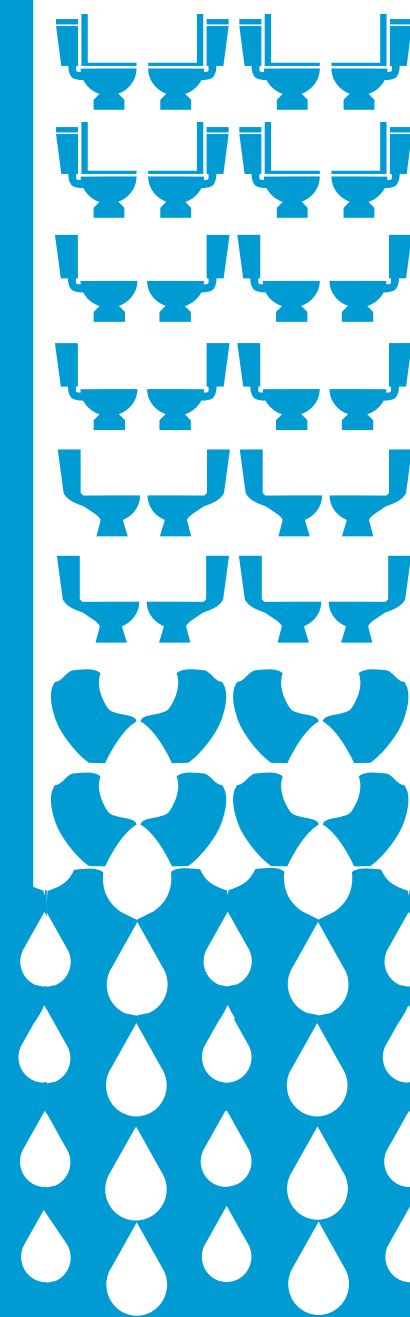


# Procurement Process for FSSM PSP in Wai and Sinnar – Challenges and Lessons

Center for Water and Sanitation CEPT University  
with support from Dalberg Global Development Advisors

2nd July 2018



# Agenda

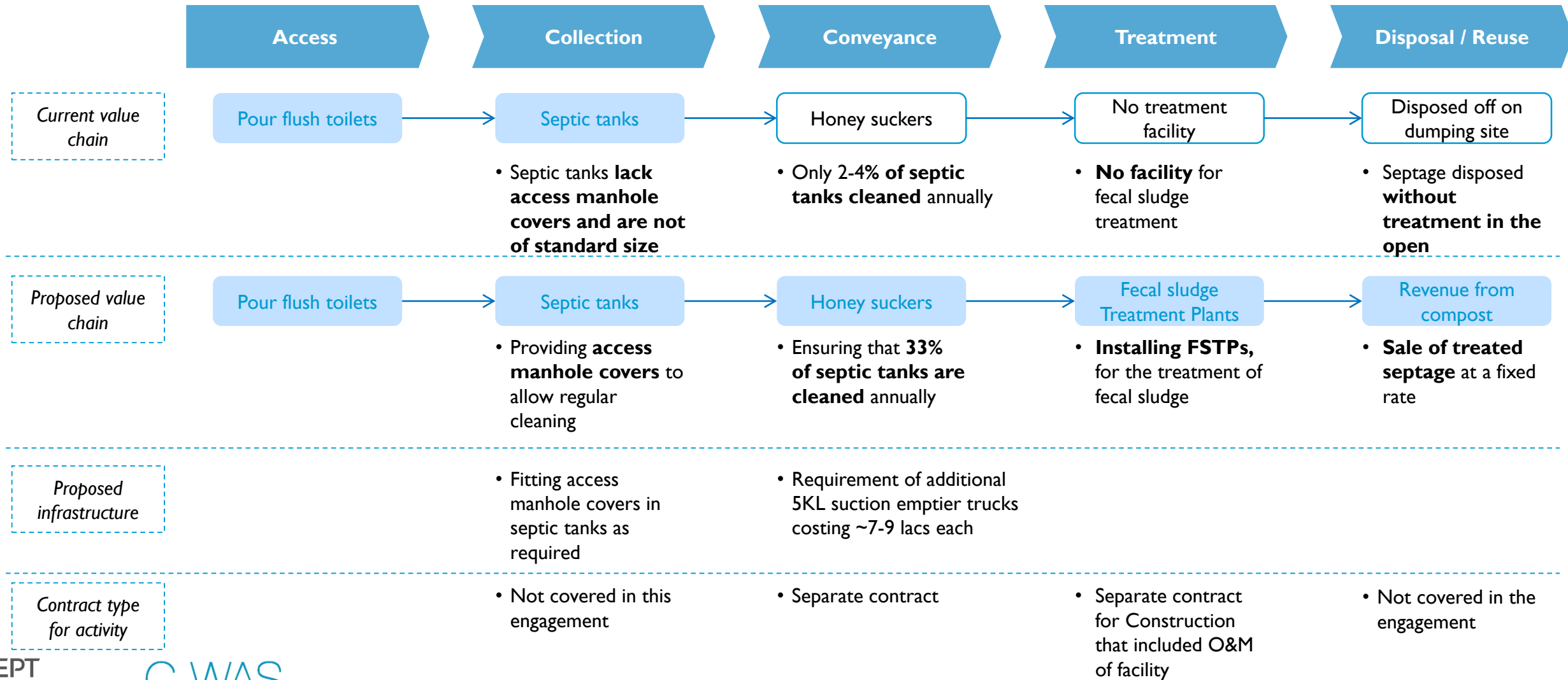
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# To address prevalent sanitation issues, CEPT conducted an end-to-end fecal sludge & septage management (FSSM) assessment in two 'laboratory' towns, Wai & Sinnar, from 2015-2017



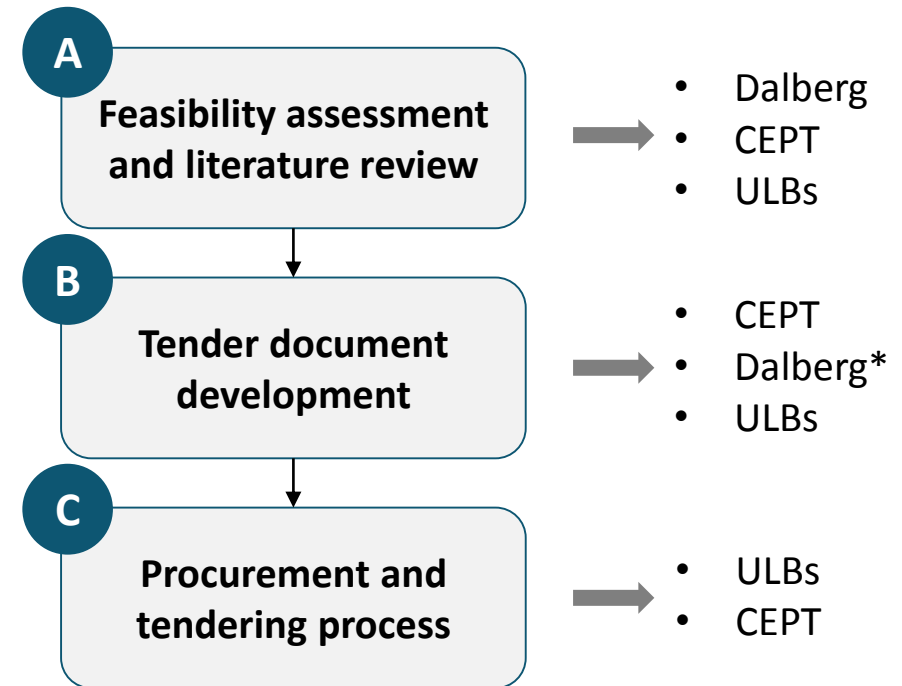
# CEPT engaged Dalberg to assess the potential for appropriate Private Sector Partnerships (PSP) to provide these FSSM services and support the procurement process in the two towns

## Objective of the engagement

The engagement focused on:

- assessing the **potential for participation of private sector** in FSSM and the **landscape** of private sector players
- supporting Urban Local Bodies of Wai and Sinnar in **developing appropriate contract** documents, supporting the bidding process and **monitoring** the contracts.

## Phases of the engagement and teams involved



\*Dalberg developed tender documents for 'Scheduled Emptying of Septic Tank' (SEST) services only

# This learning note summarizes the PSP engagement process and the key insights gained through the engagement

## Objectives of the learning note

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This note highlights key **process steps** and **insights** that we developed over the course of the engagement.

It aims to **provide guidance** and **offer lessons** from Wai Municipal Council (WMC) & Sinnar Municipal Council (SMC) to other similar geographies who **plan to engage private sector** for FSSM or similar services and **mitigate** against some of the risks for potential Private Sector Partnership (PSP) engagements.

