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PROCUREMENT TOOLKIT
SWACHH BHARAT MISSION (URBAN)

Version 1.1

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Abbreviations

BOT	Build Operate Transfer
BOOT	Build Own Operate Transfer
CPHEEO	Central Public Health and Environmental Engineering Organization
C&T	Collection & Transportation
CPCB	Central Pollution Control Board
CPPP	Central Public Procurement Portal
DEA	Department of Economic Affairs (India)
DTDC	Door-to-door-collection
DPR	Detailed Project Report
EOI	Expression of Interest
GeM	Government eMarketplace
GOI	Government of India
IEC	Information, Education, Communication
LOI	Letter of Intent
MLD	Million Liters per day
MOF	Ministry of Finance
MOHUA	Ministry of Housing & Urban Affairs
MOEF	Ministry of Environment & Forests (India)
MNES	Ministry of Non-Conventional Energy Sources (India)
MOA	Ministry of Agriculture (India)
MSWM	Municipal Solid Waste Management
MRTS	Mechanized Refuse Transfer Station
MT	Metric Tones
NGO	Non-Government Organization
OSS	On-site Sanitation System
O&M	Operations & Maintenance
PPP	Public Private Partnership
PIM	Project Information Memorandum
PVC	Price Variation Clause

1. Introduction

Public procurement[1] accounts for a significant level of public spend all over the world. It constitutes about 15% or more of the gross domestic product (GDP) across the countries. In 2013, the estimated public procurement was 29% in the OECD countries[2] while it was around 20-30 percent[3] of the GDP in India. Looking at the expenditure pattern, the government expenditure in India has grown from INR 11,973 billion to INR 16,637 billion in the last five years[4]. A few Union ministries, namely, Defence, Railways, and Telecom allocate approximately 50% of their respective budget for public procurement. Considering such a large-scale public expenditure on procurement, streamlining the procurement process in the country has become imperative. India does not have a comprehensive procurement legislation, and the procurement regime in the country appears to be fragmented and inconsistent in terms of rules, regulations, and procedures[5].

Box 1.1 Public Procurement

Public procurement involves purchasing of goods or services by different entities such as ministries and departments of the government for public service delivery, and it encompasses activities ranging from assessment of procurement needs to awards of contract and final payment.

1.1. PUBLIC PROCUREMENT IN INDIA

Public procurement process in India is quite complex given the federal framework for public service delivery. The constitutional arrangements across the Union and State governments, autonomous and statutory bodies, public sector undertakings (PSUs), and the local governments (panchayats and municipalities) demand a broad range of requirements for providing public services. The system in India has become more complex as the country does not have a comprehensive public procurement law guiding the procurement activities. In the absence of a comprehensive law, General Financial Rules (GFRs) allow the government entities to conduct procurement activities independently. While the basic principles of public procurement are respected, the system has resulted in diversity in the procurement system in the country. These lead to complexities due to multiple interpretations of rules and regulations at the discretion of the procuring entities.

In general, the administrative guidelines of the public procurement activities are outlined by the GFRs. The GFR is a compilation of general rules and orders to be followed by the government entities dealing with the matters involving public financial management. It aims at facilitating efficiency in government functioning in accordance with the accountability and procedure of financial discipline. It was first enacted in 1947 which subsequently has been revised and issued as GFR 1963, GFR 2005, and GFR 2017.

The government of India has emphasized information technology (e-procurement) as a tool for enhancing transparency, efficiency, and accountability in the public procurement. GFR 2017 has mandated the use of CPPP (Central Public Procurement Portal) and GeM (Government e-Marketplace) by the procuring entities. CPPP provides an e-platform to the procuring entities to publish and accept the tender and tender related documents, free access to bid documents, bid submission, communications for clarifications, and access to bid opening. Number of tenders floated in the CPPP during 2012-2017 has grown 4.5 times while the value of tenders has grown 6.5 times to INR 5,500 billion.

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1 Lewis-Faupel et al., 2014; CUTS International, 2014; OECD, 2016
2 OECD, 2016
3 UNODC, 2013
4 Ministry of Finance, 2017
5 CUTS International, 2014; Tabish & Jha, 2011

GeM was developed in August 2016 as an end-to-end e-portal for common use goods and services. A full-fledged GeM has been approved in April 2017 as a replacement to the DGS&D (Directorate General of Supplies & Disposals, GoI). Item-wise list of goods and services is published periodically on GeM and accordingly, the prospective suppliers register themselves on the portal.

1.2. PROCUREMENT IN SBM (URBAN) – TOOLKIT OBJECTIVE AND INTENDED USERS

The Swachh Bharat Mission (SBM) - Urban was launched on 2nd October, 2014 with the main aim of eliminating open defecation, manual scavenging, and creating awareness regarding sanitation amongst citizens. The major components of the mission are providing individual household toilets, community toilets, public toilets, solid waste management, IEC and public awareness and capacity building and administrative & office expenses.

Waste Management and provision of other Sanitation Services form an essential and obligatory function of Urban Local Bodies (ULBs). However, maintaining service levels in Sanitation and Municipal Solid Waste Management (MSWM) continue to pose a number of challenges. Experience points to several reasons for challenges experienced in these areas, several for which are linked to sub-optimal procurement process.

This Toolkit aims to facilitate a better understanding of procurement methodologies and processes in the context of the issues and challenges faced in the Sanitation and MSWM sector and to provide a step-by-step approach for identifying, evaluating and developing projects in these sectors. Compilation of select case studies has been undertaken as part of the process of developing this toolkit.

The Toolkit is organized in five chapters:

- **Key Principles and Considerations:** This chapter aims to establish key principles and considerations for the Procuring Party (in most cases the Urban Local Bodies) to take into account while undertaking the procurement process.

- **Project Development Process:** This chapter provides a structured approach for project identification, conducting project and financial feasibility, and choosing from a variety of Public Private Partnership (PPP) options and structures for activities across the value chain depending on the context.

- **Procurement:** This chapter focuses on the details of procurement to select the qualified and capable private partner/s for services/goods/infrastructure and to conclude contracting with that partner: procurement approaches, the process and contract management and monitoring. A separate section focused on procurement through GeM is also included for easy reference.

- **Risk Management:** Since management of risks holds the key to project success or failure. This chapter focuses on the risks identification, evaluation, mitigation and allocation aspects of risk management of a project.

- **Engagement Modes and Case Studies:** This chapter presents engagement modes and 23 case studies of select projects in Sanitation and MSWM sector in India and covers the engagement modes, obligations, risk sharing among private partner and government agency, important contractual features and key lessons for replication.

This Toolkit has been prepared from the perspective of an Urban Local Body and is intended as a high-level guide for practitioners and project developers in Sanitation and MSWM at the ULB level. The toolkit provides an overarching approach to procurement and complements this with a set of useful resources, it recognizes the need to fine-tune these to a specific project context. However, users must exercise

their own judgement and due-diligence whilst applying principles from this toolkit, and it is not intended as prescriptive, rather as a referral toolkit.

It shall be the sole responsibility of the user to determine whether rules and laws cited in this toolkit are up to date, and apply extant norms, guidelines, rules and laws at such time as the procurement is planned.

2. Key Principles and Considerations

The following are the key principles which Procurement Agencies (Urban Local Bodies in most cases) must consider and actively incorporate during the process of procurement:

1) Maintain focus on outcomes (Service Provisioning with benchmarks) rather than process or inputs
   a. In most cases of procurement in Sanitation/Waste Management, procurement agencies tend to focus more on the process of procurement and/or infrastructure provisioning, especially when finalizing the terms of reference/scope of work and/or payment milestones.
   b. Procurement agencies must not lose sight of the end-objective, i.e. service provisioning with performance benchmarks, and therefore ideally, the choice of technology and/or exact infrastructure dimensions could be left open as far as feasible; when drafting the terms of reference.
   c. Furthermore, at least a part of the overall payment should be linked to performance outcomes and service level benchmarks
   d. In some cases, procurement agencies may also consider procuring only for outcomes and the responsibility of the underlying infrastructure provisioning may also be left to the private players.

2) Risk sharing
   a. More often than not, a significant portion of the project and/or financing risk is put on the private player, even if the responsibility/control of the risk or its mitigating action is not in its control.
   b. Procurement agencies need to make a judicious assignment of risks and could explore taking out risks such as land acquisition, input supplies, timely payments, statutory permissions etc. out of the purview of private player (depending on context).

3) Alignment of payment milestones to project financials
   a. The extant practice of back-loading payment milestones as much as possible, with the assumption that the initial investment must come from the private sector player, leads to an unnecessary increased cost of capital and risk.
   b. To the extent feasible, payment milestones should be aligned to financial outflows for the project, which would not only reduce the cost of capital, but also substantially bring down the risk on the private sector player, as it gives more comfort to the financing agencies.

4) Allow for flexibility in contracts
   a. In a substantial number of cases, external factors change from that during procurement/contracting phase, to during implementation phase. This is one of the major factors of projects either failing or stalling. Procurement agencies need to permit for sufficient flexibility in the contract, which not only permits for effective contract management to ensure project success, but also allows for exits, if required, for the private sector players.

3. Project Development Process

In order to improve sanitation and waste management service delivery performance in a sustainable manner through private sector participation, a structured and systematic approach and rigorous preparatory efforts are central. This chapter introduces a step-by-step project development process that ULBs could adopt towards developing Sanitation and MSWM projects. Exhibit 3.1 summarizes the five steps involved in developing a project:

Exhibit 3.1 Project Development Process - Steps Involved

Project Development Process

	Input	Steps	Output	Outcome
Needs Assessment	• Situation Data • Service level benchmarks • Rules & Regulations	• Situational Analysis • Identification of issue and gaps	• Key output parameters and performance indicators • Options/Solutions	• Needs Confirmation • Options/Solutions Identification
Feasibility Evaluation	• Sources and estimates of income • Estimated capital investments	• Financial Feasibility Analysis • Gap funding availability	• Financial Feasibility Report • Funding Requirements	• Financial Feasibility • Requirements to make project financially viable
Project Scoping & Structuring	• Needs Assessment Report • Feasibility Report	• Risks Identification and allocation • Structuring of Obligations	• Project objectives and scope • Project Structure • Revenue Model & Payment	• Project scope, structure, obligations and risks defined
Preparation of Detailed Project Report	• Needs Assessment • Feasibility • Project Scope & Structure	• Scenario Assessment • Cost estimation • Implementation Plan	• Detailed Project Report	• Detailed Project Report capturing technical and financial details
Procurement	• Detailed Project Report • Industry consultation • Stakeholder consultation	• Bid Process Management • Issue of Award • Contract Signing	• Bid Documents • Pre-bid clarifications • Contract	• Selection of successful implementation partner

As outlined above, the complete process of implementing a project involves 5 (five) steps of project development namely; (i) Needs Assessment, (ii) Feasibility evaluation, (iii) Scoping and structuring (iv) Preparation of Detailed Project Report and (v) Procurement to identify a preferred private service operator for the proposed project. The following paragraphs discuss the project development process in brief:

