 82 Year 2001)
- Effluent Standard is based on provision of Ministerial Regulation
- Both EQS and EFS consist of items for human health (Cd, Pb, As etc.) and conservation of living environment (pH, BOD/COD, SS, etc.).





Water Pollution Control Law (Number 82 Year 2001)

- Article 43. Point 3. " Government and local government have to conduct domestic waste water management and to strenghten community awarenest
- Point 4. " Local government could provide domestic waste water treatment plan for house hold as a part of domestic waste water management"




Pollution Prevention Plan

PLANNING

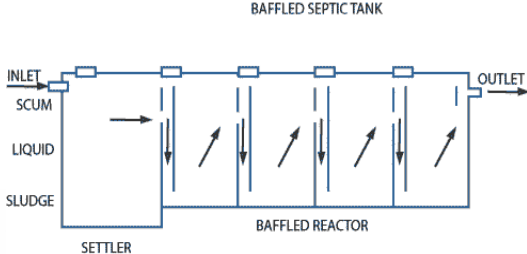
- ▶ Reducing Pollutant Load for 50% until 2014
- ▶ Government set Installation Plan for Centralized Wastewater Treatment system under the Water Pollution Law
- ▶ It is responsibility of municipalities to treat and manage municipal waste including solid waste and domestic wastewater also stipulated under the Decentralization law.

- ▶ Target Plan
 - ▶ Mapping of Distribution of Pollutant Load for domestic wastewater
 - ▶ Ciliwung Catchment Area
 - ▶ Bengawan Solo Catchment Area
 - ▶ Plan for installation of facilities as demonstration project
 - ▶ Preparing revision of Water Pollution Control Law
 - ▶ Preparing National Policy For Water Pollution Prevention
 - ▶ Revised The Effluent Standard
 - ▶ Preparing regulation for centralized domestic wastewater treatment plan for household

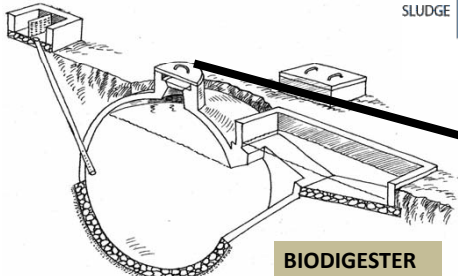
SMALL SCALE WASTE WATER TREATMENT PLAN




ANEROBIC TANK



BAFFLED SEPTIC TANK



BIODIGESTER



METHANE CAPTURE FOR COOKING

EFFLUENT QUALITY

NO.	PARAMETER	UNIT	RESULT	EFFLUENT STANDARD*)
1	pH	-	7.21	6-9
2	TURBIDITY	NTU	141	-
3	DO	%	368.1	-
4	TEMPERATURE	°C	30.3	38
5	TSS	mg/l	63	100
6	BOD ₅	mg/l	27	100
7	COD	mg/l	37	100

*) Local Government Regulation
Effluent Standard Number 4 Year 2007

THANK YOU