## Structure of the learning note

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### Process maps

Summarize the overall process in the form of a flowchart, highlighting the different engagement phases and the different stakeholders involved

### Detailed process steps

Lays down detailed process steps for each of the high level steps in the process map

### Key challenges and learnings

Summarizes the key challenges faced and lessons learnt from the corresponding process steps

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# Executive summary (1/4): The FSSM PSP process was carried out in three stages over 18-20 months

Time Period	Feasibility assessment and literature review (4-6 months)	Tender document development (1-2 months)	Procurement and tendering process (6-12 months)
Objective	<ul style="list-style-type: none"> <li>To assess the feasibility of a private sector contract for SEST and FSTP in Wai and Sinnar and to understand the needs and concerns of the private sector and the ULBs</li> </ul>	<ul style="list-style-type: none"> <li>To develop, detailed, legally correct tendering documents including the performance based contracts for 1. SEST and 2. FSTP</li> </ul>	<ul style="list-style-type: none"> <li>To roll out the tenders, assess bids and award work order to lowest bidder</li> </ul>
Activities	<ul style="list-style-type: none"> <li>Conducted interviews with private sector to understand their capabilities and needs</li> <li>Conducted interviews with ULBs to understand their needs and give them an understanding of private sector need</li> <li>Conducted literature review, including <b>international case studies and similar tender documents</b></li> </ul>	<ul style="list-style-type: none"> <li>Developed draft clauses, performance matrix and monitoring formats based on feasibility study</li> <li>Aligned with private sector and ULBs on the above</li> <li>Developed <b>performance based contracts</b> for 1. SEST (Scheduled Emptying of Septic Tank); 2. FSTP (Fecal Sludge Treatment Plant)</li> <li>Coordinated legal review of FSTP contract by Amarchand &amp; Co.</li> <li>Finalized SEST and FSTP contracts, thus developing the first service contract for SEST in India</li> </ul>	<p><b>SEST</b></p> <ul style="list-style-type: none"> <li>Floated the tender</li> <li>Conducted pre-bid meetings with potential bidders for questions and clarifications on the tender</li> <li>Assessed bids</li> <li>Conducted negotiations with lowest bidder</li> <li>Signed tri-party agreement for escrow account</li> <li>Awarded work order</li> </ul> <p><b>FSTP</b></p> <ul style="list-style-type: none"> <li>Floated the tender</li> <li>Conducted pre-bid meetings with potential bidders</li> <li>Submitted corrigendum based on responses from MJP</li> <li>Assessed bids</li> <li>Conducted negotiations with lowest bidder</li> <li>Assessed Detailed Project Report (DPR) from bidder for technical approval form MJP</li> </ul>
Output	<ul style="list-style-type: none"> <li>Inputs for development of contract clauses for PSP engagement</li> </ul>	<ul style="list-style-type: none"> <li>Performance based contracts</li> <li>Monitoring and Evaluation strategy</li> </ul>	<ul style="list-style-type: none"> <li>Awarded work order</li> <li>Resolutions</li> <li>Bids</li> <li>Awarded contracts</li> </ul>

# Executive summary (2/4): Key challenges & learnings in Stage I: Deep engagement with Government, Private Operators is essential. Bundled & unbundled contracts should be explored

## Feasibility assessment and literature review

- *Process*
  - **Engagement with the ULBs at the start of the process** helped get their cooperation and alignment on the process right from the beginning, thus avoiding sudden deviations in the process later on.
  - **Sharing of detailed costs of FSSM activities**, highlighting Capex and O&M break-up, helped ULBs understand the requirements and align with the recommendations more quickly
  - In addition, **engagement with the private sector at the start of the process** to understand their capabilities and incorporate their concerns ensured that the design of the contract was attractive to the private sector.
  - **Benchmarking with other national tenders and international programs** helped understand risks and challenges associated with PPPs and possible solutions to mitigate. Learnings from these programs were incorporated in the engagement design.
- *Design*
  - **Private sector's** willingness to invest in emptying trucks and made their participation a feasible and more suitable option for the ULBs to carry out FSSM services in Sinnar and Wai.
  - Both **bundled and unbundled contract** options were explored for private sector engagement and need for separate contracts for Scheduled Emptying of Septic Tanks (SEST) and Fecal Sludge Treatment Plant (FSTP) was identified. The construction and O&M facilities were bundled for in the FSTP contract for to ensure efficient outcomes



# Executive summary (3/4): Key challenges & learnings in Stage 2: Long-term performance based contracts de-risked through escrow mechanisms are useful. Professional legal expertise helps

## Tender document development

- *Design*
  - Majority of the previous contracts had been : 1. annual contracts; 2. lumpsum contracts (input driven), often leading to incomplete, low quality work and raising conflicts between the ULBs and the contractors. **Longer, performance based contracts of 3 years** were suggested to address these issues
  - Private players' willingness to work with ULBs was limited due to concerns around timely and complete payments by the ULBs. Payments through **ESCROW accounts** and addition of **'interest payment'** clause in case of delayed payments mitigated their distrust on timely ULB payments and increased their willingness to work with the ULBs. ULB's payment was also safeguarded as this was a performance based contract and ULB only had to pay proportionate to the target that is achieved
  - Breaking down outcome based **payments to monthly payments**, instead of one time payments incentivizes the contractors to deliver as per desired service levels, at the same time **hedging them against the risk of losing** the entire money at the end of the project due to a small delivery failure
  - **Assigning penalties** was expected to encourage compliance with metrics and would lead to **improved performance** by the private sector
  - The metrics used to assess the desired service levels were ensured to have 5 key defining characteristics: (i) **output focused** rather than input focused, (ii) **easily demonstrable** and verifiable, (iii) **low cost** to measure and collect, (iv) **within the control** of the service provider, and (v) **comparable** to benchmarks or other similar standards to capture trends.
- *Process*
  - Consulting team's limited understanding of legal issues and language in the tender documents lead to longer time lines and multiple iterations in document creation. **A professional team, consisting of lawyer(s)**, to write the contract and bidding documents could ensure a more efficient process. For e.g., **review of FSTP contract by Amarchand and Co.** in the second round improved the tendering process and ensured completeness from the legal perspective.

# Executive summary (4/4): Key challenges & learnings in Stage 3: Such a tender requires several ULB resolutions & these can be planned for. Timing, training, clarifying eligibility & BoQs are key

## Tendering process

- **Multiple resolutions** were required to be passed to ensure end to end tendering process:
  - Resolutions for **SEST and FSTP**
    - Floating of tender
    - Opening of ESCROW account for payments to contractor
    - Award of contract
  - Resolution for **SEST only**
    - Levying of sanitation tax
  - Resolutions for **FSTP only**
    - Allocate 14th Finance Commission Grant to the FSTP project
    - Purchase new land for construction of FSTP instead of the one allocated in the tender
- There are possibilities to make such a tendering process more efficient through:
  - Improved timing to ensure that **major city activities & events** such as elections, etc. **are avoided** during the tendering process
  - **Guiding and training** government bodies on the **technicalities of the project** to ensure quicker approvals and sanctions on tender documents
  - Laying out **clear eligibility requirements** and a **bill of quantities** to avoid any confusion and retendering process which is time consuming
  - Leverage the past experience of other ULBs, such as through the **PSP toolkit** that was developed from the procurement process experience of Wai and Sinnar

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## **Feasibility study and literature review**

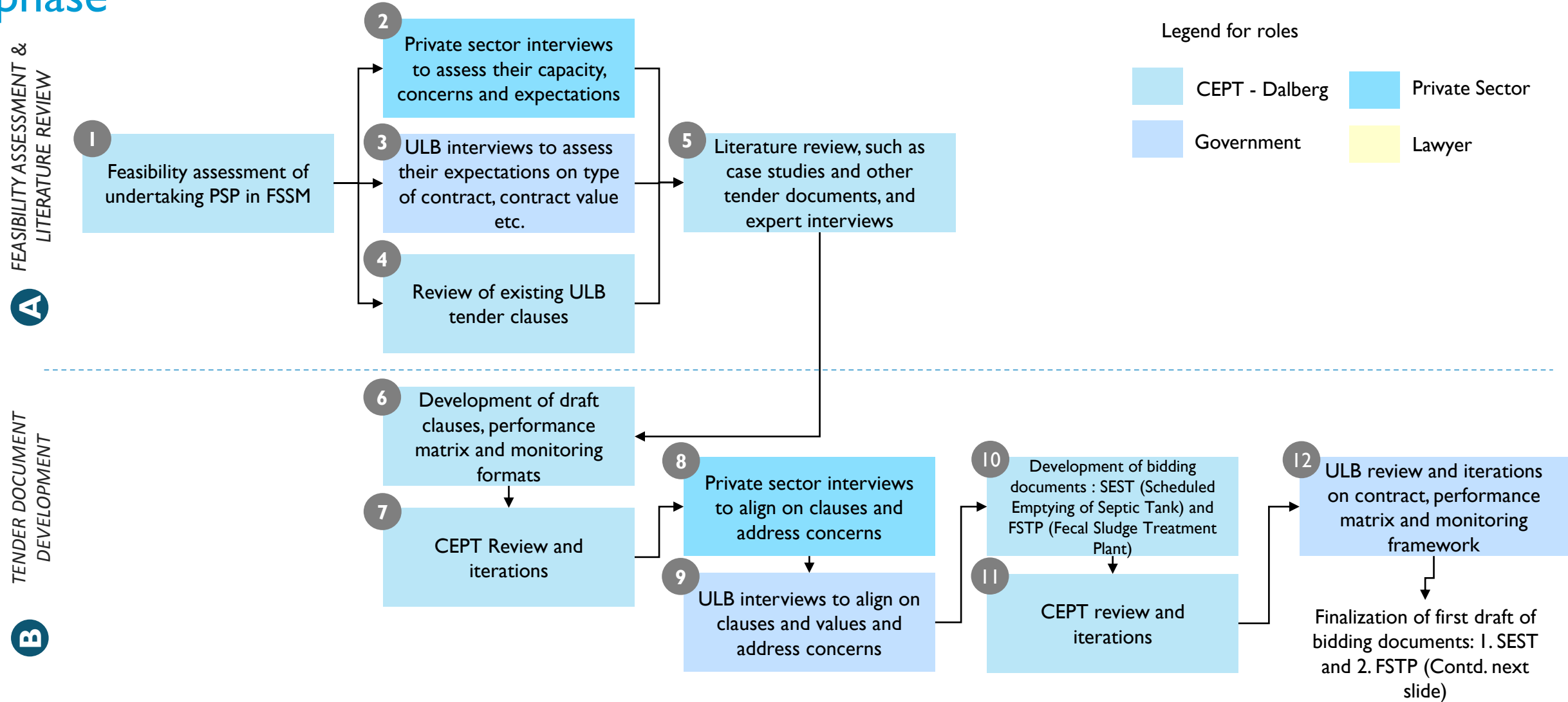
'Scheduled Emptying of Septic Tanks (SEST)' tender