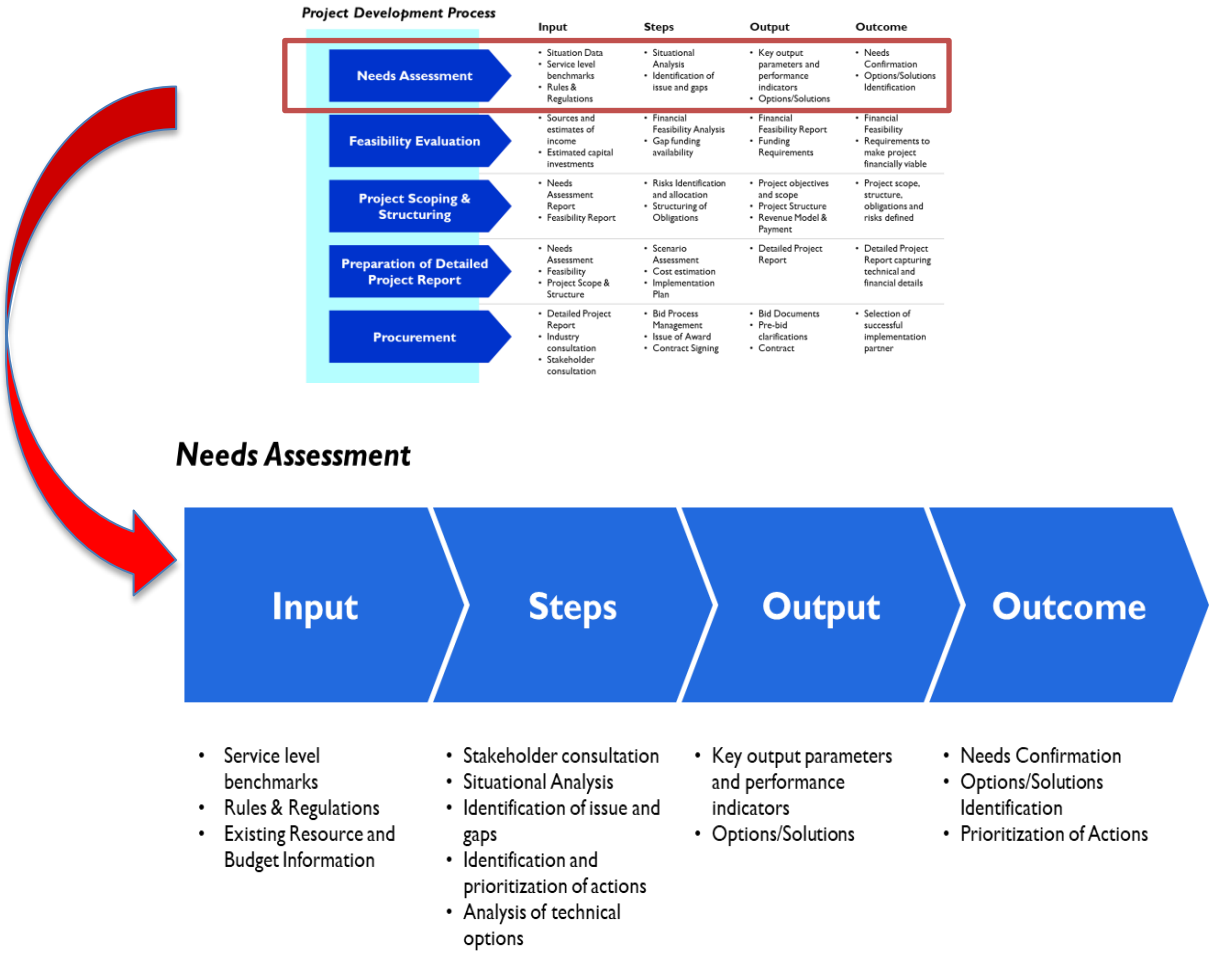
3.1. NEEDS ASSESSMENT

Exhibit 3.2 summarizes the activities involved under Needs Assessment. The starting point for a project development in case of Sanitation/MSWM project is to conduct a situational analysis covering an assessment on the inventorization; for example: quantum of waste generated & quality of MSW (waste composition, physical & chemical characteristics), followed by a detailed assessment of the existing system across the sanitation/municipal solid waste value chain (collection, transportation, sweeping, segregation, processing, and disposal) in the project area.

The situational analysis needs to be supplemented with a detailed assessment of the non-technical needs including IEC (information, education, communication) interventions to create public awareness, existing manpower and transition arrangements, aesthetic & environmental aspects and compliance requirements with respect to existing applicable rules & regulations, safety & environmental laws etc.

Further it is imperative for a successful Sanitation/MSWM project that the urban local bodies /or municipal authorities shall at the initial stages of project preparation and project structuring consult with all key stakeholders such as public /or project users, community groups and associated NGOs, private operators, financial institutions, political representatives, and other government organizations etc. Such public and stakeholder consultations shall bring out the concerns, apprehensions and acceptance of various stakeholders on the project and the ULB /or municipal authority should endeavor to build into the project preparation process the result of such consultations so that the project structure or performance parameters could be modified to address their concerns and interest.

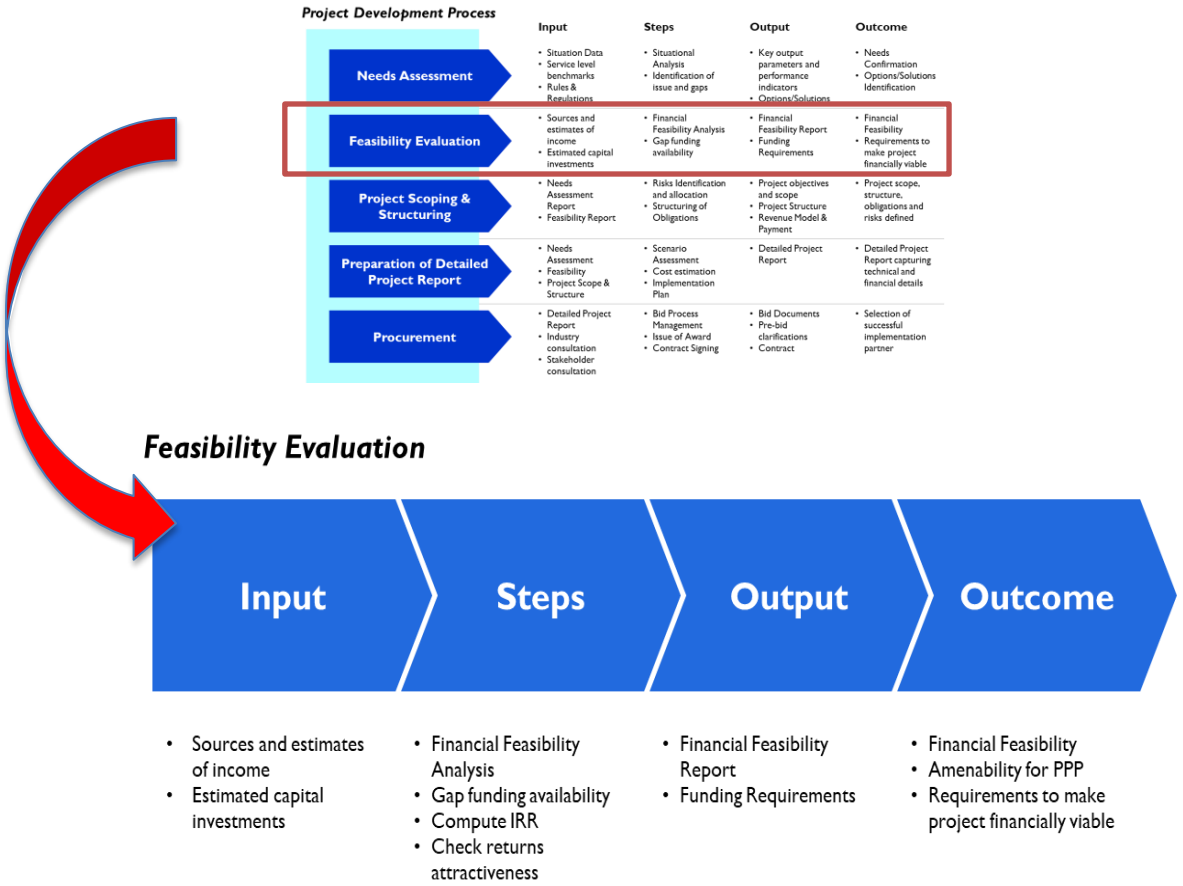
Exhibit 3.2 Needs Assessment - key activities



3.2. FEASIBILITY EVALUATION

Exhibit 3.3 summarizes the activities involved in financial feasibility evaluation. The next phase after initial assessment & need analysis is to establish the financial viability for the identified project, which determines if the identified project offers attractive returns on the investment. This is imperative to establish as the outcomes of the assessment would assist in determining, if any viability gap funding (VGF) either in terms of capital grants/subsidy and/or additional revenue grant/subsidy is required to make the project viable, or the project is viable of its own with the probable revenues stream associated with the project.

Exhibit 3.3 Feasibility Evaluation - key activities



3.3. PROJECT SCOPING AND STRUCTURING

Exhibit 3.4 summarizes the activities in scoping and structuring. The financial viability analysis would be followed by a qualitative assessment of the rationale and pre-requisites for implementing the proposed project. Depending on the prevailing conditions, an ULB may choose to implement part of the project envisaged through public funding. It is therefore critical to scope out the parts of the Sanitation/MSWM value chain that is appropriate for implementation through a Public Private Partnership.

For instance, if a ULB has a relatively good collection and transfer system in place which meets the outcome requirements, but does not have capabilities and systems for treatment, waste recovery and safe disposal, it may choose to implement only the Waste recovery and disposal parts of the value chain through private sector participation. Scoping the components to be executed through private sector participation thus requires analyzing a range of qualitative parameters apart from financial feasibility alone, including the need for technology know-how and operating experience, approach towards managing existing workforce, nature of gaps in the existing system etc. Most importantly, it is critical that public private partnership helps the ULB achieve the outcome and service delivery performance parameters.

