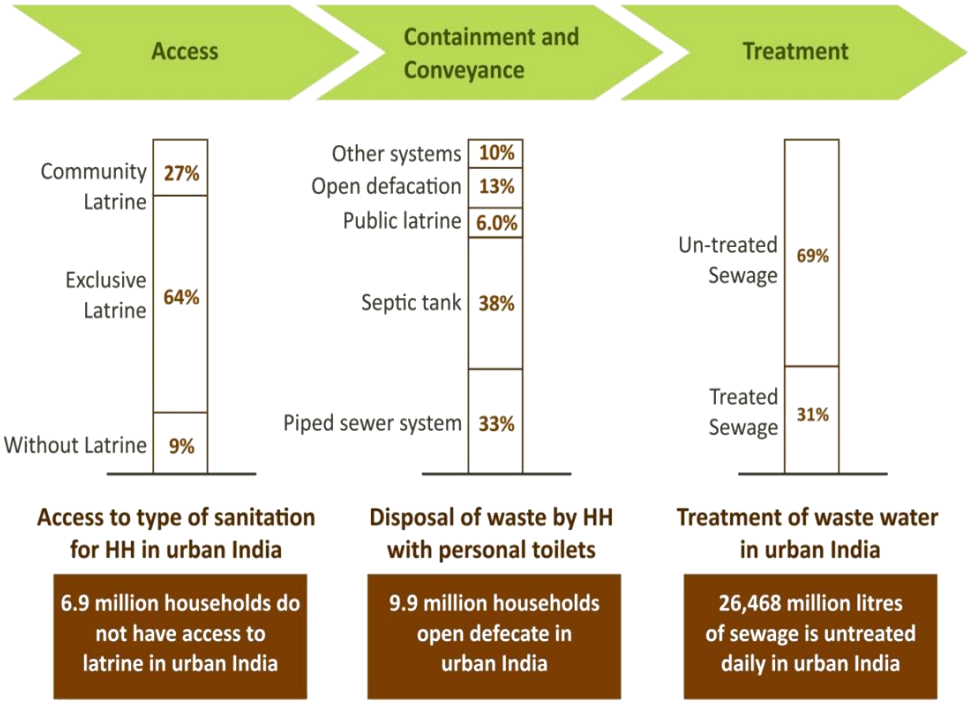
Objectives of the Study

Background

Urban sanitation has been identified as a key priority area in India, on account of the rapid pace of urbanization, as well as the several constraints which city sanitation systems work under. While larger cities have some penetration of underground sewerage systems, about 40% of the urban households still rely on on-site sanitation options such as septic tanks. There is also an increasing realization among city planners, that co-existence of on-site options with UGSS is the most viable model in a large fraction of the cities.



However, there is significant heterogeneity in ownership and standardization across the various components of the septage chain (collection, containment, transport, treatment and reuse/disposal). This lack of standardization is reflected in low government ownership, largely unorganized private sector ownership, and lack of compliance to existing regulations across the chain. Such gaps across the value chain are illustrated below

Illustration Only

	Septage Generation	Septage Desludging	Septage Transportation	Septage Treatment	Reuse of Treated Septage	Septage Disposal
Technology	Dependency on sanitation services; Access to sanitation technologies	Desludging vehicles by technology types	Access to vehicle O&M & technology know-how	Treatment efficiency by technology; Adequacy	Pre-processing technologies for appropriate reuse of treated septage	Technological know-how for safe disposal
Finance	Available financial assistance; Regulation on construction price	Regulation of money paid for desludging services	Route optimization and price revision for volatile variables	Financial assistance to facilitate septage treatment	Financial assistance for appropriate pre-processing technology	Financial assistance for appropriate tech. assistance
Legal & Regulation	Enforcement of laws to regulate construction	Enforcement of SOPs for desludging services	Policy making & Tariff regulation on desludging services	Enforcement of acts to dispose septage in decanting facilities	Institutionalizing incentive mechanism for reuse	Enforcement of strict regulation on septage disposal
Institution & Governance	Training, Certification, Monitoring & Evaluation	Occupational Safety and Health Hazard Monitoring	GPS Monitoring of Desludging vehicles	Capacity building of STP operators, Monitoring effective septage treatment	Established Market linkages; Stock of recycling vs usage	Monitoring septage disposal and effective inspection
Social Factors	Preference of sanitation services; Awareness on design compliance	Frequency of desludging services	Awareness / Sensitization Program	Training and awareness Programs for septage treatment	Sensitize citizens and removal of social stigma on reuse of treated septage	Training and awareness on effective septage disposal

In view of the above unmet needs and ecosystem inefficiencies and inadequacies, as well as the potential for addressing the same through novel technology based approaches, Sara Plast would like to assess the feasibility of using a technology based aggregation platform to remove market matching inefficiencies and inadequacies between demand and supply, in the septage management market especially the desludging market. This concept, if proven, could open doors to broader applications across the value chain, while increasing market efficiency and promoting standardization. Sara Plast, a market leader in development of innovative solutions in the sanitation space will be closely involved in the study, and will potentially take forward (to implementation) the concept upon establishment of viability.