'Fecal Sludge Treatment Plant' (FSTP) tender

Learnings and key features of the tendering process

Annexure

# Engagement with all key stakeholders for inputs, detailed desk review and benchmarking with international case studies formed the basis of the strategy phase



# Private sector models emerged as most cost effective way to address FSSM gaps in Wai and Sinnar

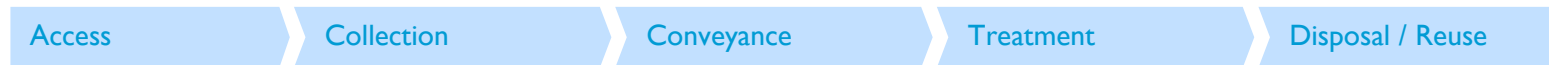
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## PROCESS MAP



- Mapped the sanitation landscape of Wai and Sinnar and identified gaps against the proposed Fecal Sludge and Septage Management (FSSM) value chain

## DETAILED PROCESS

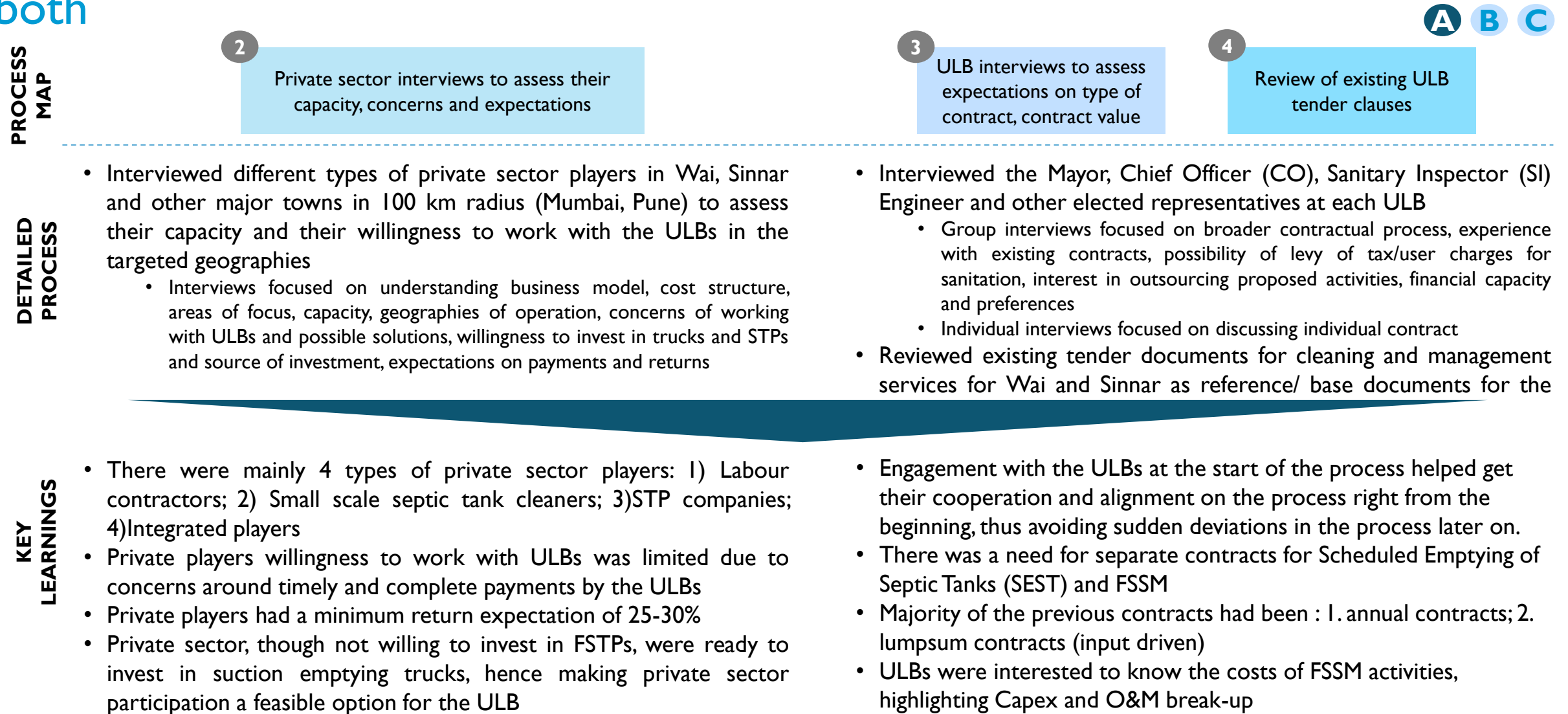


- Identified the infrastructure required to address the gaps through desk research, CEPT knowledge and past Dalberg experience
- Assessed different types of service models – public sector ownership, outsourced and private sector participation models – for FSSM on capacity and cost associated with asset ownership, provision of services and source of revenue
  - Developed financial models to assess costs associated with each model
  - Made assumptions based on desk research, past Dalberg experience and conversations with experts

## KEY LEARNINGS

- Only 2% of the household septic tanks are cleaned annually in Wai and 4% in Sinnar as opposed to the service standard of 33%
- Private sector model emerged to be most cost effective with consistent cashflow requirements for both Wai and Sinnar. This was because PSP model only accounted for the depreciation on the value of the asset each year instead of the entire value at one time.
- Bundled and unbundled options of private sector engagement were planned to be explored

# Detailed interviews with the private sector and the ULB officials at the start of process development helped design an engagement that was a win-win for both



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# Detailed interviews with the private sector and the ULB officials at the start of process development helped design an engagement that was a win-win for both

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PROCES  
S MAP

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Literature review, such as case studies and other tender documents, and expert interviews

DETAILED  
PROCESS

- Reviewed successful international programs to understand business model, PPP model, risk allocations, contract terms and conditions:
  - FSSM by Indah Water Konsortium (IWK), a PSP in Malaysia
  - The National Office for Sanitation in Senegal (ONAS) and BMGF program in Dakar, Senegal
  - National Sewerage and Septage Management Program (NSSMP) in Indonesia
- Interviewed experts from international organizations such as WSP, Indah, Sandec and other independent experts to capture learnings from their experience and knowledge
- Researched best practices in performance based clauses in Government of Maharashtra, and other Government of India contracts
  - Bid documents on STP for Surat, Jaipur, Madras, Vijayawada, Shillong
  - Bid document for AMC in Pune
  - Bid document for water supply in Nagpur
  - RFP for organic waste collection and treatment facility in Surat
  - RFP for STP BOT in Thane

KEY LEARNINGS

- Benchmarking with other programs helped understand risks and challenges associated with PPPS and possible solutions to mitigate. Learnings from these programs were incorporated in the engagement design. For example, benchmarking exercise along with understanding of the private sector concerns led to favorable financial clauses, such as payments through ESCROW accounts, interest rate clauses in cases of delay in payment, for the private sector and develop performance based contracts which are output driven for the ULB.

# Following a systematic framework to draft clauses and performance matrix ensured process efficiency and completeness of the performance based contract (1/4)

PROCESS  
MAP



A B C

## Contract clauses

- Developed contract clauses following a 6-step criteria in consultation with CEPT. Analyzed information from private sector and ULB interviews and benchmarked with international case studies to estimate the values for each step, where required
  1. **Operational role of the private sector** – identified the different services required by the private sector based on gaps in FSSM value chain and identified preferred contract bundling options based on private sector capacity and ULB preference
  2. **Source of revenue** – identified potential sources of revenue, such as ULB budget, government sources, household level tax, through ULB interviews. Shortlisted household level taxes as the most feasible source based on parameters related to sustainability and reliability
  3. **Investment and ownership of capital assets:** Capital assets included suction truck and FSTPs. Conversations with private sector and ULBs suggested keen interest in private players investing in suction trucks. This was beneficial for both, in terms of easy procurement, alignment with private sector incentives, opportunity for private sector to access loans and expand business. They were, however, not willing to invest in FSTPs due to lack of sources of revenues from the asset and lack of ease of liquidation in case of emergency
  4. **Payment structure** – Referred to a combination of revenue sources and ownership structure to identify payment structures for the cities. We recommended monthly fixed fee for all ongoing recurring activities such as O&M of FSTPs and per unit fixed fee for one-time activities such as construction of FSTPs or emergency cleaning of tanks
  5. **Contract length and value** – Refined the financial model created in earlier phase to calculate the contract value. Some major drivers that we considered included (i) capital estimates – unit cost of STFs and trucks, number of trucks required; (ii) Operating and other expenses – number of safety uniforms and cost per unit, administrative costs, fuel costs; and (iii) key assumptions on expected financial returns by the private sector, applicable rate of interest to the private sector, contract length, rate of depreciation, number of cleaning trips etc. The length of the contract was recommended to be 3 years. This was to resolve the issue of having a different contractor each year to complete the same job, thus creating dependency and conflicts.
  6. **Risk mitigation and allocation** – developed a detailed list of potential risks at various stages of the project – project planning and development, construction phase and operations phase – allocated the risks between the public and the private sector and recommended best practices to mitigate these risks. *Refer to annex for list of risks and their allocation*

DETAILED  
PROCESS



# Following a systematic framework to draft clauses and performance matrix ensured process efficiency and completeness of the performance based contract (2/4)

PROCESS MAP



A B C

Contd..