Upon establishing the financial viability of the identified project along with the need/scope of services envisaged, the next logical step is to determine an appropriate project structure for implementation and monitoring of the project. This involves identification and allocation of key obligations and risks (including

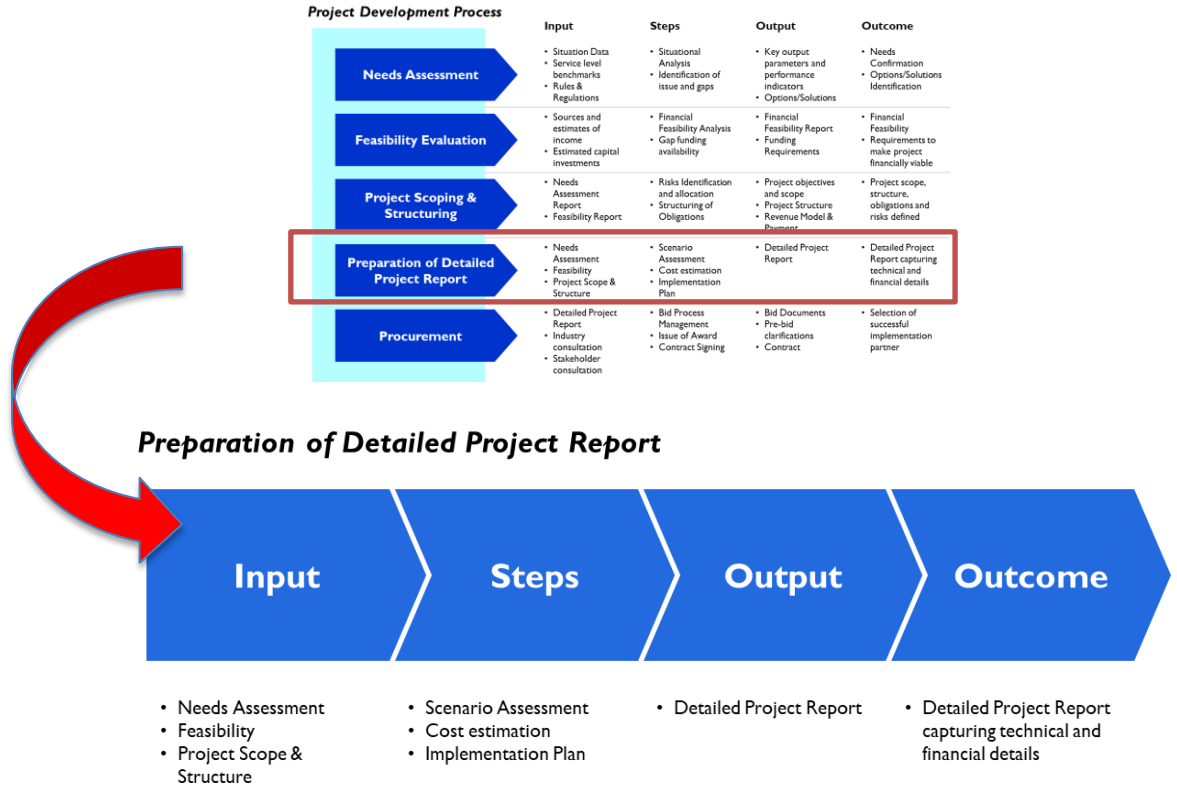
design/construction risk, operation risk, revenue/demand risk, environmental/regulatory risk, force majeure risk) between the private operator and the ULB, based on the party that is best equipped to deal with each of these specific risks. Appropriate project structuring should also ensure that the service obligations and output requirements expected from the project are adequately defined without ambiguity along with the measures to deal with non-compliance or default vis-à-vis adhering to these obligations.

Exhibit 3.4 Project scoping and structuring - key activities

3.4. PREPARATION OF DETAILED PROJECT REPORT

Exhibit 3.5 summarizes the activities involved in development of Detailed Project Report. DPR is a comprehensive project document containing inputs from steps: Needs Assessment, Feasibility Evaluation and Project Scoping & Structuring steps. A DPR document contains studies covering aspects such as: existing scenario assessment, technical plan, cost estimates, implementation plan and structuring of the project. The document also provides 'fit for implementation' technical plans/drawing, implementation schedule and environment management plan.

Exhibit 3.5 Preparation of Detailed Project Report - key activities



ULB can either prepare the DPR in-house or appoint external consultant (list of empaneled institutes/agencies and benchmark rates is enclosed in Annexure II – Empanelment List) to prepare project DPR. For example, a DPR for an integrated waste management project will typically contain the following sections:

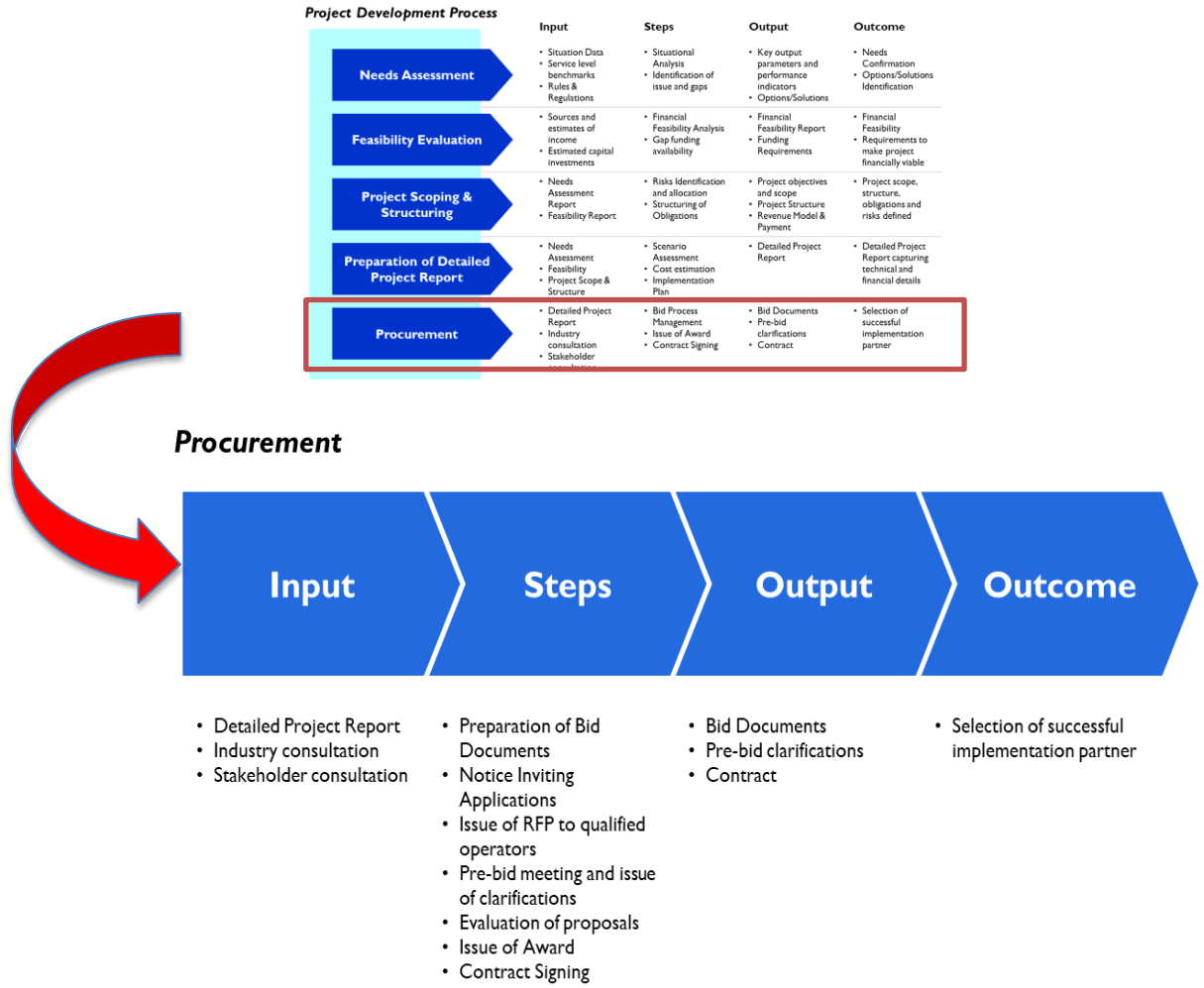
1 Project Objectives
2 Project Area Profile
3 Existing Scenario Assessment
4 Collection & Transportation Plan
5 Identification of MSW Processing Technologies
6 Project Site Details
7 Planning and Design of Waste Treatment Plant
8 Planning and Design of Sanitary Landfill
9 Information Education and Communication
10 Capacity Building
11 Environment Management Plan
12 Project Costing
13 Project Scoping, Structuring and Financing Details

Sample DPRs for Rajkot, Pondicherry and Visakhapatnam cities can be accessed on http://www.swachhbharaturban.in:8080/SBMULB/ulbadmin/documentManagement?type=SampleRFPs

3.5. PROCUREMENT

Exhibit 3.6 summarizes the activities involved in Procurement. An efficient, transparent and well contested Procurement process leading to selection of a capable and competitive private operator is critical to ensure efficient and competitive price discovery and effective project implementation.

Exhibit 3.6 Project Procurement - key activities



The Procurement process involves shortlisting of capable private operators through a combination of appropriate technical and financial criteria and conducting a bid on the basis of standard bidding documents. A two-stage bidding process namely a) Shortlisting based on Applications received on the basis of a Request for Qualification (RFQ) which is done typically on the basis of a combination of Technical and Financial Criteria b) Selection based on responses to a Request for Proposal (RFP) issued to shortlisted bidders. In some cases, ULBs may choose to adopt a single stage process covering shortlisting and selection through a composite RFP. In general the choice of procurement method depends on the ULB budget & capacity, expected level of competition, end objectives of the private sector participation etc.

Chapter 4 in this toolkit provides an overview of the procurement process with details on the procurement documentation, process flow and management. Based on the learning from the case studies

developed for select projects in Sanitation/MSWM sector, this toolkit provides references to detailed RFPs for different types of projects:

Sanitation:

