



Introduction of Scheduled Desludging Services in Indonesia

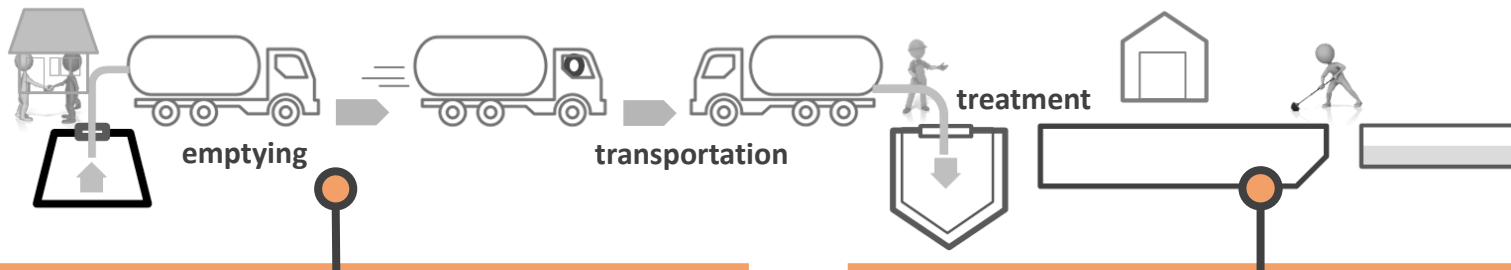
Fort Bustraan

Nugroho Adiwirarno, Budi Darmawan, Rudy Yuwono

Indonesia Urban Water, Sanitation, and Hygiene / IUWASH-PLUS

OVERVIEW

current situation/problems



- On-call basis
- No Health and Safety procedures
- No collection SOP
- No license needed
- No transport monitoring
- Direct payment to driver
- (often) illegal disposal



- Built for most big cities (but often far from city)
- Rarely mechanized
- Underutilized or unused, because limited collection
- Inadequate O & M funding

SCHEDULED DESLUDGING (Layanan Lumpur Tinja Terjawal or LLTT)

regularly and according to an agreed schedule,
a licensed desludging unit comes to
a registered customer,
to conduct mandatory desludging
and deliver it to a Treatment Plant.

All of this is done for a Cost Recovery Tariff,
covering all direct operational cost of
collection, treatment & direct management.

Except Investment cost of the Treatment Plant,
which is covered by Central Government

THE 7 ASPECTS of Scheduled Desludging (LLTT)

- desludging period
- service area
- desludging scheme
- transportation scheme

- registered & eligible septic tank users
- classified based on building use & size

- desludging units
- transfer stations
- treatment plants
- laboratory
- MIS & GIS
- vehicle monitoring

- designated operator
- regulator & supervisor
- private desludger

- customer relation
- billing
- emptying
- transportation
- mon-ev

- tariffs cover operating cost
- capital by government
- can involve private investment

- use of proper septic tanks
- mandatory periodic emptying,
- tariff & mechanisms.



**SCHEDULED
DESLUDGING**

PREPARING Regular Desludging (LLTT) (14 steps)

1. Assess
POTENTIAL

2. Agree on
PRINCIPLES

4. Obtain
BLESSING (of mayor)

3. Prepare
BASIC CONCEPTS

5. Understand / Map
CUSTOMERS

6. Prepare
OPERATIONAL PLANS

7. Prepare
OPERATOR

8. Finalize
REGULATIONS

9. Establish
FINANCIAL SYSTEM

10. Involve
OPERATION PARTNERS

11. Arrange
SEPTAGE FLEET

12. Agreement by
MANAGEMENT

13. promoting
SERVICE

14. LAUNCHING



ACTIVITIES

since mid 2012
with the Govt of Indonesia, WB/WSP
& local stakeholders



- Android & Web-based septic tank sensus tool
- Financial models & tools
- MIS & customer database
- SOPs on admin & technical
- Regulation on sludge management
- Contract for private desludgers
- Exposure workshops and trainings
- Promotional materials
- Manuals and training programs

FIELD ACTIVITIES

formal LLTT launching in 2 cities

October 2015

SOLO

(CENTRAL JAVA)

Followed by:

**DKI JAKARTA
KOTA BEKASI
KAB GRESIK**

August 2015

MAKASSAR

(SOUTH SULAWESI)



11 SUPPORTED CITIES for LLTT

by IUWASH and IUWASH PLUS

All 11 cities joined FSM4



..... there will be more

LLTT GUIDELINES

but only in Indonesian!

main book



... endorsed by the **Government** as the **guiding document** across Indonesia



4 supplements

(financial, marketing, health & safety, information system)

LESSON-LEARNED (I)

◉ **early & strong commitment**
by city leadership (mayor)
is **crucial** to **LLTT initiation**

◉ **regulations** on
mandatory desludging & cost recovery tariff
takes time & must be promoted early

◉ **> 80% households** prefer
regular desludging above **“on-call”**

LESSON-LEARNED (2)

○ **increasing collection efficiency is crucial for cost reduction**

scheduling a truck (4 m³) to empty 2 tanks (@ 2m³) before go to STP + construct STP nearby so truck can make 2 trips / day

○ **most efficient billing is for a water utility to combine it with the monthly water bill**

If not possible, it is recommended to appoint a local community group as “billing agent”

○ **existing septage treatment plant almost always be **the bottleneck****

consider implementing an incremental approach to increase capacity of the septage plant

INCREMENTAL APPROACH

to increase capacity of septage treatment plant

10 m³

A, F, M
ponds
&
SDB



low capacity, low cost,
low efficiency, low skills

30 m³

A, F, M
ponds
&
SDB

A, F, M
ponds
&
SDB



Aerated lagoons

presses



higher capacity, higher cost
higher efficiency, higher skills

100 m³

aerated lagoons

SDB + limited
mechanical dewatering

300 m³

aerated lagoons

Mechanical dewatering

Guide, Syllabus and Training
to start in April 2017

**“We will build a great
desludging system and ..
we will build it cheaply..”**



“...Thank you.”