DETAILED PROCESS

- Converted these criteria into formal clauses, mirroring the legal language from the existing Sinnar and Wai tenders.
- Identifying other key clauses for the contract from reference documents. Key components of the clauses included: 1. Eligibility criteria for bidders; 2. Obligations before signing of a contract; 3. Obligations after signing, but before work begins; 4. Terms of work during contract, related to expected standard of service; 5. Payment - details of responsible party, amount due and mechanism of payment to the private player for services provided; 6. Penalties & Incentives, for instance when service standards are not met by the private player, as well as incentives to reward strong performance; 7. Termination of contract; 8. Monitoring mechanisms, 9. Others, related to miscellaneous events
- Ensured completeness of clauses by benchmarking against other similar tenders from other cities and conducting interviews with international regulatory experts to verify those clauses

KEY LEARNINGS

- A longer contract length of 3 years ensured complete responsibility of the work rested on one contractor and there were no conflicts that came up in one year contracts because of dependency on the work done by previous contractor.
- Breaking down outcome based payments to monthly payments, instead of one time payments incentivizes the contractors to deliver as per desired service levels, at the same time hedging them against the risk of losing the entire money at the end of the project due to a small delivery failure
- Clearly identifying all potential risks and allocating them between the ULB and the contractor ensured clarity of roles and expectations, reducing the possibilities of conflicts at a later stage

# Following a systematic framework to draft clauses and performance matrix ensured process efficiency and completeness of the performance based contract (3/4)

PROCESS MAP



A B C

## Performance matrix and monitoring framework and formats

- Defined service levels for each of the activities covered by the contract based on our understanding of the requirements and conversations with private sector and ULBs
- Defined output based and quantifiable metrics for each of these service levels
- Identified all the important actors/ sources that could provide information on the delivery of the contract and created effective and clear reporting mechanisms/ formats for each source
- Linked the monitoring metrics and reporting systems to tangible payment clauses in the contract. These clauses ensure that performance is tied to tangible outputs, and there is no ambiguity on the way forward in case of non-performance

DETAILED PROCESS

Service Level	*Example Metrics	Monitoring mechanism	Example Payment terms linked to metrics
Refurbishment of septic tanks	Number of septic tanks structurally damaged	Grievance redressal	For each grievance not addressed and inadequate septic tank cleaning, the private player will be charged INR 200 as penalty
Cleaning of septic tanks	Percentage of HHs cleaned as per schedule	Self reporting, ULB sample HH survey, Grievance redressal	The private player gets paid depending on number of septic tanks cleaned: E.g. 70% of payment if 70% of HH cleaned (Unavailable and unwilling HH not counted as a part of the target)
Transportation of fecal sludge	Number of instance of spillage during transportation	Grievance redressal	For each grievance not addressed and inadequate septic tank cleaning, the private player will be charged INR 200 as penalty
Safe disposal of fecal sludge	Successful completion to standard	Self reporting, ULB random treatment site inspection	If dumping of waste at sites apart from FSTPs is observed (verified by the Sanitation Inspector through checks), a fine of INR 5,000 will be levied

Refer to annex for complete list of metrics, monitoring mechanisms and payment terms

# Following a systematic framework to draft clauses and performance matrix ensured process efficiency and completeness of the performance based contract (4/4)

## PROCESS MAP



## KEY LEARNINGS

- The metrics used to assess the desired service levels should have 5 key defining characteristics: (i) output focused rather than input focused, (ii) easily demonstrable and verifiable, (iii) low cost to measure and collect, (iv) within the control of the service provider, and (v) comparable to benchmarks or other similar standards to capture trends.
- Linking the payment schedule to the outcome milestones would incentivize the private sector to deliver as per desired service levels, at the same time hedging them against the risk of losing the entire money at the end of the project due to a small delivery failure
- Assigning penalties will encourage compliance with metrics and would lead to improved performance by the private sector

# Private sector and ULB review of clauses and performance matrix ensured complete buy-in from both parties to avoid any surprises at the tendering stage

PROCESS MAP

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Private sector interviews to align on clauses and address concerns

9

ULB interviews to align on clauses and values and address concerns

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DETAILED PROCESS

- Dalberg / CEPT team conducted a second round of interviews with private sector to present the first draft of the clauses for the performance based contract to understand their concerns and willingness to work with ULBs
- Incorporated their feedback in the current draft of clauses

- Dalberg / CEPT team conducted a second round of interviews with the ULB, both elected as well as executive wing, to present the first draft of the clauses with private sector inputs and concerns to the ULBs to align them on the criteria and values
- Also presented detailed Capex and O&M costs for FSSM activities

KEY LEARNINGS

- Payments through ESCROW accounts and addition of 'interest payment' clause in case of delayed payments mitigated their distrust on timely ULB payments and increased their willingness to work with ULBs
- Concerns from private sector around security deposit. Given their size and other concerns of working with ULBs, they were not willing to or did not have capacity to give large security deposits

- ULB's payment was safeguarded as this was a performance based contract and ULB only had to pay proportionate to the target that is achieved
- ULBs accepted the idea of payments through ESCROW accounts and interest payments in case of delayed payments to safeguard private sector interests
- ULBs did not accept clauses on performance bonus and cost escalation clauses, as these were viewed as extra costs.

# The tender documents were developed on the basis of the clauses and the performance matrix

## PROCESS MAP



## DETAILED PROCESS

- Developed tender documents for SEST and FSTP for Wai and Sinnar, using existing tender documents as base and similar tenders from other cities as benchmark.
- Presented the contract, performance matrix and monitoring framework to ULBs to receive feedback and comments

### Key components included:

- Eligibility criteria for bidders
- Obligations before signing of a contract
- Obligations after signing, but before work begins
- Terms of work during contract, related to expected standard of service
- Payment - details of responsible party, amount due and mechanism of payment to the private player for services provided
- Penalties & Incentives, for instance when service standards are not met by the private player, as well as incentives to reward strong performance
- Termination of contract
- Others, related to miscellaneous events

## KEY LEARNINGS

- Consulting team's limited understanding of legal issues and language in the tender documents lead to longer time lines and multiple iterations in document creation. A professional team, consisting of lawyer(s), to write the contract and bidding documents could ensure a more efficient process.
- Bidding document development was a long process and can be shortened by brining in process efficiencies. Constant engagement with ULBs, however, ensured their continued alignment and thus minimal changes at all stages of document creation.
- Stringent eligibility criteria around past experience in sanitation services, security deposits and size of the firm led to low responses to the tender.
  - Increased flexibility in scope of work by focusing on outputs instead of inputs could lead to more innovative products at lower costs. For example, for cleaning of septic tanks, the reward was based on number of tanks cleaned instead of the traditional number of trips made to clean the tank. This was expected to lead to cost efficiency and ensured cleaning.

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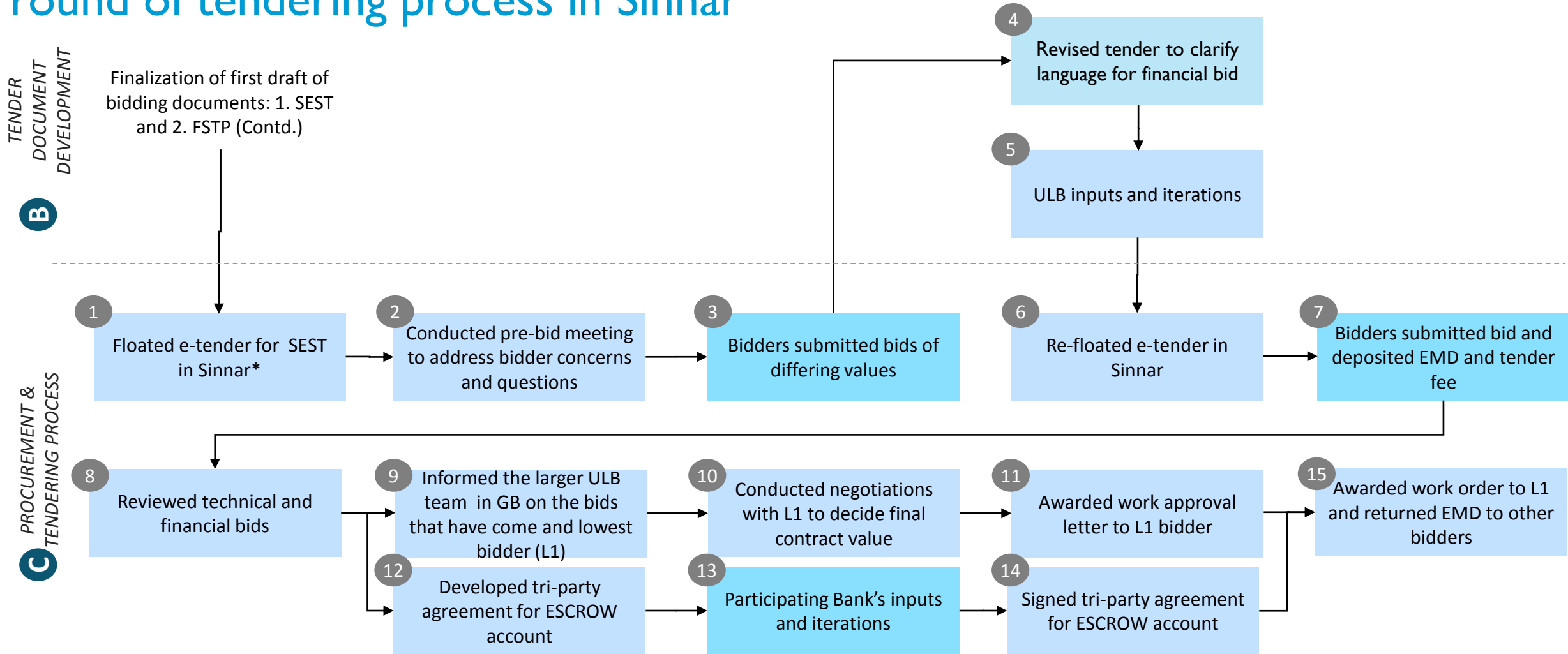
**'Scheduled Emptying of Septic Tanks (SEST)' tender**