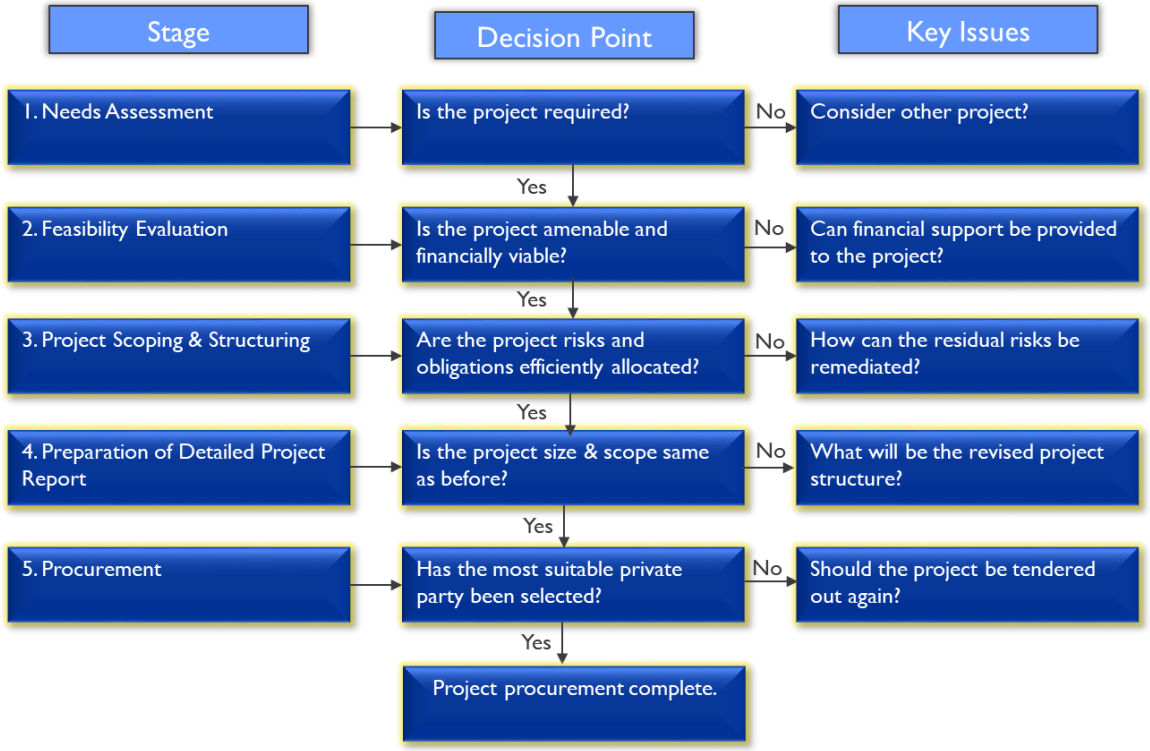
1. Toilets Construction, Operations & Maintenance
2. Toilets Operations & Maintenance
3. FSSM Processing and disposal
4. Integrated FSSM system (complete value chain)
5. Septage Treatment Facility

MSWM:

1. MSW Collection and Transportation
2. Waste Processing and disposal
3. Waste to Energy
4. Landfill remediation
5. Integrated MSWM system (complete value chain)

Overall, exhibit 3.7 summarizes the stages, flow and key issues addressed during project development process:

Exhibit 3.7 Project Procurement - key activities



4. Procurement

4.1. APPROACHES TO PROCUREMENT

The Procurement process is critical to translate the intent of an ULB to implement a project towards selecting an appropriate Private Operator that will partner the ULB to execute and manage the proposed project. Therefore during the procurement process, the project decisively moves closer towards implementation. Exhibit 4.1 summarizes the key procurement approaches that are discussed in detail in the subsequent sections.

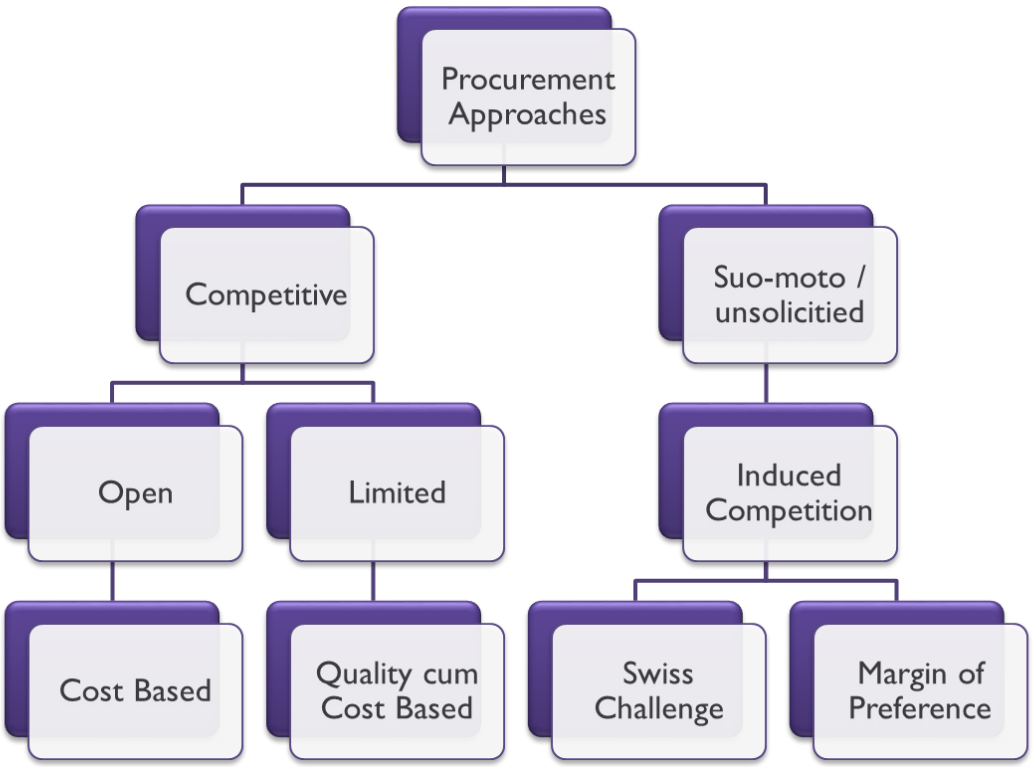


Exhibit 4.1 Procurement Approaches

4.1.1. UNSOLICITED PROPOSALS VS. COMPETITIVE BIDDING

When confronted with an Unsolicited Proposal, the ULB has three options namely, a) Direct negotiations to the offer, b) Purchase the project concept then competitively tender among a range of bidders and c) Offer original proponent a predefined advantage in recognition of the value of the original proposal and open-up bidding (through a Swiss Challenge process or Margin of Preference).

Entering into a sole-source process can save ULB or state agency time and money and may alert government to an unrealized opportunity for private sector participation. However, sole sourcing lacks transparency and may result in loss of cost benefits to ULB or state agency which might have happened in competitive bidding. ULB or state agency has to be confident of its negotiation skills and its information to ensure that a sole-source deal is advantageous. However, procurement legislation typically do not allow award of sole source bids on the basis of direct negotiations. Even when there is no explicit bar on sole source procurement, there is also an elevated risk of fairness of the award being challenged at a later stage; hence direct negotiation is generally not preferred.

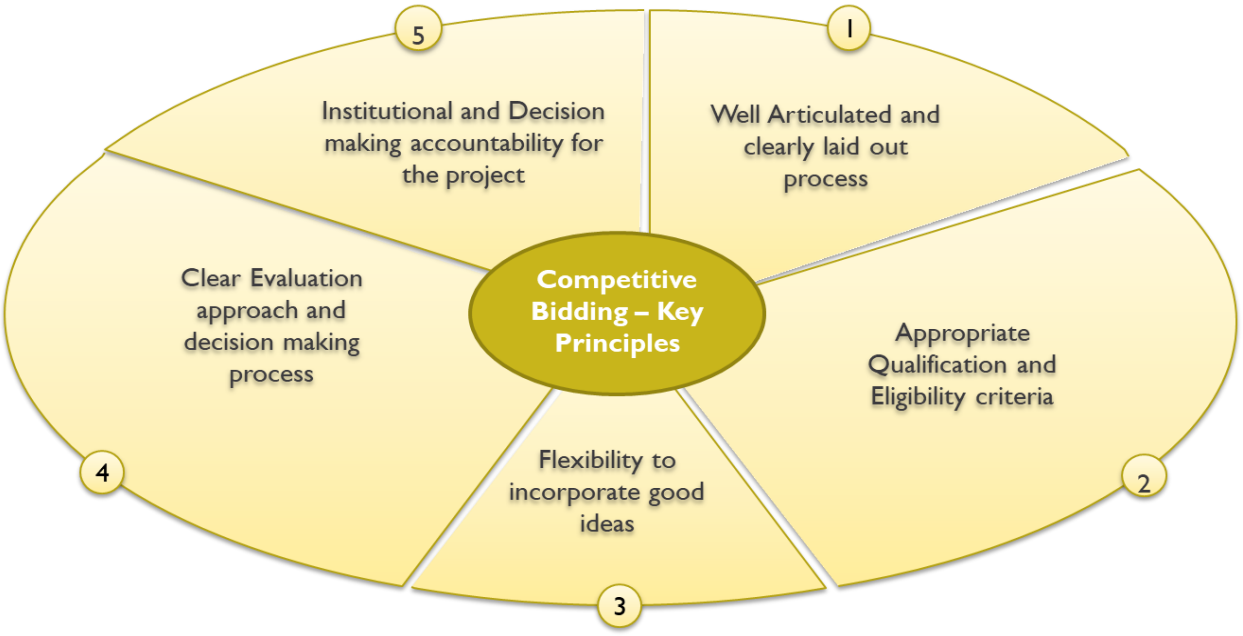
Some states in India recognize the use of Swiss Challenge approach to deal with unsolicited proposals, where a competitive bid process is conducted with the right to match the lowest offer (provided the offer is within a range) to the preferred bidder who poses the 'challenge'. Margin of preference is also a procurement strategy used in response to unsolicited proposals. Under this approach a competitive bid process is conducted where original project proponent is given a theoretical benefit during the bid evaluation, compensating proponent for the effort it has put in for developing the project. This strategy has been prevalent in South Korea and Chile. However, both these approaches tend to be considered unequal and often do not lead to adequate competition or efficient price discovery.

A Competitive Bidding approach is therefore generally the most preferable and suitable approach to identify a private operator for implementing a public service project. Mostly ULB or state agency prefers this route of procurement because of greater transparency inherent in the process. In addition, most national and international lending institutions and assistance organizations require the use of competitive bidding procedures as a condition of any associated loan or technical assistance. Competition not only provides transparency in the process but also provide a mechanism for selecting the best-value proposal (market determined value) based on criteria set. However, it is important to recognize that the benefits of competition are realized only if there is sufficient interest to generate multiple bidders. Competitive Bidding therefore requires a significantly higher level of preparation on the part of the ULB and procedure is relatively complex and prolonged. The systemic cost of this procedure may be high enough to be unviable for smaller value procurements.

Box 4.1 Competitive Bidding – key principles

The primary focus during the course of the Procurement process is to ensure **transparency, integrity and contestability**. The ULB should ensure that the procurement process attracts the maximum qualified bidders' participation and achieve efficient price discovery further leading to effective project implementation. Projects with private sector participation are subject to a high level of public and government scrutiny in general, especially during the bidding process. The ULB should therefore ensure a high level of transparency during the Procurement stage and facilitate transparent and equitable sharing of information with all.