Objectives

The specific questions that the proposed study seeks to answer are –

- What are the points of inefficiency, inadequacy in the septage management ecosystem across the value chain, at a city level?
- What are the felt needs (met and unmet) of the key stakeholder groups (consumers, service providers across value chain, especially desludging operators and the local government)?
- Which of the above unmet needs and services could be met by an aggregator model?
- What are the public perceptions on influencing the efficiencies/efficacy of supply chain / services and how can the aggregator model address it?
- What is the level of awareness with regards to the environmental considerations / public health considerations of septage management practices amongst the stakeholder groups and its influence on demand and supply?
- What are the potential value propositions which an aggregator model can offer (to the three stakeholder groups) and their willingness to engage with each of the propositions?
- Which of these value propositions is most viable for specific city types?
- What are the key determinants of the pricing for the services and the regulation of the pricing / What is the price elasticity of demand and supply?
- How can such an aggregation platform be advocated with the Government (at various levels) for better policy integration, legal &regulatory compliance and institutionalization?
- What are the changes in ground water contamination , pre and post launch of the application.
- What is the amount of septage disposed responsibly disposed after the launch of the application?
- Building of database of vendors and customers in the city
- What are the number of people booked for a septic/drain service from the slum areas?
- The number of trips completed by vendors on the application

Scope of Work

To answer the above questions, the following approach is proposed.

1. Structural Assessment: Dedicated towards understanding structural constraints and drivers in the urban sanitation space, in three identified pilot cities. Specific activities will include
    a. Discussion with Sara Plast partners on similar experiences and the lessons which can be ported, round up of existing literature/ initiatives in this domain.

b. Pune and Goa are the two cities for the pilot, to be representative of both market elements (e.g. current level of infrastructure, household income etc.), structural elements (e.g. regulation, SLBs etc.) and key typologies (city size and category, demographic and existing UGSS/ on-site diversity.)
c. Development of structural assessments for the identified cities, including overview of National laws, SBM, local bye laws, regulations, subsidies, protocols, permits etc.). Apply strong understanding of local regulations, and networks with local governments at this stage

2. Field Research: To identify the inefficiencies/inadequacies in the ecosystem, and current market needs for the three stakeholder groups (consumers, suppliers and government)
    a. Development of a comprehensive framework to capture the needs of the three key stakeholder groups (households, septage desludging operators and local government)
    b. Development of questionnaires, -on septage ecosystem management and decision support
    c. Outreach to a sample of respondents in each category[1] to assess needs, current market structure and felt gaps. In particular, the following aspects will be captured for the three stakeholder groups across the various components of the septage value chain
        i. Current state and satisfaction across key aspects
        ii. Aspirations and felt needs
        iii. Expectation from a marketplace model in addressing these needs
        iv. Willingness to pay/ support
3. Assessment of viability and identification of most suitable value proposition for the aggregation platform
    a. Development of a framework for comparison of alternative value propositions for the app (e.g. matching only vs. end to end control, with pros and cons of each (e.g. greater control of the value chain vs. price premium). The benefits and costs will include both monetary (financial viability) and social (social costs, improvement of program efficiencies etc.) aspects
    b. Population of inputs from the secondary and primary research on the above frame

[1] *In each city, we envisage interactions with 150 households from consumer side (30 in high, 45 in middle and 75 in low income groups based on the levels of heterogeneity of settlements across these income groups), about 30 – 40 operators and Local Government actors for this exercise. In addition, relevant NGO/ CSOs, septic tank cleaner associations etc. will also be included, amounting to a total of ~ 200 touch points per city*

c. Discussion with Sara Plast - to finalize on the most appropriate value proposition, based on endogenous (competitive advantages and differentiators) and exogenous (ecosystem maturity, felt needs). At this juncture, the potential roles of broader set of partners (e.g. aid agencies, Government schemes etc.) will also be investigated.

4. Advocacy: To develop an advocacy pack and reach out to appropriate touch points (City Governments and MoUD/ SBM /Amrut/ SCM)
    a. Based on the study, identification of potential synergies between the proposed aggregator platform, and city management. This will also include a mapping of key Government initiatives (e.g. SCM, SBM, AMRUT), to identify dovetailing points
    b. Develop an advocacy pack which can be taken to City, State and National levels, explaining the value proposition of such an aggregator model, along with requirements for support from the Government
    c. Discussions with the identified 2 City Governments and MoUD based on the developed pack, to elicit support for the next phase (pilot testing and operationalization) on a best effort basis

Study Outputs

The study outputs will include

1. A current state report of the two cities, capturing the as-is inefficiencies/inadequacies and need gaps across the septage management value chain, along with implications of these inefficiencies /inadequacies.
2. A viability report on the aggregation platform, which Sara Plast will be able to take forward to create a detailed business model. In particular, the viability report will include.
    a. Value proposition of the platform which is likely to elicit the best response from these cities. This value proposition will be customized for each city based on the field research and stakeholder response
    b. Willingness to pay from the stakeholders for the above value proposition. Sara Plast can utilize this, in conjunction with their internal cost estimates to determine the viability of such a model.
    c. Key risks and potential mitigation measures for the identified value proposition.
3. A systemic Impact report outlining the potential of such an aggregation platform from a “social good” perspective. This report will also attempt to capture potential future applications of such a platform (including tracking progress, measuring value for money, impact assessment etc.).