'Fecal Sludge Treatment Plant' (FSTP) tender

Learnings and key features of the tendering process

Annexure

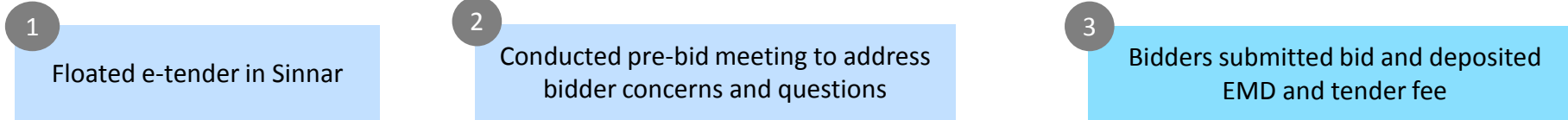
# The 'Scheduled Emptying of Septic Tanks (SEST)' tender document was finalized through an iterative approach, incorporating learnings from the first round of tendering process in Sinnar



\*Tender for SEST services was floated in Wai post the learnings from the tendering process in Sinnar, using the same process

# Discrepancy in the financial bids due to misinterpretation of financial bid requirements led to disqualification of the process by the ULB

PROCESS MAP



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DETAILED PROCESS

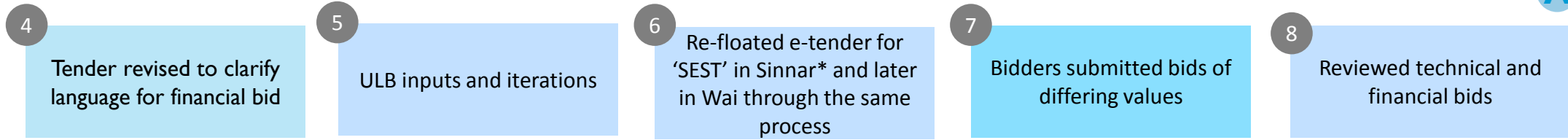
Process	Responsibility	Timelines	Key documents
ULB published the e-tender and Bill of Quantity (BOQ) on Mahatender website and published e-tender notice in newspaper	CO (ULB)		e-tender, BOQ, e-tender notice
ULB, along with CEPT as knowledge partners, conducted a pre-bid meeting with potential bidders to address concerns and questions regarding the tender	CO (ULB)	1-2 weeks from publishing date	
Bidders submitted the bid documents (hard copy and soft copy) along with Earnest Money Deposit (EMD) and tender fee	Bidder	Before bid submission date	Bid documents, EMD and tender fee
ULB opened and scrutinized technical bids on technical bid opening date. Bids that met criteria were passed for assessing financial bid	CO (ULB) , ULB officials	~1 month from publishing date	
ULB opened and scrutinized financial bids on financial bid opening date.	CO (ULB) , ULB officials	~1 week after technical bid date	
Mahatender website auto ranked the bidders based on financial bid	Automated	Immediately on opening financial bid	
CO identified discrepancy in financial bids and disqualified the process; returned EMD and tender fee to bidders	CO (ULB)		



# The tender for SEST was re-floated in Sinnar, and later in Wai, after revising the financial bid requirements

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PROCESS MAP



DETAILED PROCESS

Process	Responsibility	Timelines	Key documents
CEPT identified gaps in the financial bid of the SEST tender by studying discrepancies in the bids and, in consultation with ULB, revised the financial bid criteria	CEPT		
ULB published the e-tender and Bill of Quantity (BOQ) on Mahatender website and published e-tender notice in newspaper; along with tender, also upload BOQ	CO (ULB)		e-tender, BOQ, e-tender notice
ULB, in consultation with CEPT, published a corrigendum stating the reason for re-tendering	CO (ULB)	On the date of publishing	Corrigendum document
Bidders submitted the bid along with Earnest Money Deposit (EMD) and tender fee	Bidder	Before bid submission date	Bid documents, EMD and tender fee
ULB opened and scrutinized technical bids on technical bid opening date. Bids that met criteria were passed for assessing financial bid	CO (ULB) , ULB officials	~1 month from publishing date	
ULB opened and scrutinized financial bids on technical bid opening date.	CO (ULB) , ULB officials	~1 week after technical bid date	
Mahatender website auto ranked the bidders based on financial bid			

# Private sector concerns were addressed through a pre-bid meeting and contractor with lowest bid was awarded the work order

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PROCESS MAP

9 Informed the larger ULB team in GB on the bids that have come and lowest bidder (LI)

10 Conducted negotiations with L1 to decide final contract value

11 Awarded work approval letter to L1 bidder

15 Awarded work order to L1 and returned EMD to other bidders

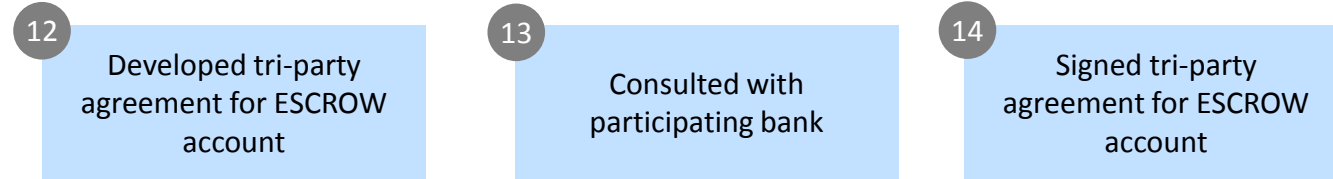
DETAILED PROCESS

Process	Responsibility	Timelines	Key documents
CO called a GBM to announce the lowest bidder and to address any concerns from the ULB executive team;	CO (ULB)		
CO sent a Letter for Negotiation to invite the LI bidder for a negotiation meeting	CO (ULB)	Immediately after GBM	Letter for Negotiation
CO and President of ULB and LI bidder met to negotiate contract value. The participants signed a letter of agreement stating the final agreed value.	CO (ULB), President (ULB), LI bidder	1-2 weeks post financial bid opening	Letter of Agreement on contract value
ULB awarded a Work Approval Letter to bidder to acknowledge the selection. The letter was prepared by ULB, and signed by CO and the bidder	CO (ULB)	3-4 weeks post financial bid opening	Work Approval Letter
CO reviewed all details of the contract and awarded Work Order to LI bidder	CO (ULB)	1 week – depends on CO's availability	Work Order
ULB uploaded the awarded work order on Mahatender website and returned the EMD to non-awarded bidders	ULB	Immediately at the time of awarding the Work Order	

# An ESCROW account, for safeguarding contractor payments, was opened based on a tri-party agreement between ULB, contractor and the participating bank



PROCESS MAP



DETAILED PROCESS

Process	Responsibility	Timelines	Key documents
ULB passed a resolution, signed by the President, in GBM to open an ESCROW account to ensure timely payments to the contractor	ULB	Immediately after awarding work order	ESCROW account resolution report
ULB created the tri-party agreement, in consultation with Axis Bank in Sinnar and Bank of Maharashtra in Wai (participating bank) between ULB, LI bidder and the bank	CEPT	Between publishing date and bid opening date	Draft tri-party agreement
CO from ULB and the LI bidder signed the tri-party escrow agreement to open ESCROW account at the time of receiving Work Approval Letter	ULB	At the time of Work Approval Letter	Signed tri-party agreement
Bank opened the ESCROW account once the agreement is signed and submitted	Bidder & Bank		

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**Process description**

Feasibility study and literature review

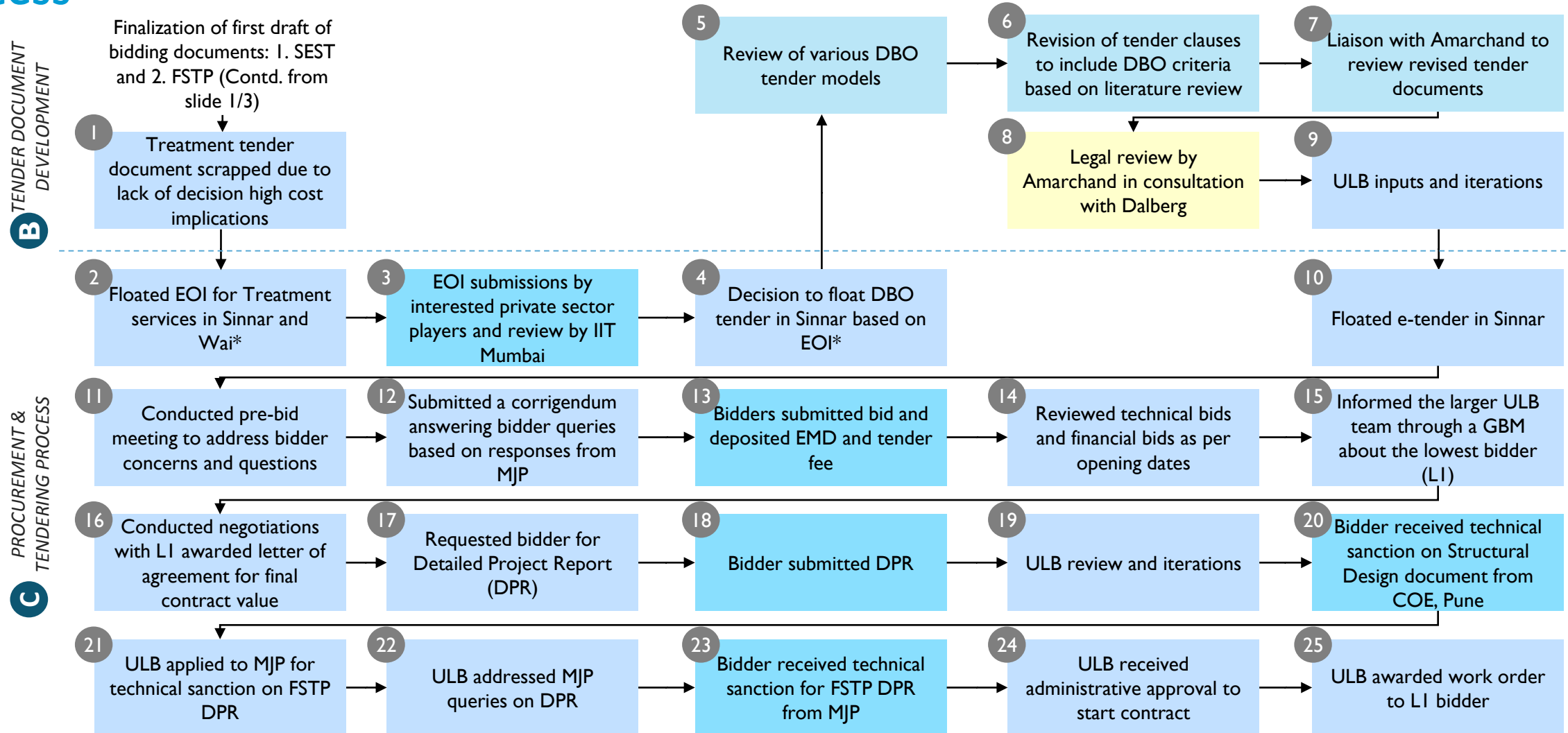
'Scheduled Emptying of Septic Tanks (SEST)' tender