Exhibit 4.2 Competitive Bidding - key principles



OTE (Open Tender Enquiry) procedures through e-Procurement or through traditional tendering should be adopted in the following situations:

I. Procurements exceeding the threshold of Rs. 25 lakh (Rupees Twenty Five lakh);
II. All common use requirements with clear technical specifications;
III. For requirements that are ordinarily available in the open market but it is necessary to evaluate competitive offers to decide the most suitable and economical option available; and
IV. When requirements are not available from known sources or sources are presently limited and need to be broad based. In such situations, even for procurements below Rs. 25 (Rupees twenty-five) lakh, OTE mode may be used, if warranted. (Rule 161 of GFR 2017)

GTE (Global Tender Enquiry) is aimed at inviting the participation of inter-alia foreign firms and is comparatively more complex as compared to OTE. It may be viable only in following situations:

I. Where Goods of required specifications/quality are not available within the country and alternatives available in the country are not suitable for the purpose;
II. Non-existence of a local branch of the global principal of the manufacturer/vendors/contractors;
III. Requirement for compliance to specific international standards in technical specifications; and
IV. Absence of a sufficient number of competent domestic bidders likely to comply with the required technical specifications, and in case of suspected cartel formation among indigenous bidders. (Rule 161 of GFR 2017)

4.2. SINGLE STAGE VS. TWO STAGE BIDDING

Essentially, the Procurement process should enable the ULB to a) shortlist reputed and experienced bidders with Technical Experience and Financial Strength to execute the project, b) Receive and evaluate Technical and Financial Proposals from among these shortlisted bidders to select the Preferred Bidder and c) Enter into a Contract agreement with the Preferred Bidder (or the SPV set-up by the Preferred Bidder)[6]. Depending the level of clarity of the project structure, the visibility of the universe of bidders and timeframe/cost considerations, an ULB may choose to go for a Single stage or a Two Stage Bidding process.

In the single-stage process, technical and financial bids are submitted simultaneously in response to a request for proposals. For instance, competitive bidding for basic operation, maintenance, and service contracts can be relatively straightforward as the scope of services is really defined and often quantifiable.

The criteria for technical and financial capability of bidders and the bidding parameters for financial proposal are to be clearly mentioned in the bidding documents. Financial proposals of only those bidders are opened who possess technical and financial capability as per the Bid Document and whose' Technical Proposals cross the cut-off scores required.

Exhibit 4.3 highlights stage-wise bidding processes and respective key features.

[6] Service Contracts and other short duration contracts normally do not require setting up of a Special Purpose Vehicle for the project. However, larger duration projects and Concession contracts typically require the Operator to set up an SPV. In such cases, the Contract Agreement is signed between the SPV and the ULB.

Exhibit 4.3 Stage-wise Bidding Processes

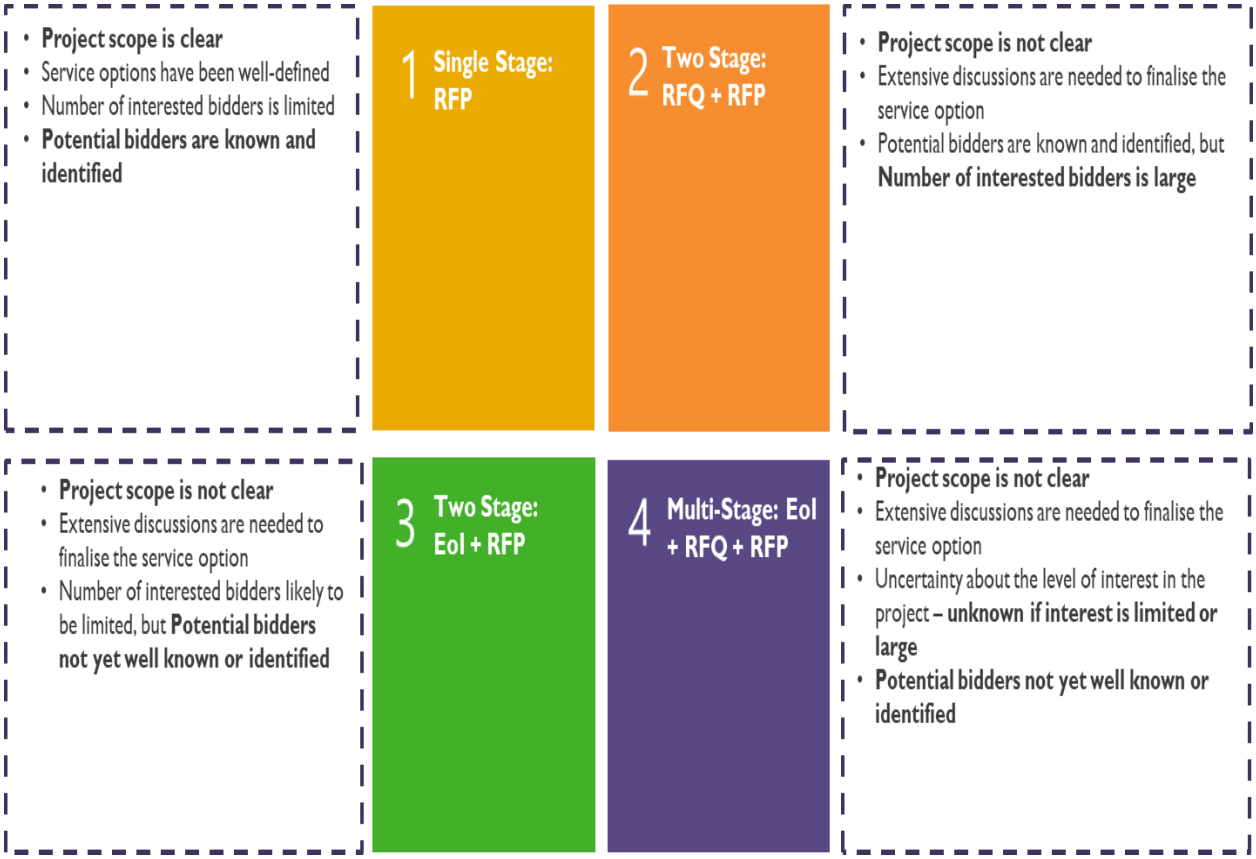


Exhibit 4.4 captures the key steps in a Single stage bidding process.

Exhibit 4.4 Indicative Steps and timelines – Single Stage Bidding

S No	Event Description	Estimated Date
1	Publication of RFP document	Zero date
2	Submission of query by the perspective bidders	+ 15 days
3	Pre-bid meeting	+ 20 days
4	Authority response to queries	+ 30 days
5	Bid Submission Due Date	+ 60 days
6	Opening of Technical Proposal	+ 60 days
7	Technical Evaluation & Report	+ 75 days
8	Acceptance of Technical Evaluation Report by the Tender Committee	+ 80 days
9	Financial Bid Opening	+ 90 days
10	Financial Bid Evaluation & Report	+ 95 days
11	Acceptance of Financial Evaluation Report by the Tender	+ 110 days
12	Issuance of Letter of Intent	+120 days
13	Signing of the Contract	+ 150 days

(+ X day's means time duration from the zero date i.e. the publication date of RFP)

4.2.1. TWO STAGE BIDDING

In the first stage, only the qualification applications are invited against threshold technical and financial criteria specified in the Request for Qualification (RFQ) document. The two stage bidding process is generally followed for more complex projects like BOT, concessions, and joint ventures and since the project is of a relatively complex nature and is of high value, a pre-bid meeting is conducted to clarify the queries of the prospective bidders and to ascertain the interest of the private partners. Based on the Technical and Financial capability, the firms are short-listed. In the second stage, shortlisted firms are required to submit Proposals in response to a Request for Proposal (RFP) document. The Proposals are then evaluated as per the conditions of the RFP.

Exhibit 4.5 Timelines - Two stage bidding

S No	Event Description	Estimated Date
Stage-1: Pre-Qualification Stage		
1	Publication of RFQ document	Zero date
2	Submission of query by the perspective applicants	+ 15 days
3	Pre-Application meeting	+ 20 days
4	Authority response to queries	+ 30 days
5	Application Submission Due Date	+ 60 days
6	Opening of Technical Bids	+ 60 days
7	Technical capability Evaluation & Report	+ 75 days
8	Acceptance of Technical Evaluation Report by the Tender Committee	+ 80 days
Stage-2: Bid Stage		
1	Sale of Bid/RFP document to short-listed applicants	+ 90 days
2	Submission of query by the perspective applicants	+ 105 days
3	Pre-Bid meeting	+ 110 days
4	Authority response to queries	+ 130 days
5	Bid Submission Due Date	+ 150 days
6	Opening of Bids	+ 150 days
7	Letter of Intent (LOI)	+ within 30 days of
8	Signing of the Contract	+ within 30 days of LOI

(+ X day's means time duration from the zero date i.e. the publication date of RFQ)

4.3. PROCUREMENT PROCESS

4.3.1. FORMATION OF PROCUREMENT COMMITTEE

A Procurement Committee should be formed for overseeing and conducting the Bidding process. Typically, the Committee is formed under the chairmanship of the Commissioner with one representative from each Finance Commercial, Legal and User Departments. This committee will appoint the coordinator if the bid process is to be managed in house or the external consultant as a Transaction Advisor (list of empaneled transaction advisors is enclosed in Annexure II – Empanelment List) to manage the bid process. The Coordinator or the Transaction Advisor will put the evaluation report for approval or seek the guidance from the committee in case of any ambiguities while interpreting the provisions of the RFQ and RFP documents.

4.3.2. EOI (EXPRESSION OF INTEREST) STAGE

There are instances where the equipment/plant to be procured is of complex nature and the procuring authority may not possess the full knowledge of either the various technical solutions available or the likely sources for such products in the market. In such cases, EoI (Expression of Interest) can provide a market exploration instrument to the authority. To meet the desired objectives of a transparent procurement that ensures value for money simultaneously ensuring upgradation of technology & capacity building – it would be prudent to invite a two-stage Expression of Interest (EoI) Bids and proceed to explore the market and to finalize specifications based on technical discussions/presentations with the experienced manufacturers/suppliers in a transparent manner. Expression of Interest (EoI) bids may be invited in following situations:

i. It is not feasible for the Procuring Entity to formulate detailed specifications or identify specific characteristics for the subject matter of procurement, without receiving inputs regarding its technical aspects from bidders;
ii. The character of the subject matter of procurement is subject to rapid technological advances or market fluctuations or both;
iii. The Procuring Entity seeks to enter into a contract for the purpose of research, experiment, study or development, except where the contract includes the production of requirements in quantities sufficient to establish their commercial viability or to recover research and development costs; or
iv. The bidder is expected to carry out a detailed survey or investigation and undertake a comprehensive assessment of risks, costs and obligations associated with the particular procurement. (Rule 164 of GFR 2017)

