Non-intrusive Monitoring Systems
Challenges in Promoting Safe Desludging

- Low demand from households
- Lack of transparency in pricing and mismatch between demand and supply
- Failure to meet safety requirements while desludging
- Illegal disposal by some service providers
- Resistance of service providers to be monitored

Desirable Solution Features: Able to...

- Stimulate household demand
- Connect customers to the service providers that best match their specific demands
- Non-intrusive monitoring of desludging operations
So how does it work?

Desludging Operators

Notifies operators of the request and details

Interested operators respond with prices

FSM

CONNECT

Notifies the successful bidder

System sends an SMS with a list of lowest price bidders and their ratings

Interested operators respond with prices and the plate number of the vehicle that will be dispatched

Upon conducting the desludging service, the truck reaches the treatment plant, a time-stamped picture of the truck plate will be taken automatically and recorded in the system.

Upon receiving OTP and truck plate number from the operator, service is considered complete.

System sends an SMS to the customer for ratings of the operator's compliance with safety standards.

Laser assessment team is notified when the unit is empty.

If the combined volume attached to all the OTPs that a truck has accumulated reaches its registered capacity and no disposal is recorded, the system generates a reminder.

FSM

CONNECT

Notifies other households in the neighborhood of group discounts

FSM

CONNECT

Notifies the customer

Sends confirmation of desludging service through the mobile app or by calling. This includes answering a few questions:

- Location;
- Time;
- Facility type & volume;
- Acceptance of market price range or max WTP

The laser assessment brings two additional benefits:
- Assessing design compliance
- Allowing service prompts

With high resistance to be regulated, monitoring the desludging operator behavior has been traditionally challenging. The USP of the proposed non-intrusive monitoring system ensures safe outcomes rather than monitoring the process.
Assumptions /Precedent Conditions

Presence of FSM regulations and supporting policies covering registration of service providers, safe operational standards, safe disposal, etc.

Close to universal or high enough household subscription to ensure that operators rely on the system and abide by the rules.