**'Fecal Sludge Treatment Plant' (FSTP) tender**

Learnings and key features of the tendering process

Annexure

# The 'Fecal Sludge Treatment Plant' (FSTP) services contract for Sinnar was revised to a 'design-build-operate' model based on inputs received from the EOI process



\*Tender for 'Treatment services was cancelled in Wai due to setting up of FSTP in Wai which was funded by BMGF

# Addition of new clauses and an approval from the state authorities required a detailed legal review of the Sinnar ‘Treatment’ tender document

7

Liaison with Amarchand to review revised tender documents

8

Legal review by Amarchand in consultation with Dalberg

A B C

## DETAILED PROCESS

- Dalberg liaised with the legal firm Amarchand to conduct a detailed legal review of the treatment tender document.
  - Dalberg benchmarked the pre qualification and other criteria for bidders to similar tenders from Shillong, Vijayawada and Jaipur
  - Amarchand ensured correctness and completeness of all clauses and conditions, specifically the general conditions, from a legal lens. They clarified and formalized the document language

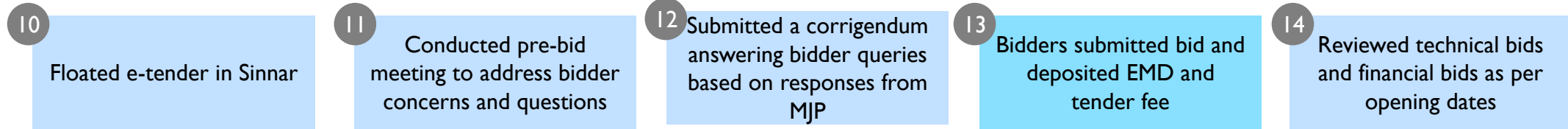
## KEY LEARNINGS

- Made key additions/ changes in the ‘Conditions of the Contract’ section, in consultation with CEPT:
  - Clearly defined the form and manner of providing security deposit
  - Added construction milestones and desired timelines for achieving them to make performance based payments
  - Added legal terms such as ‘liquidated damages’ and Force Majeure’ in the respective clauses
  - Clearly defined the billing cycle and frequency at which bills need to be raised to ensure timely payments
  - Provided legal clarity on compensation for defects
  - Added additional clauses on contractor default, representation and warranties, contractor’s obligations, governing law, dispute resolution and arbitration, indemnity, limitation of liability, miscellaneous provisions, notices
  - Added a complete list of definitions for terms used in the tender in *Section C. Special Conditions*
  - Removed irrelevant and out of scope clauses, such as clause on quarrying, to simplify the document
- Made iterations and clarifications to the main contract to improve the tendering process and ensure completeness from the legal perspective:
  - Added changes/ clarifications to pre-qualification criteria – past experience, registration requirements
  - Added legal clauses, such as clause for deducting any compensation payable from the security deposit, penalty clause for non-submission or delay in submission of invoice/ performance report
  - Made clearing the first ULB review as a pre-requisite to opening financial bids of the bidders

# The FSTP tender was floated and concerns clarified through a pre-bid meeting followed by submission of a corrigendum

A B C

PROCESS MAP



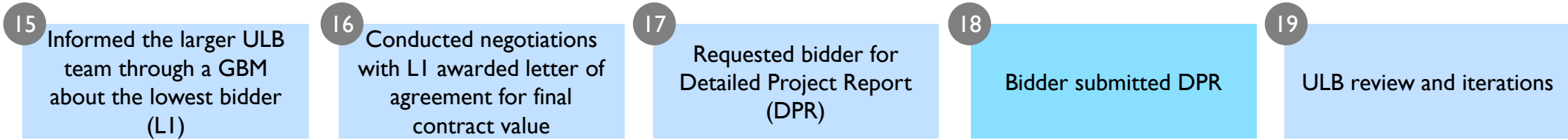
DETAILED PROCESS

Process	Responsibility	Timelines	Key documents
ULB published the e-tender and Bill of Quantity (BOQ) on Mahatender website and published e-tender notice in newspaper	CO (ULB)		e-tender, BOQ, e-tender notice
ULB, along with CEPT as knowledge partners, conducted a pre-bid meeting with potential bidders to address concerns and questions regarding the tender	CO (ULB)	2-3 weeks from publishing date	
ULB sent a letter of query to MJP based on queries received from bidders	ULB	Immediately after pre-bid meeting	Letter of Query
ULB prepared and uploaded on Mahatender a corrigendum answering bidder queries based on responses from MJP	ULB	2 weeks after pre-bid meeting	Corrigendum document
LI bidders submitted the bid documents (hard copy and soft copy) along with Earnest Money Deposit (EMD) and tender fee	LI bidder	Before technical bid opening date	Bid documents, EMD and tender fee
ULB opened and scrutinized technical bids on technical bid opening date. Bids that met criteria were passed for assessing financial bid	CO (ULB)	~2 month from publishing date	
ULB opened and scrutinized financial bids on technical bid opening date.	CO (ULB) , ULB officials	~1 week after technical bid date	
Mahatender website auto ranked the bidders based on financial bid	Automated	Immediately on opening financial bid	

# ULB and CEPT supported the bidder in developing the Detailed Project Report (DPR), a key document in the FSTP tendering process



PROCESS MAP



DETAILED PROCESS

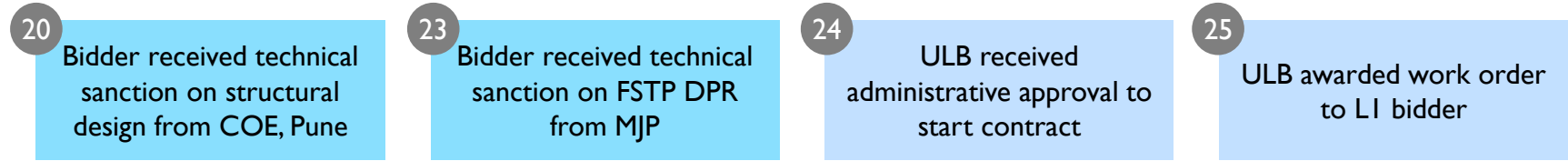
Process	Responsibility	Timelines	Key documents
CO called a GBM to announce the lowest bidder and to address any concerns from the ULB executive team;	CO (ULB)		
CO sent a Letter for Negotiation to invite the LI bidder for a negotiation meeting	CO (ULB)	Immediately after GBM	Letter for Negotiation
CO and President of ULB and LI bidder met to negotiate contract value. The participants signed a letter of agreement stating the final agreed value.	CO (ULB), President (ULB), LI bidder	1-2 weeks post financial bid opening	Letter of Agreement on contract value
ULB required LI bidder to submit a Detailed Project Report (DPR) – detailing the structural design work and the FSTP report - design, estimate, drawing, timeline – for the project in one month	CO (ULB)	At the time of negotiations	
LI bidder developed the DPR, in consultation with CEPT, and submitted as per requirement at end of one month	LI bidder	1 month after negotiations	DPR
ULB and CEPT reviewed and edited the report in consultation with LI bidder, to meet MJP requirements	ULB and CEPT	2 weeks after submission	



# The FSTP tender required technical sanctions from an educational institute and MJP and administrative approval from District Collector before awarding the work order



PROCESS MAP



DETAILED PROCESS

Process	Responsibility	Timelines	Key documents
LI bidder shared the Structural Design document with College of Engineering (COE), Pune and received technical sanction for the same	LI bidder	1 month after finalization of DPR	Technical sanction on structural design
ULB, on behalf of LI bidder, shared the FSTP DPR and the COE sanction, along with cover letter, with MJP for their technical sanction	ULB, LI bidder	Immediately after COE sanction	
ULB, in consultation with CEPT and LI bidder, addressed MJP's queries	ULB, LI bidder	3-4 weeks after submission	
LI bidder received technical sanction for FSTP DPR from MJP	LI bidder	6 months after submission	Technical sanction on FSTP DPR
ULB applied for and received administrative approval from District Collector	ULB	1 week after submission	Administrative approval
CO reviewed all details regarding the contract and awarded Work Order to LI bidder	CO (ULB)	Immediately after governmental sanction	Work Order

# Agenda

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Feasibility study and literature review