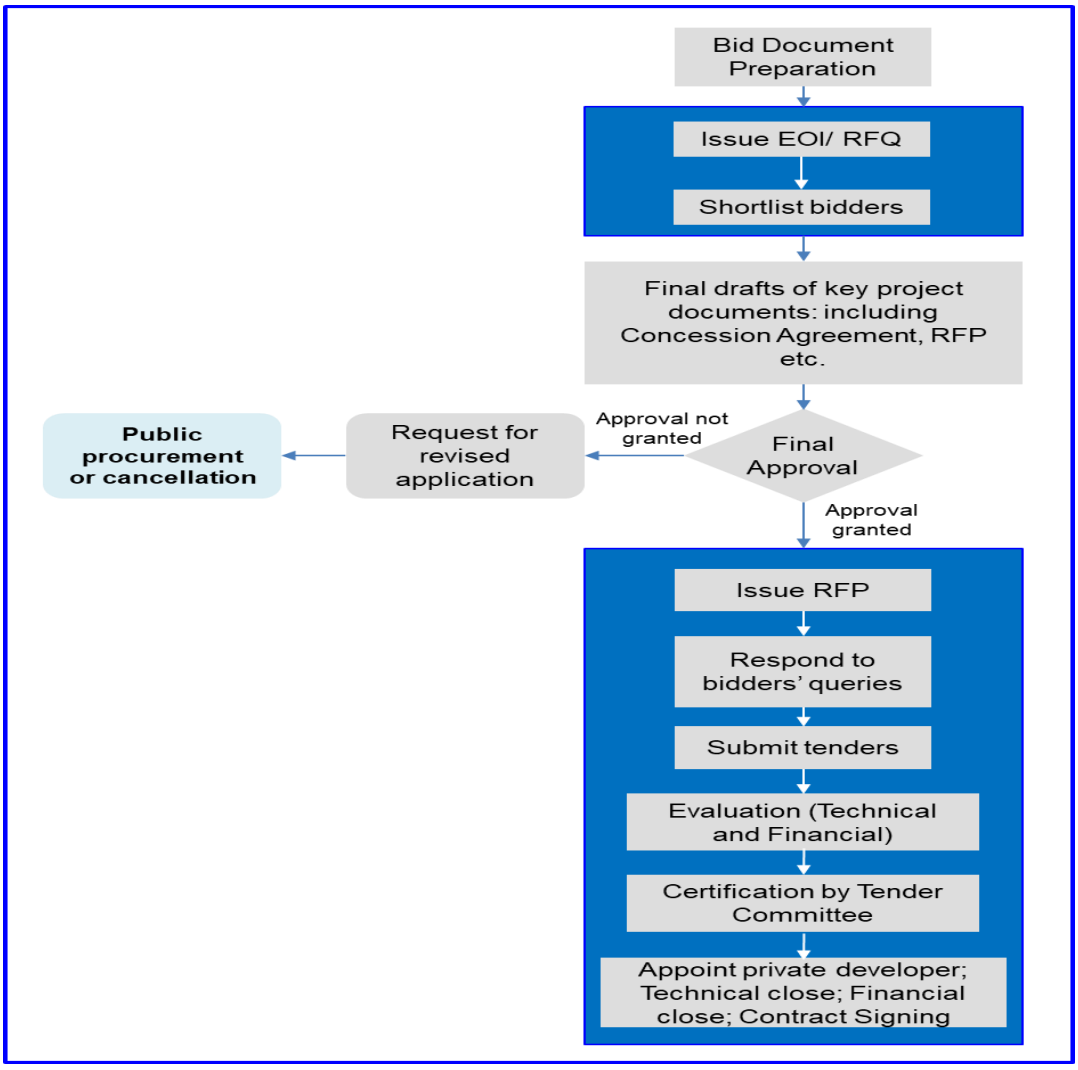
The procedure for two stage EoI shall include the following steps:

i. In the first stage of the bidding process, the Procuring Entity shall invite EoI bids containing the broad objectives, technical and financial eligibility criteria, terms and conditions of the proposed procurement etc. without a bid price. On receipt of the Expressions of Interest, technical discussions/presentations may be held with the short-listed manufacturers/ suppliers, which are prima facie considered technically and financially capable of supplying the material or executing the proposed work, giving equal opportunity to all such bidders to participate in the discussions. During these technical discussions stage the procurement agency may also add those other stakeholders in the discussions who could add value to the decision making on the various technical aspects and evaluation criteria. Based on the discussions/presentations so held, one or more acceptable technical solutions could be decided upon laying down detailed technical specifications for each acceptable technical solution, quality benchmarks, warranty requirements, delivery milestones etc., in a manner that is consistent with the objectives of the transparent procurement. At the same time care should be taken to make the specifications generic in nature so as to provide equitable opportunities to prospective bidders. Discussions/presentations and the process of decision making should be recorded;
ii. In the second stage of the bidding process, the Procuring Entity shall invite bids from all those bidders whose bids at the first stage were not rejected, to present final bid with bid prices in response to a revised set of terms and conditions of the procurement;
iii. Any bidder, invited to bid but not in a position to supply the subject matter of procurement due to modification in the specifications or terms and conditions, may withdraw from the bidding proceedings without forfeiting any bid security that he may have been required to provide or being penalized in any way, by declaring his intention to withdraw from the procurement proceedings with adequate justification;
iv. If the Procuring Entity is of the view that after EoI stage, there is likelihood of further participation by many more bidders and to avoid getting trapped into a legacy technology, the second stage bidding may not be restricted only to the shortlisted bidders of EoI stage and it may be so declared in the EoI document ab-initio. Thereafter in the second stage, normal OTE/GTE bidding may be done. Such variant of EoI is called 'Non-committal' EoI.

In EoI tenders, an advertisement inviting expression of interest should be published. The invitation to the EoI document should contain: a copy of the advertisement; brief description of objectives and broad scope of the requirement; validity period of empanelment if applicable; instructions and formats regarding the nature of supply, fees for empanelment (if any), last date of submission, place of submission and any other related instructions; the eligibility criteria, which should be applied for shortlisting and supporting documents required. The EoI document should be made available to the interested bidder as a hard copy as well as on authority's website in a downloadable form.

The bidders should be evaluated for shortlisting, inter-alia, based on their past experience of performance in a similar context, financial strength and technical capabilities, among others. Each bidder should be assigned scores based on the sum of marks obtained for each parameter multiplied by the weightage assigned to that parameter. All bidders who secure the minimum required marks (normally 60 (sixty) per cent) should be shortlisted. The minimum qualifying marks should be specified in the EoI document. Alternatively, instead of weighted evaluation, the EoI document may specify a 'Qualified-Disqualified criteria' with the minimum qualifying requirement for each of the criteria, such as minimum years of experience, minimum number of assignments executed and minimum turnover. Under such circumstances, all bidders who meet the minimum requirement, as specified, should be shortlisted. The short list should normally comprise at least four firms.

Exhibit 4.6 Key Steps - Two stage bidding



4.3.3. RFQ STAGE

Notice Inviting Application and Issue of Request for Qualification (RFQ)

The ULB should prepare and issue a Notice inviting Applications from interested Applicants for the proposed project. This Notice will provide a brief overview of the assignment, the project area and qualification/eligibility criteria and the deadline for submission of Applications. Along with this, the ULB also issues a Request for Qualification (RFQ) document that provided details of the Qualification and Eligibility criteria and Instructions for submission of Applications. The Notice inviting Applications should typically be published in at least two national dailies and the RFQ should be uploaded in the official website of the ULB or state agency on the same date to reflect the readiness of the engagement of the service provider.

The RFQ shall also include the formats for submission of Application and proof/testimonials of eligibility and qualification including Details of applicant, Power of Attorney, Details of Eligible Projects and their Completion Certificates, Statement of Legal Capacity, Board Resolution, Solvency Certificate, Non-Collusion certificate, and Certificate of Incorporation of entity etc., in conformity of the qualification requirement.

The RFQ typically provides the threshold **Eligibility and Qualification criteria**. The Eligibility criteria detail the type of entities that can bid for the project and lists the conditions under which Consortiums can participate. Qualification of Applications is normally done through a combination of criteria set to evaluate **Technical Experience and Financial Strength**.

Pre-Application Meeting and Issue of clarifications

A Pre-Application Bid meeting is held to clarify doubts and answer queries of prospective bidders regarding the Project and the RFQ. After the meeting, considering the nature & genuineness of the queries, the RFQ may be suitably modified to match the current requirements by issuing an addendum/corrigendum and the revised bid document should be uploaded again on the website.

Evaluation of Applications and shortlisting of bidders

The bids need to be evaluated based on the technical and financial capability as per various clauses of the RFQ. At this stage, the evaluation is normally done through a threshold criteria and using a 'Qualified-Disqualified' approach. Compared to awarding marks and scoring, a 'Qualified-Disqualified' approach is unambiguous and is generally the preferred approach for evaluation of Applications for the purpose of shortlisting.

4.3.4. RFP STAGE

The RFQ stage culminates with approval of the shortlisted bidders by the Tender Committee and issue of RFP to the shortlisted bidders. Depending on the type of contract and the local requirements, a bid package can range from several volumes of material to a concise document. Typically the RFP Document is in three parts as described below:

I. **Part I Instructions to Bidders (ITB):** This volume will contain mainly: the introduction of the ULB, project scope & objective, instruction about the process to be followed for preparing the bid document, different formats to be enclosed in the bid, timelines of the bidding process, document description and necessary documents to be attached for the bidding.
II. **Part II Project Information Memorandum (PIM):** The project information memorandum should consists of Service area boundary map, details of the road – width, type of road; Population profile, Density, income group, economic activity in the project area; existing and projected waste generation quantities during project period, waste collection and transportation methodology and

complete details of the land to be utilized for the waste processing and/or primary & secondary storage and/or processing center location and/or land fill site with proof of ownership; "Detailed Project Report" or "Feasibility Study" for the waste processing or Technical study report for the land fill site or Technical report on the waste characteristics; Report on the existing assets & practices in use for the SWM services; Contour map of the land fill site with proposed approach road drawing; Contour map of the processing and/or primary & secondary storage site with details of the approach road; Annual ULB budget- (Balance sheet and Profit & Loss account of the ULB); Annual Budget for SWM services; Revenue from the SWM services with basis/assumption for fixing of user charges; Percentage of households covered under user charges; Construction and O&M guidelines; Environmental guidelines; Manpower deployed in the SWM services; Existing contract for the SWM services and any other pertinent information relevant for the project.

III. **Part III Draft Contract Agreement:** The Draft Contract Agreement deals with the detailed terms and conditions on which the project will be awarded and shall broadly cover: Scope of Work, Period of Contract, construction period, parameters on which contract is to be granted (VGF, Premium, etc.), obligations of the service provider and sponsoring authority, process of handing over of site to the service provider, monitoring and supervision details, safety requirements, support and incentives to be given by the sponsoring authority, Operations & Maintenance requirement, Force majeure and Termination payment, Dispute resolutions mechanism, and other terms and condition relevant to the project.

Pre-bid conference and issue of clarifications

Pre-bid meetings are a key element of communication strategy that helps the ULB build substantial trust and confidence among bidders and other stakeholders. A few pointers to effective pre-bid meetings are given below:

I. Adequate time should be provided between the issue of RFQ/ RFP and the date of the pre-bid meeting and deadlines of submissions. While it is useful to insist that operators should provide their queries in writing 2-3 days before the pre-bid meeting, if time is available, the project implementation authority should, in most circumstances, allow additional questions to be asked by the bidders at the pre-bid meeting.

