Towards Nationwide Roll Out of Fecal Sludge Management in Indonesia

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Ministry of Public Works and Housing
Ministry of National Development Planning
/ the National Development Planning Agency
Indonesia
Sanitation Development

Mid-Term Development Plan 2015-2019
Target: Universal Access 2019

Improved Sanitation
Basic Sanitation (Rural Area)

Reported in MDGs
National Mid-Term Development Plan 2015-2019

Universal Access for Sanitation
late 90’s - early 2000
+ 150 septage treatment plants built in very ambitious scale (to serve 100% population) in cities/regencies resulting in less than only 10% in use and well-operated

> 90% “septic tanks” were actually pit latrine lack of demand for septage treatment plant

no regulatory framework for septage management

lacking awareness from the stakeholders

Before FSM implementation ...
why is it important?

- **Improved sanitation access**: 61.8%
- **Basic access**: 6.9%
- **Without sanitation access**: 31.1%

On-site system: 90% of wastewater system and **remain the majority** for the next 20-30 years.

- 2/3 population will be in **urban areas in 2035**
what and how?

Source: Households

Household promotion

User interface: Latrine/Septic tanks

(e-)census & database of OSS units

Transportation: Desludging fleet

Strengthening partnerships with private sector

Treatment: Sludge Treatment Plant

Improvement of plants

Disposal: Water bodies

Final Disposal/Reuse

Enabling/improving managing institutions, and preparing SOPs

Preparing local regulations: sector management, tariff, household obligation

Advocacy to LG/Head of LG
\textbf{FSM in Indonesia} \\
\textbf{INITIAL PERIOD} \\

\begin{itemize}
  \item regular desludging & on-call basis \\
  \item different settings for managing institutions \\
  \item monthly tariff: 0.65 – 1 USD per households \\
  \item various payment mechanisms 
\end{itemize}

16 champion cities

\begin{itemize}
  \item 40 cities on the way \\
  \item in the near future \\
  \item \ldots and 400+ cities to go! 
\end{itemize}
Common treatment option in Indonesia

next challenge because new effluent standard, existing technology needs upgrading

before

<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 Grease</td>
<td>10 mg/L</td>
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</table>

now

<table>
<thead>
<tr>
<th>pH</th>
<th>6-9</th>
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<tbody>
<tr>
<td>BOD</td>
<td>30 mg/L</td>
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<tr>
<td>COD</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>TSS</td>
<td>30 mg/L</td>
</tr>
<tr>
<td>Oil and Grease</td>
<td>5 mg/L</td>
</tr>
<tr>
<td>Ammonia</td>
<td>10 mg/L</td>
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<tr>
<td>Total Coliform</td>
<td>3000 /100 mL</td>
</tr>
<tr>
<td></td>
<td>before</td>
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<tr>
<td>----------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>septage treatment plant</td>
<td>120 m³/day using conventional technology (not fully used)</td>
</tr>
<tr>
<td>managing institution</td>
<td>Technical Operating Unit for Septage only</td>
</tr>
<tr>
<td>staffing</td>
<td>20 person @ + 60 USD/month</td>
</tr>
<tr>
<td>regulation</td>
<td>Only for tariff on-call desludging</td>
</tr>
<tr>
<td>records</td>
<td>Manual records</td>
</tr>
<tr>
<td>budgeting</td>
<td>Limited operational budget hard to convince the legislative</td>
</tr>
</tbody>
</table>
LESSONS Learnt (1) key findings & challenges from the initial and other nation-wide program

**Commitment & Awareness**
- Commitment of Heads of LGs
- Incomprehensive understanding of wastewater management

**Central Government Direction & Support**
- Clear policy on the sector
- Support the capacity of local governments

**Operator & Service Provider**
- Clear mandate to one assigned institution

**Regulation**
- Legal basis for LGs in implementing FSM, tariff setting, and households obligation in FSM
LESSONS Learnt (2)  
key findings & challenges  
from the initial and other nation-wide program

**Technical**
- Availability of:  
  - Septage treatment plant  
  - Desludging and transporting fleet

**Operational**
- Operational scheme based on condition and target services, (related with period of emptying, zoning and scheduling)

**Financial**
- Tariff and bridging fund

**Promotion**
- Improving households’ awareness, understanding, & willingness
MOVING FORWARDS

- develop manuals & guidelines
- provide advocacy & capacity building to local stakeholders
- strengthen collaboration with various parties ministries, donors & NGOs
- prepare suitable technology options with incremental approach
- improve cities’ eligibility criteria for financial / technical assistance
- upgrade onsite system
Looking forward to hearing your inputs!

Acknowledgment
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Rudy Yuwono
why is it important?

Despite the good progress, it is estimated that a great percentage of fecal sludge is still unsafely managed.