'Scheduled Emptying of Septic Tanks (SEST)' tender

'Fecal Sludge Treatment Plant' (FSTP) tender

**Learnings and key features of the tendering process**

Annexure

# Tendering process: Key notes and learnings

## KEY RESOLUTIONS

### Resolutions for SEST

- Floating of tender for SEST
- Opening of ESCROW account for payments to contractor
- Levying of sanitation tax
- Opening of ESCROW account for payments to contractor for cleaning services (to be done)
- Award of contract

### Resolutions for FSTP

- Floating of tender for FSTP
- Allocate 14th Finance Commission Grant to the FSTP project
- Purchase new land for construction of FSTP instead of the one allocated in the tender
- Opening of ESCROW account for payments to contractor for treatment operations (to be done)
- Award of contract

## RULES TO REMEMBER

- All tenders above value INR 3L require to be floated as e-tenders; all e-tenders require a e-tender notice in the local news paper
- A minimum of 3 bids is required to open technical bids as well as financial bid for an e-tender
- A bidder must pass the technical bid criteria to be eligible for financial bid assessment
- A corrigendum must be published on Mahatender incase of any changes in process or to answer any bidder queries

- Guiding/ training government bodies on the technicalities of the project, such as types of septage treatment options, can ensure quicker approvals and sanctions, leading to shorter tendering process timelines
- To further ensure timely tendering process, it must be timed such that major city activities/ events such as elections, etc. are avoided
- Clearly defined financial BOQ's would avoid any confusion and retendering process which is time consuming

# Key Features of PSP engagement – PERFORMANCE BASED CONTRACTS

<b>Definition</b>	Performance Based Contract (PBC) is a type of contract in which payments for the services are explicitly linked to the contractor successfully meeting or exceeding certain clearly defined minimum performance indicators.
<b>Manifestation</b>	In this context, a PBC was developed between the ULB and the private sector contractor for SEST and FSTP services, linking the payment to the service levels designed for septage tank emptying services and faecal sludge treatment plant construction and O&M services. The PBC also incorporated a robust monitoring framework to help track project progress, and create accountability for service delivery
<b>Advantages</b>	This incentivizes the contractors to deliver as per desired service levels, at the same time hedging them against the risk of losing the entire money at the end of the project due to a small delivery failure
<b>Replicability</b>	<p>Performance Based Contracts lead to better outcomes for both parties and for the project overall. Replicability would depend on the flexibility in budget and clarity in expected outcomes. PBCs are increasingly becoming attractive and international organizations like the Worldbank are adopting them, especially for large PPP projects in the infrastructure sector. The Indian Government is also adopting PBCs and examples have started to emerge:</p> <ul style="list-style-type: none"><li>• In 2006, the Municipal Corporation of Navi Mumbai, with assistance from USAID, converted 42 contracts in water supply and 48 contracts in wastewater were transformed into 19 performance-based service (PBS) contracts for water supply and 6 similar contracts for wastewater services. The scope of these three-year PBS contracts included system operation, new connections, water and energy audits, repair and maintenance, and advisory services to the city, leading to astonishing improvement in efficiency gains. Revenues increased by almost 45 per cent in 2 years.*</li><li>• In November 2008, Mysore City Corporation (MCC), along with Karnataka Urban Water Supply and Drainage Board (KUWS&amp;DB), administered a performance-based management contract<sup>17</sup> to address the inefficiencies in the city's 100-year old water distribution infrastructure and improve water supply services to the city's residents.**</li></ul>

\*[https://www.unescap.org/ttdw/ppp/ppp\\_primer/91\\_performancebased\\_management\\_contract\\_for\\_a\\_water\\_project.html](https://www.unescap.org/ttdw/ppp/ppp_primer/91_performancebased_management_contract_for_a_water_project.html)

\*\* [http://www.susana.org/\\_resources/documents/default/3-2284-22-1437031496.pdf](http://www.susana.org/_resources/documents/default/3-2284-22-1437031496.pdf)

# Key Features of PSP engagement – ESCROW ACCOUNTS

## Definition

An escrow account is an account in which a third party (the bank) receives and disburses money for the primary transacting parties, with the disbursement dependent on conditions agreed to by the transacting parties.

## Manifestation

The ULB, the contractor and the Bank entered into a triparty agreement to open an escrow account for payment of SEST and O&M for FSTP services. For this the ULB would make monthly payments and bank would authorize the payment to contractor on completion of the output for that month

## Advantages

- It safeguards the payments to contractors by the government, which has been a concern in the past.
- At the same time safeguards costs for the ULBs by ensuring that payment is only made once the output is delivered

## Replicability

It is a win-win situation for both parties and a defined process to follow. Therefore, with appropriate awareness and well defined outputs, this should be easily replicable at other locations.

Some examples where governments have used escrow accounts for payments:

- Government of Maharashtra floated a tender for 'Supply of Sanitary Napkins on Rate Contract basis for a period of three (3) years, to Women's Institutions of MSRLM and MAVIM, in the State of Maharashtra' where all payments for the work would be made through an escrow account\*
- Tamil Nadu Urban Development Fund (TNUDF) floated bonds in September 2000 for financing the construction of an Underground Drainage Scheme (UDS) of 120 kms and Sewage Treatment Plant (STP) of 24 MLD. Project implementation was based on a mix of a construction and build-operate-transfer contract. The bonds were credit enhanced through a bond reserve fund of Rs.3.2 million and an escrow on TNUDF's receivables in the event of default. \*\*

\*<http://umed.in/DocumentFiles/Tender%20for%20Supply%20of%20Sanitary%20Napkins%20on%20Rate%20Contract%20to%20the%20Womens%20Institutions.pdf>

\*\* <https://mdws.gov.in/sites/default/files/IndiaCountryPaper.pdf>

# Key Features of PSP engagement – RISK SHARING

- Definition** Risk sharing is a method of reducing exposure to risk for an individual stakeholder by spreading the burden of loss among multiple stakeholders involved in the engagement
- Manifestation** The contract created a detailed list of risks through the engagement process – planning, construction and operations – and allocated them between the ULB and the contractor in a fair and equal manner. Some risks and mitigation factors included:
- At will termination by mandating a notice period for both parties, and compensating them for some of their investment
  - At cause termination by clearly defining roles and responsibilities in the contract, and compensating the injured parties for their investment
  - Payment delays by the ULB by clearly identifying funds before procurement, ear-marking their use in an escrow account and including an interest clause for delayed payments.
  - Cost escalation by accounting for inflation, and allowing for periodic renegotiations
  - O&M of FSTPs by making payments contingent on treated sludge and effluent meeting requisite reuse/disposal standards
- Advantages** This ensured that neither the ULB nor the contractor were at an unfair disadvantage in case any of the risks materialized thus making the contract equally attractive for each party. In this case, such transparent allocation of risks and best practices around mitigating them, led to increased interest from the private sector despite some negative experiences in the past. Risk sharing can also ensure much smoother execution stage, even leading to cost efficiencies and higher work quality.
- Replicability** Globally, governments are moving towards better risk allocations between the public and the private sector for large PPPs, not only to attract private sector financing but also to manage government budgets better. An example would be the Spanish Concession Law on risk sharing for transport infrastructure\*. One way to allocate risks is to clearly divide them into broad categories such as demand risk, planning risks, construction, risk operations risk and allocate them based on risk appetite of each stakeholder. Private sector may be willing to take the demand risks, whereas government may have to take larger risks like legal and political. In this case, replicability of risk sharing would depend on the risk taking appetite of the ULBs at other locations. Toolkits and learnings from experiences of Wai and Sinnar could make the process easier and more replicable

\*[http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1171658979314/3056-01\\_0459-Vassallo.pdf](http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1171658979314/3056-01_0459-Vassallo.pdf)

# Key Features of PSP engagement – SANITATION TAX

<b>Definition</b>	Annual tax paid by property owners for sanitation services provided by the government.
<b>Manifestation</b>	Sanitation tax was levied on all properties in Wai and Sinnar as a part of the property tax, which served as a revenue for financing O&M activities of FSSM.
<b>Advantages</b>	This would cover the costs of septic tank cleaning through performance based contract as well as O&M of FSTP, thus making it a sustainable and attractive solution without creating too much burden on any stakeholder
<b>Replicability</b>	A 10-20% increase in tax for a regular service that brings environmental as well as personal benefits, would be acceptable by the public and hence replicable at other locations if supported with appropriate awareness creation

# Agenda

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# Service levels, metrics and monitoring mechanisms (1/2)

	Metrics	Type of monitoring mechanism				
		Self Reporting	ULB sample HH survey	ULB random treatment site inspection	Grievance Redressal	Other mechanisms
Refurbishment <sup>1</sup>	Number of septic tanks structurally damaged				✓	
Cleaning of septic tanks	Percentage of HHs cleaned as per schedule	✓	✓		✓	
	Instances where safety regulations weren't adhered to or manual scavenging took place		✓		✓	
	Number of instances of spillage during cleaning		✓		✓	
	Number of septic tanks structurally damaged				✓	
	Percentage septic tanks cleaned inadequately		✓		✓	Measurement through the measurement rod
Transportation of fecal sludge	Number of instance of spillage during transportation				✓	
	Number of instances of fecal matter being dumped at non-designated sites				✓	Monitoring through GPS
	Number of instances of contaminated waste dumping			✓		

Note: (1) - If HH refuse to pay for refurbishments, ULB should be informed. After ULB verification, if the information is true, ULB to take required actions against the HH

# Service levels, metrics and monitoring mechanisms (2/2)

	Metrics	Type of monitoring mechanism				
		Self Reporting	ULB sample HH survey	ULB random treatment site inspection	Grievance Redressal	Other mechanisms
Safe disposal of fecal sludge	Time taken to construct sludge drying beds <sup>1</sup>	✓		✓		
	Standard of constructed sludge drying beds <sup>2</sup>	✓		✓		
	Instances of safety regulations not being adhered to, at treatment site			✓		
	BOD and COD level of effluent and septage coming out of SDBs			✓		Partnership with environmental agency to measure the outputs