II. The pre-bid meeting should be attended by the senior functionaries of the project implementation authority. In some cases, it may be useful to have the presence of concerned political leaders and representation from user community through participation of opinion leaders. This will provide a strong signal on the level of commitment and user acceptance of the project. This will also add credibility to the bid process and send a useful favorable signal to the general public.

III. It's preferable that before the pre-bid meeting a visit may be arranged by the implementation authority to the project site or service area as the case may be to provide a perspective to the bidders. In case of complex bids, where the time available during the pre-bid meeting has not been adequate to discuss and clarify all queries, a second pre-bid interaction should be considered

IV. The deliberations of the pre-bid meetings should be duly documented and the clarifications should be disseminated in writing in a similar manner to all bidders. Ideally, the responses should be published on the implementation authority's website.

Proposal content and evaluation

At the RFP stage, Bidders may be required to submit their proposals in two parts namely, Technical Offer and Financial Offer. The Technical Offer typically covers the following and is normally evaluated through a scoring approach and a with a threshold cut-off score of say 70 marks. Financial Offers of only those Bidders scoring more than this threshold score will be opened.

- Project Implementation and Operation Plan (PIOP)
  - Understanding Project Rationale
  - Approach and Methodology
  - Expected Milestones – Gantt charts or PERT & CPM Chart.
  - Process of meeting performance standards
  - Operation & Maintenance Plan – with replacement model of major equipment.
  - Innovations and improvements – technology description.
- Quality of staffing plan
  - Details of staffing plan
  - Appropriate experience reflecting required services in staffing plan
  - Professional qualification and experience of key staff

In some cases where the scope of work is clear and the bidder universe is unambiguous, the ULB may invite only Financial Offers. However, it is generally a better practice to receive and evaluate Technical Offer of the Proposal as well.

The Financial Offers of all the Bidders crossing the threshold score are then opened, in the presence of the bidder's representative and the quoted price/tariff/fee/royalty is readout aloud in front of the bid evaluation committee and it is noted. The Preferred Bidder is then identified on the basis of the Bid variable say Lowest Tipping Fee per ton or Grant support (or) Highest Revenue share/royalty as the case may be.

The **Least Cost (post Technical Hurdle)** approach to selection described above is generally the preferred method of selection. In some cases, a **Quality Cum Cost Based Selection (QCBS)** approach is adopted that identifies the Preferred Bidder on the basis of a weighted scoring and ranking of bidders based a weighted index of scores computed from Technical score and Financial Offer.

4.3.5. APPROVAL BY TENDER COMMITTEE AND ISSUE OF LETTER OF INTENT (LOI)

The Coordinator or the Transaction Advisor appointed by the committee will present the evaluation reports – Technical and Financial, as per the procurement timeline to the "Tender Committee". The Tender Committee after deliberation over the report should issue the certificate of transparency after acceptance of the report and approve the Preferred Bidder identified.

After the certification from the Tender Committee, a Letter of Intent (LOI) of the bid will be issued by the ULB in favor of the Preferred Bidder. The LOI will specify the Conditions Precedent to be completed by the Preferred Bidder for signing of the Contract Agreement. These could typically include a) Furnishing the Performance Security and any other Project Development Fees payable and b) Formation of SPV if required as per the RFP. The preferred bidder shall acknowledge and unconditionally accept, sign, date and return the LoI within the due time mentioned in LoI. Once the conditions precedent to the signing of Contract Agreement as per the LoI are met, the Contract Agreement is then signed between the ULB and the Preferred Bidder.

4.3.6. CONTRACT MANAGEMENT AND MONITORING

The purpose of contract management is to ensure that the contract delivers the desired outcomes as per the terms and conditions of the contract. It also ensures that the payments made to the contractor match the performance. Implementation of the contract should be strictly monitored and notices issued promptly whenever a breach of provisions occurs. Monitoring should ensure that contractor adhere to contract terms, performance expectations are achieved (such as timely deliveries, quality of goods

supplied, adherence to proper procedure for submitting invoices, and so on) and any problems are identified and resolved in a timely manner. Without a sound monitoring process, there can be no assurance that "we get what we pay and contract for and pay for only for what we get". Payments and decisions in contract management requested by the suppliers should be made within a reasonable time. An atmosphere of lackadaisical functioning in such matters is liable to lead to bidders quoting higher prices in future bids, besides delays in supplies and disputes in the contract. Normally, the following issues are handled during this phase:

i. Amendments to the contract;
ii. Operation of the option clause;
iii. Safeguards for handing over Procuring Entity materials/equipment to contractors;
iv. Payments to the contractor and handling of securities;
v. Monitoring of supplier performance;
vi. Delays in performance of the contract;
vii. Breach of contract, remedies and termination of contract;
viii. Dispute resolution;
ix. Contract closure upon completion;
x. Quality assurance;

a. **Amendments of Contract:** Once a contract has been concluded, the terms and conditions thereof should not be varied. No amendment to the contract should be made that can lead to a vitiation of the original tender decision or bestow an undue advantage on the contractor. However, due to various reasons, changes and modifications are needed in the contract. Requests for such changes and modifications mostly emanate from the supplier. Any amendment to the contract may have, inter alia, financial/technical/legal implications. The indenter may be consulted regarding the technical implications. Financial concurrence should be obtained before issuing any amendment that has financial implications/repercussions. Further, if considered necessary, legal opinion may also be sought. An amendment can concern any of the clauses of the contract but, in supply contracts, amendments often relate to the following:
    i. Increase or decrease in the quantity required, exercise of quantity option clause;
    ii. Changes in schedule of deliveries and terms of delivery;
    iii. Changes in inspection arrangements;
    iv. Changes in terms of payments and statutory levies; and
    v. Change due to any other situation not anticipated.

    No change in the price quoted shall be permitted, except on account of price variation and statutory variations.

b. **Operation of Option Clause:** Under this clause, the purchaser retains the right to place orders for an additional quantity/service up to a specified percentage of the originally contracted quantity/service at the same rate and terms of the contract, during the contract period. This clause and percentage should be part of the Bid Document and the contract and ideally should not exceed 25-30%.

c. **Safeguards for handing over Procuring Entity materials/equipment to contractors:** For performance of certain contracts, Procuring Entity may have to loan stores, drawings, documents, equipment and assets (such as accommodation, identity cards and gate passes, and so on) to the contractor. In certain situations, the contractor may also be supplied electricity, water, cranes, and weighing facilities on payment/hire basis. As a measure of transparency, the possibility of provision of such resources by Procuring Entity should have been announced in the tender document or at least

requested by the contractor in the tender and written in the contract. Whenever stores or prototypes or sub-assemblies are required to be issued to the firm/ contractor, these should be issued against an appropriate bank guarantee. In addition to the bank guarantee, appropriate insurance may be asked for if it is considered necessary.

d. **Payments to the Contractor and Handling of Securities:** It should be ensured that all payments due to the firm, including release of the Performance Security, are made on a priority basis without avoidable delay as per the tender/contract conditions. Before the payment is made, the invoice should be cross-checked with the actual receipt of material to ensure that the payment matches the actual performance. Before making a final payment or before releasing the performance bank guarantee, a 'No Claim Certificate' may be insisted upon from the supplier to prevent future claims. Whenever a bank guarantee is released, acknowledgement thereof should also be taken from the contractor.

e. **Monitoring of Supplier's Performance:** Without a sound monitoring process, there can be no assurance that the buyer has received what was contracted. A sound system for monitoring the performance of the suppliers in a contract would also be useful in selecting a good supplier in future procurement of the same or similar materials. Purchase order-wise data will be maintained in this register regarding execution by and performance of the supplier. The register shall form the basis for the Management Information System report on unexecuted purchase orders beyond scheduled deliveries, reports on performance of suppliers, and so on.

f. Delays in Performance of contract:

- Delivery Period: The period for delivery of the ordered goods and completion of any allied service(s) thereof (such as installation and commissioning of the equipment, operators' training, and so on) are to be properly specified in the contract with definite dates and these shall be deemed to be the essence of the contract. The delivery period stipulated in contracts should be specific and practical.
  In case of items such as raw material which is delivered throughout the year, the variation in the periodic rate of supply beyond +/- 10 (Ten) per cent in any calendar month; or +/- seven per cent cumulative in any calendar quarter; or +/- five per cent cumulative in any calendar year would be considered as delay in delivery attracting imposition of LD. Unless otherwise agreed, the buyer of goods is not bound to accept the delivery thereof in instalments.

- Terms of delivery: Terms of delivery (FOR, FOB, CIF, and CFR, and so on), inter alia, determine the delivery point of the ordered goods and services from where the purchaser is to receive/collect the goods. It also decides the legally important issue of when the 'titles of the goods' have passed to the purchaser. The delivery period is to be read in conjunction with the terms of delivery, therefore the delivery is taken to have been made at the time when goods reach the delivery point as per the delivery terms.

- Severable and entire delivery contracts: Such contracts, where instalments are not specified or not intended, are known as entire contracts. In such cases, even non-delivery of a part quantity can lead to a breach of contract. However, a variation of five per cent of the contract quantity is usually exempted in the contract conditions. In the case of an entire contract, even if providing a delivery schedule, it is not necessary to grant an extension in the delivery period in the case of delay in intermediate instalments. Such extension would be necessary only in case of a delay beyond the final date for the completion of the delivery.
  Contracts with clearly laid out instalment deliveries mentioning the exact dates and where each instalment is paid for separately are known as severable contracts. In effect, each of such instalments is a separate independent contract by itself. In severable contracts, delay or breach of one instalment does not affect other instalments, since each instalment is considered as a separate contract. In the case of severable contracts, extension in the delivery period is necessary for each instalment separately.

- Extension of delivery: Suppliers shall be required to adhere to the delivery schedule specified in the purchase order and, if there is delay in supplies, LD shall be levied wherever there is failure by the party. Extension of the delivery date amounts to amendment of the contract. Such an extension can be only done with the consent of both parties (that is, the purchaser and supplier). No extension of the delivery date is to be granted suo motu unless the supplier specifically asks for it. However, in a few cases, it may be necessary to grant an extension of the delivery period suo motu in the interest of the administration. In such cases, it is legally necessary to obtain clear acceptance of the extension letter from the supplier.

- Performance notice: A situation may arise where the supply/services has not been completed within the stipulated period due to negligence/fault of the supplier; however, the supplier has not made any request for extension of the delivery period but the contracted goods/services are still required by the purchaser and the purchaser does not want to cancel the contract at that stage. In such a case, a performance notice (also known as notice-cum-extension letter) may be issued to the supplier by suitably extending the delivery date and by imposing LD with denial clauses, and so on, along identical lines as in para 'Extension of Delivery' above. The supplier's acceptance of the performance notice and further action thereof should also be processed in the same manner as mentioned above.

