Goal no.6:
Clean Water, Adequate & Equitable Sanitation

Safely Managed:
Use of an improved sanitation facility which is not shared with other households and where excrete are safely disposed in situ or transported and treated offsite.

Basic:
1. Facility owned by household, facility using S-curved water seal toilet, and connected to sewer network.
2. Facility owned by household, facility using S-curved water seal toilet, and connected to septic tank.
3. Facility owned by household, facility is latrine with slab.

Source: Bappenas, 2017
CURRENT ACHIEVEMENTS OF WATER AND SANITATION ACCESS IN INDONESIA

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Achievements</th>
<th>2019 Target</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Safety Managed</td>
<td>Basic</td>
<td>Total</td>
</tr>
<tr>
<td>Sanitasi</td>
<td>67.20%</td>
<td>9.17%</td>
<td>76.37%</td>
</tr>
<tr>
<td>Air Minum</td>
<td></td>
<td></td>
<td>71.14%</td>
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</tbody>
</table>
NATIONAL AGENDA
100-0-100
NATIONAL MEDIUM-TERM
DEVELOPMENT PLAN
2015-2019

85% SPM: Safely Managed Sanitation Access
✓ 85% On Site System
✓ 15% Off Site System

15% Basic Sanitation Access:
For rural area with low density and Low inadequate sanitation

INTERNATIONAL AGENDA
SUSTAINABLE DEVELOPMENT GOALS 2030

“Ensure availability and sustainable management of water and sanitation for all.”

TARGET

6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation,
6.3 Improve water quality by reducing pollution
WASTEWATER MANAGEMENT CONCEPT

(Minister of Public Work and Housing Regulation No.4/2017)
ISSUES AND CHALLENGES

Up-stream

- Majority of domestic wastewater is managed by on-site system
- Low awareness of hygiene and sanitation in communities
- Low quality of sanitation facility
- Low access to sanitation facility
- Limited land availability in slum urban area

Down-stream

- Polluted water sources
- Low effluent quality from on-site system
- High cost of investment, operational and maintenance for off-site system
- Non-functional existing sanitation facility

CHALLENGE
WASTEWATER QUALITY STANDARDS

Future Challenges
The existing technology of the wastewater treatment facility needs to be upgrade in terms of the latest wastewater quality standards issued by the Minister of Environment and Forestry.

<table>
<thead>
<tr>
<th>pH</th>
<th>6-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>TSS</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Oil and Fat</td>
<td>10 mg/L</td>
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</table>

MoEF Regulation No 5/2014 (old standard)

<table>
<thead>
<tr>
<th>pH</th>
<th>6-9</th>
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<tbody>
<tr>
<td>BOD</td>
<td>30 mg/L</td>
</tr>
<tr>
<td>COD</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>TSS</td>
<td>30 mg/L</td>
</tr>
<tr>
<td>Oil and Fat</td>
<td>5 mg/L</td>
</tr>
<tr>
<td>Ammonia</td>
<td>10 mg/L</td>
</tr>
<tr>
<td>Total Coliform</td>
<td>3000 /100 mL</td>
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</tbody>
</table>

MoEF Regulation No 68/2016 (new standard)
## Existing City Scale Sewerage in Indonesia

<table>
<thead>
<tr>
<th>No</th>
<th>City</th>
<th>Units</th>
<th>System</th>
<th>Capacity (CMD)</th>
<th>House Connection (unit)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Medan</td>
<td>1</td>
<td>UASB</td>
<td>10,000</td>
<td>20,480</td>
</tr>
<tr>
<td>2</td>
<td>Parapat</td>
<td>1</td>
<td>Aerated Ponds</td>
<td>2,000</td>
<td>253</td>
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<tr>
<td>3</td>
<td>Batam</td>
<td>1</td>
<td>Oxidation Ditch</td>
<td>2,852</td>
<td>300</td>
</tr>
<tr>
<td>4</td>
<td>Jakarta Zone 0</td>
<td>1</td>
<td>MBBR</td>
<td>38,880</td>
<td>1,852</td>
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<tr>
<td>5</td>
<td>Tangerang</td>
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<td>Aerated Ponds</td>
<td>2,800</td>
<td>300</td>
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<tr>
<td>6</td>
<td>Bandung</td>
<td>1</td>
<td>Lagoons</td>
<td>80,835</td>
<td>114,444</td>
</tr>
<tr>
<td>7</td>
<td>Cirebon</td>
<td>4</td>
<td>Lagoons</td>
<td>20,500</td>
<td>8,136</td>
</tr>
<tr>
<td>8</td>
<td>Surakarta</td>
<td>3</td>
<td>Biofilter &amp; Lagoons</td>
<td>14,000</td>
<td>10,039</td>
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<tr>
<td>9</td>
<td>DI Yogyakarta</td>
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<td>Aerated Ponds</td>
<td>15,500</td>
<td>20,158</td>
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<tr>
<td>10</td>
<td>Denpasar &amp; Badung</td>
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<td>14,546</td>
</tr>
<tr>
<td>11</td>
<td>Balikpapan</td>
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<td>Aerated Ponds</td>
<td>800</td>
<td>1,385</td>
</tr>
<tr>
<td>12</td>
<td>Banjarmasin</td>
<td>7</td>
<td>RBC</td>
<td>18,000</td>
<td>6,722</td>
</tr>
<tr>
<td>13</td>
<td>Manado</td>
<td>1</td>
<td>RBC</td>
<td>2,000</td>
<td>100</td>
</tr>
</tbody>
</table>
FAECAL SLUDGE MANAGEMENT CONCEPT

SEPTIC TANK USAGE  DESLUDGING  TRANSPORTING  PROCESSING  REUSE
Faecal sludge management still relevant in Indonesia

85% citizens Use septic tanks & the likes

Population

SANITATION ACCESS

FAECAL SLUDGE MANAGEMENT CONTRIBUTION TO UNIVERSAL ACCESS

15% population off-site system

100% population on site system

• Improve quality & benefit of on site system
• Facilitate adequate on site system
• Help to achieve other targets (100% water & 0% slum):
  • Improve quality of raw water
  • Providing basic services for slums

Improve quality of raw water

Providing basic services for slums
COMMUNITY-BASED SANITATION INFRASTRUCTURE

- Providing high quality, sustainable, and environmentally friendly sanitation infrastructure, following the needs of the community
- Focus on improving community awareness on sanitation and promoting clean and healthy living behavior
INNOVATIONS ON COMMUNITY-BASED SANITATION INFRASTRUCTURE

INNOVATIONS:

1. Utilization of road body as location of WWTP
2. Utilization of top part of WWTP as a public facility (meeting hall, sports & games facilities, etc.)
3. The management of stool methane gas as an energy source
4. Utilization of recycle goods (mineral water bottle, bottle cap) as filter media in treatment plant
5. Processed WWTP effluent is used as organic liquid fertilizer
INNOVATIONS ON COMMUNITY-BASED SANITATION INFRASTRUCTURE

COMMUNITY INNOVATIONS

Manhole construction by the community

Utilization of used bottles as WWTP filter media

Business opportunities for the society
Thank You