Note: (1,2) – As mentioned in relevant payment section, payment in tranches released only after the two conditions are met

# Payment terms for defined metrics (1/3)

## Refurbishment and cleaning

**Metric 1:** Instances where safety regulations weren't adhered to or manual scavenging took place

**Metric 2:** Number of instances of fecal matter being dumped at non-designated sites

### Monitoring process

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#### Self reporting

Private player furnishes signatures of SDB operator to show that waste was deposited at the treatment site

#### Grievance redressal

- HHs and cleaners can complain in case any instance of manual scavenging is observed while cleaning septic tanks
- HHs can complain in case collected septage is dumped at non-designated sites

#### ULB inspection

- In case there are any complaints regarding illegal dumping of waste, the Mukaddam will validate the complaint and submit report the Sanitation Inspector within 24 hours

### Payment terms

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- In case of manual scavenging or non-compliance with safety regulation is observed or verified based on HH complaints or ULB inspection, the contract will be terminated with immediate effect
- In case, instance of dumping at waste at sites apart from SDBs is observed (verified by the Sanitation Inspector through checks), a fine of INR 5,000 will be levied
- In case of more than 3 such verified instances of non-designated site dumping through the duration of the contract, the services will be terminated with immediate effect

## O&M of SDBs

**Metric 1:** Instances of safety regulations not being adhered to, at treatment site

### Monitoring process

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#### ULB random treatment site inspection

ULB undertakes random monthly inspections of treatment site to ensure that safety regulations are being followed by operator while dealing with septage

### Payment terms

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- In case of non-compliance with safety regulation is observed or verified based on ULB inspection, the contract will be terminated with immediate effect

# Payment terms for defined metrics (2/3)

**Metric 1:** Percentage of HHs cleaned as per schedule

## Monitoring process

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### Self reporting

- The private player collects HH signatures for every septic tank cleaned and informs ULB about HH who are 'unavailable' or 'unwilling'
- The private player submits a monthly report to the ULB at the end of the month to reflect number of septic tanks cleaned

### HH sample survey

- Designated ULB official inspects a random sample of 'cleaned' HHs at the end of every quarter and verifies the HH who are listed as 'unavailable' or 'unwilling'
- ULB official verifies the HH
- ULB official randomly checks the level of cleaning using a measuring rod

## Payment terms

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### End of Quarter

- The private player gets paid depending on number of septic tanks cleaned:
  - Proportional payment for percentage of HH cleaned E.g. 70% of payment if 70% of HH cleaned (Unavailable and unwilling HH not counted as a part of the target)
- The ULB compares results of the sample survey and self reporting, and in case of:
  - 1-5 instances of wrong reporting, INR 2,000 penalty will be charged per instance
  - More than 5 instance of wrong reporting, the contract will be scrapped

### End of 2 quarters

If the proportion of HH cleaned are less than 33% of the defined schedule, contract will be terminated for non-performance

# Payment terms for defined metrics (3/3)

**Metric 1:** Number of instances of spillage during cleaning

**Metric 2:** Number of septic tanks structurally damaged during refurbishment or cleaning

**Metric 3:** Percentage septic tanks cleaned inadequately

**Metric 4:** Number of instance of spillage during transportation

## Monitoring process

### Grievance redressal

- HHs report to the ULB in case of any grievance

### ULB inspection for cleaning

- The Sanitation inspector instructs the private player to address the grievance within 24 hours
- When the grievance is addressed, the private player collects a receipt from the HH
- In case of dispute, the Mukaddam inspects the grievance, and takes the final decision

## Payment terms

- For each grievance not addressed and inadequate septic tank cleaning, the private player will be charged INR 200 as penalty

**Metric 1:** Number of instances of contaminated waste dumping

**Metric 2:** BOD and COD level of effluent and septage coming out of SDBs

## Monitoring process

### ULB random treatment site inspection

ULB conducts quarterly tests of BOD and COD samples

ULB undertakes random inspections of treatment site to ensure that there are no contaminated dumping

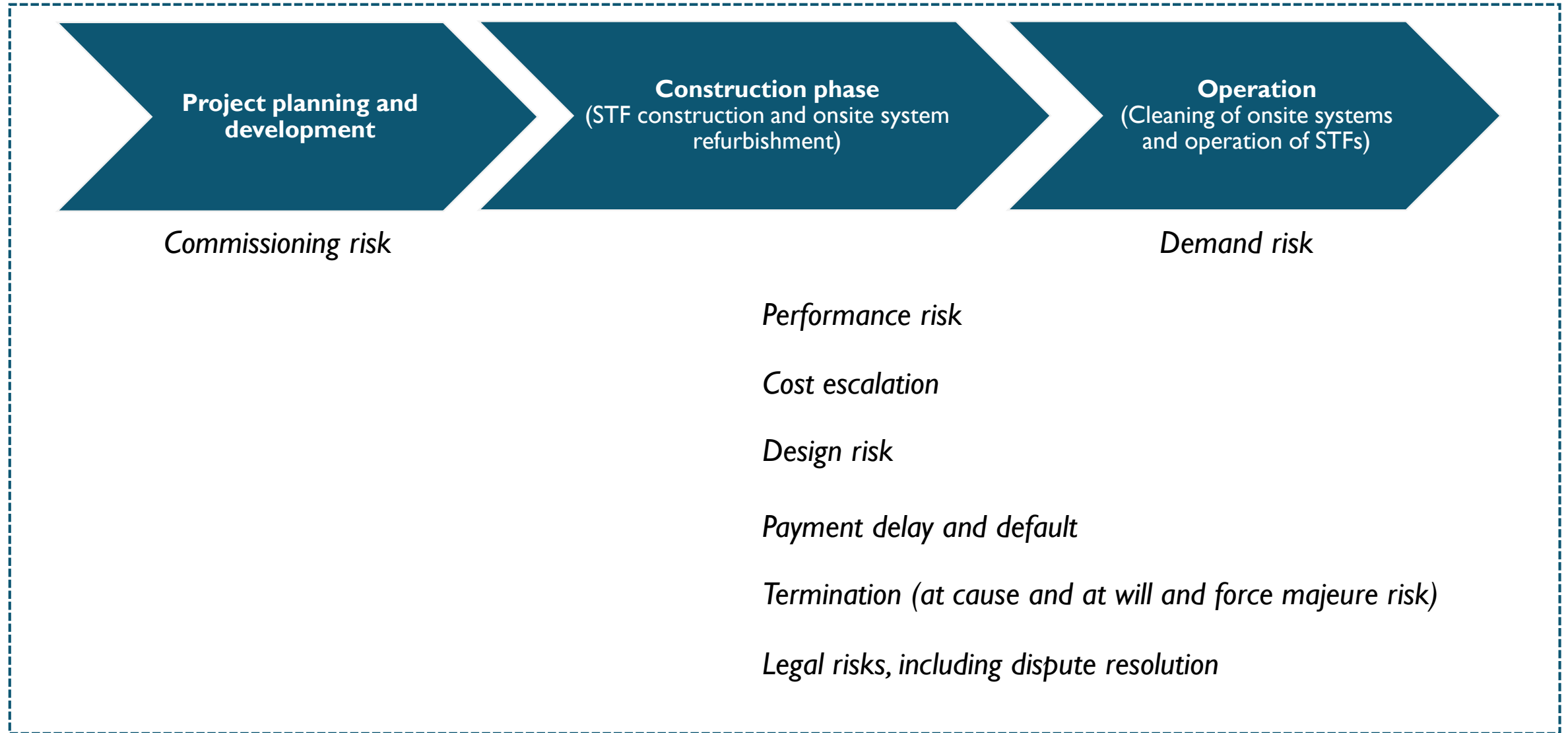
## Payment terms

- If sample of treated sludge and effluent are not consistent with adequate treatment levels, ULB, Environmental agency and the private player to undertake an inquiry to determine reasons and make required corrections. Fine of INR 5,000 to be imposed on private player, if found responsible
- For every instance of contaminated dumping, a fine of INR 500 will be levied on the private player

# Understanding risks in PSP contracts

- **Commissioning risk.** This relates to the possibility that the project may not receive all the required approvals from concerned government institutions. For example, land acquisition for STFs or business registration/ licensing may pose a commissioning risk for the project.
- **Demand risk.** This relates to the risk that the demand for the proposed services is either underestimated or overestimated at the project conceptualization stage. For example, households may not cooperate with septic tank refurbishment or the number of septic tanks itself may not be accurately estimated in the project design.
- **Performance risk.** This primarily relates to the inability of the private sector actor to meet the specified/ agreed upon service levels. For example, the player may not conduct tank cleaning activity as per the schedule or the construction of the STF may not be up to the standard.
- **Cost escalation.** The cost of inputs may increase substantially over the term of the contract, and potentially derail the project. For example, the cost of labor/ materials may increase at a rate higher than initially estimated
- **Design risk.** This relates to the possibility that the proposed technology or design does not meet the project requirements. For example, the STF may not be able to treat septage adequately or the regulated schedule may not be able to service all households (due to inaccessibility, etc.)
- **Payment delay and default.** This relates to the risk that the public sector is unable to make timely payments towards the project. For example, the payment from the state/ central government institution to the ULB may get delayed or the tax collected from households may be insufficient to meet the ULB's costs.
- **Termination (at cause and at will and force majeure).** This risk explores the possibility that either party (ULB or the private sector actor) may terminate the project at will, or that an unanticipated natural disaster/ accident halts the project.
- **Legal risks, including dispute resolution.** This risk relates to the possibility that the project runs into legal issues due to disputes between the ULB and the private sector player

# Distribution of risks along the PSP process



# Thank you

## About us

The Center for Water and Sanitation (C-WAS) at CEPT University carries out various activities – action research, training, advocacy to enable state and local governments to improve delivery of services.



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