- Force majeure clause: A Force Majeure (FM) means extraordinary events or circumstance beyond human control such as an event described as an act of God (like a natural calamity) or events such as a war, strike, riots, crimes (but not including negligence or wrong-doing, predictable/seasonal rain and any other events specifically excluded in the clause). An FM clause in the contract frees both parties from contractual liability or obligation when prevented by such events from fulfilling their obligations under the contract. An FM clause does not excuse a party's non-performance entirely, but only suspends it for the duration of the FM. The firm has to give notice of FM as soon as it occurs and it cannot be claimed ex-post facto.

- Denial clause: Since delay in delivery is a default by the seller, the buyer should protect himself against extra expenditure during the extended period by stipulating a denial clause (over and above levy of LD) in the letter informing the supplier of extension of the delivery period. In the denial clause, any increase in statutory duties and/or upward rise in prices due to the PVC clause and/or any adverse fluctuation in foreign exchange are to be borne by the seller during the extended delivery period, while the purchaser reserves his right to get any benefit of a downward revisions in statutory duties, PVC and foreign exchange rate.

- Quantum of LD: While granting extension of the delivery period, where the delivery of goods/service thereof is accepted after expiry of the original delivery period, as agreed, LD a sum equivalent to 0.5 (Half) per cent of the prices of any portion of goods/service delivered late may be recovered from the contractor, for each week or part thereof of delay. The total damages shall not exceed 10 (Ten) per cent of the value of delayed goods. The LD cannot exceed the amount stipulated in the contract. LDs accrue only in case of delayed supplies. Where or in so far as no supplies have been made under a contract, upon cancellation, recovery of only the loss occasioned thereby can be made, notwithstanding the fact that prior to the cancellation one or more extensions of the delivery period with reservation of the right to LD are granted.

- Waiver of LD: There should normally be no system of waiver of LDs for delayed supplies in and it may be strictly be an exception rather than a rule.

- Handling deliveries after the expiry of delivery Period: As per law, if stores are accepted after expiry of the delivery date of a particular instalment without extension in delivery period having being given, duly reserving our rights to levy LD, it amounts to voluntary abrogation of our legal

rights under the contract to claim LDs or other remedies. The terms of LC should be such that if there are dispatches beyond the delivery period, payment should be denied without levy of full LD and without formal extension of the delivery period by the purchaser.

g. **Breach of contract, remedies and Termination:** In case the contractor is unable to honor important stipulations of the contract, or gives notice of his intention of not honoring or his inability to honor such a stipulation, a breach of contract is said to have occurred. Mostly, such breaches occur in relation to the performance of the contract in terms of inability to supply the required quantity or quality. It could also be due to breach of ethical standards or any other stipulation that affects Procuring Entity seriously. As soon as a breach of contract is noticed, a show cause notice should be issued to the contractor reserving the right to implement contractual remedies. If there is an unsatisfactory resolution, remedial action may be taken immediately. The contract may be terminated in the following cases:

- Cancellation of contract for default: Without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, the contract may be terminated in whole or in part:
  a. If the supplier fails to deliver any or all of the supplies within the time period(s) specified in the contract, or any extension thereof granted; and
  b. If the supplier fails to perform any other obligation under the contract within the period specified in the contract or any extension thereof granted.
  c. If the contract is terminated in whole or in part, recourse may be taken to any one or more of the following actions:
     i. Forfeiture of the performance security;
     ii. Upon such terms and in such manner as it deems appropriate, goods similar to those undelivered may be procured and the supplier shall be liable for all available actions against him in terms of the contract (popularly called risk purchase); and
     iii. However, the supplier shall continue to fulfil the contract to the extent not terminated.

- Termination of contract for insolvency: If the supplier becomes bankrupt or becomes otherwise insolvent or undergoes liquidation or loses substantially the technical or financial capability (based on which he was selected for award of contract), at any time, the contract may be terminated, by giving a written notice to the supplier, without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to Procuring Entity.

- Termination of contract for convenience: After placement of the contract, there may be an unforeseen situation compelling Procuring Entity to cancel the contract. In such a case, a suitable notice has to be sent to the supplier for cancellation of the contract, in whole or in part, for its (Procuring Entity's) convenience, inter alia, indicating the date with effect from which the termination will to become effective. Depending on the merits of the case, the supplier may have to be suitably compensated on mutually agreed terms for terminating the contract. Suitable provisions to this effect should be incorporated in the tender document as well as in the resultant contract.

h. **Dispute resolution:** Due to various unforeseen reasons, problems may arise during the progress of the contract leading to a disagreement between the purchaser and supplier. Therefore, the conditions governing the contract should contain suitable provisions for settlement of such disputes or differences binding on both parties. The mode of settlement of such disputes/differences should be through arbitration. When the contract is with a domestic supplier, the applicable arbitration procedure shall be as per the Indian Arbitration and Conciliation Act, 1996.
   - Foreign arbitration: When the contract is with a foreign supplier, the supplier has the option to choose either the Indian Arbitration and Conciliation Act, 1996 or arbitration in accordance with

the provisions of the United Nations Commission on International Trade Law (UNCITRAL) arbitration rules.

The arbitration clause with foreign firms should be in the form of self-contained agreements. This is true especially for large value contracts or those for costly plant and machinery. The venue of arbitration should be in accordance with UNCITRAL or arbitration rules of India, whereby it may be in India or in any neutral country.

i. **Closure of contract:** While making the final payment to the contractor and before releasing the PBG, it should be ensured that there is nothing outstanding from the contractor. Before the bank guarantee is released a "No Claim Certificate" may be taken from the contractor and the material, payment reconciliations and reconciliation with the user department should be done across Departments involved in the execution of the contract. On satisfactory reconciliation and against a "No Claim Certificate" from the contractor, the bank guarantee may be released and its acknowledgement taken from the contractor.

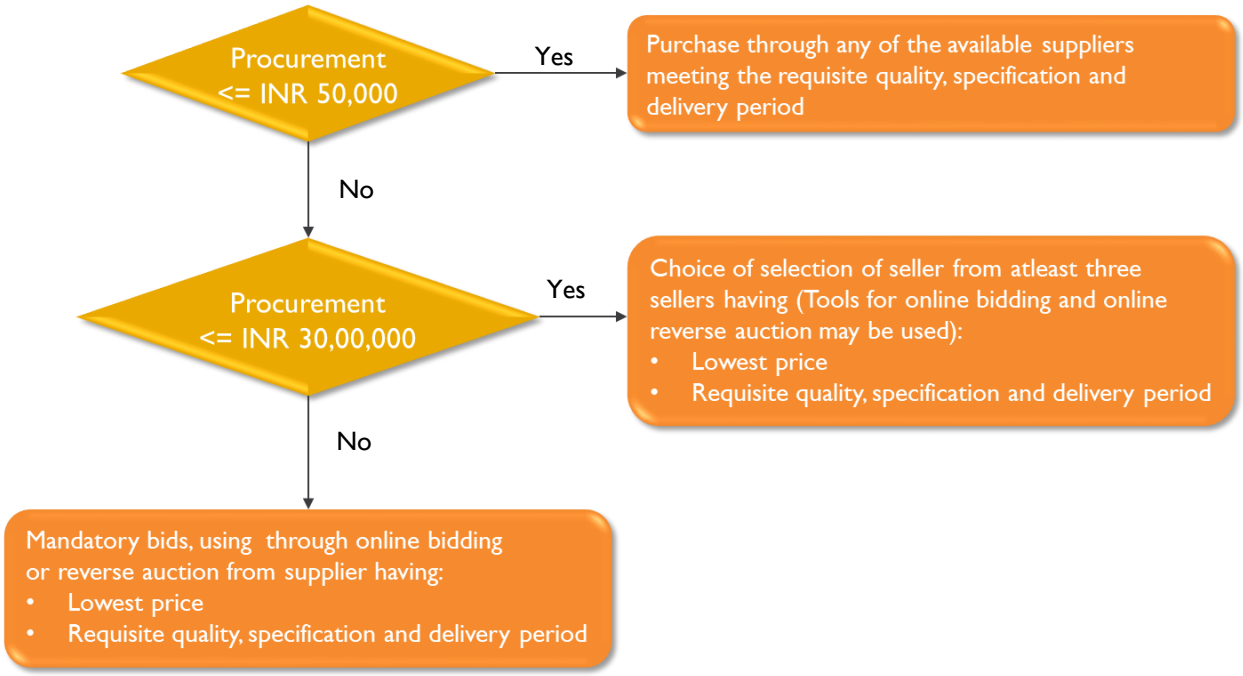
j. **Quality assurance and inspection:** In the context of procurement of goods, the Quality Assurance (QA) process is needed to provide adequate confidence that a procured product will satisfy the laid down standards of quality and serve the purpose for which it is being procured. QA consists of three components:
   a. Defining quality standards;
   b. Planning assurance of quality; and
   c. Measurement of quality.

The description and Technical Specifications define the quality standards expected from the product.

4.4. PROCUREMENT THROUGH GEM

GeM is a one stop Government eMarketplace to facilitate online procurement of common use Goods & Services required by various Central and State Government Ministries/Departments/Organizations/PSUs. GeM aims to enhance transparency, efficiency and speed in public procurement. Exhibit 4.7 highlights procurement thresholds and corresponding steps for GeM.

Exhibit 4.7 Procurement through GeM



The purchases through GeM by Government users have been authorized and made mandatory by Ministry of Finance by adding a new Rule No. 149 in the General Financial Rules, 2017 for direct on-line purchase as under:

- Up to Rs.50,000/- through any of the available suppliers on the GeM, meeting the requisite quality, specification and delivery period. The procuring authorities will certify the reasonability of rates;

- Above Rs.50,000/- and up to Rs.30,00,000/- through the GeM Seller having lowest price amongst the available sellers, of at least three different manufacturers, on GeM, meeting the requisite quality, specification and delivery period. The tools for online bidding and online reverse auction available on GeM can be used by the Buyer if decided by the competent authority. The procuring authorities will certify the reasonability of rates;

- Above Rs.30,00,000/- through the supplier having lowest price meeting the requisite quality, specification and delivery period after mandatorily obtaining bids, using online bidding or reverse auction tool provided on GeM. The procuring authorities will certify the reasonability of rates;

- The invitation for the online e-bidding/reverse auction will be available to all the existing Sellers or other Sellers registered on the portal and who have offered their goods/services under the particular product/service category, as per terms and conditions of GeM;

- The above mentioned monetary ceiling is applicable only for purchases made through GeM. For purchases, if any, outside GeM, relevant GFR Rules shall apply;

- The Ministries/Departments shall work out their procurement requirements of Goods and Services on either "OPEX" model or "CAPEX" model as per their requirement/suitability at the time of preparation of Budget Estimates (BE) and shall project their Annual Procurement Plan of goods and services on GeM portal within 30 (thirty) days of Budget approval;

- The Government Buyers may ascertain the reasonableness of prices before placement of order using the Business Analytics (BA) tools available on GeM including the Last Purchase Price on GeM, Department's own Last Purchase Price; etc.;

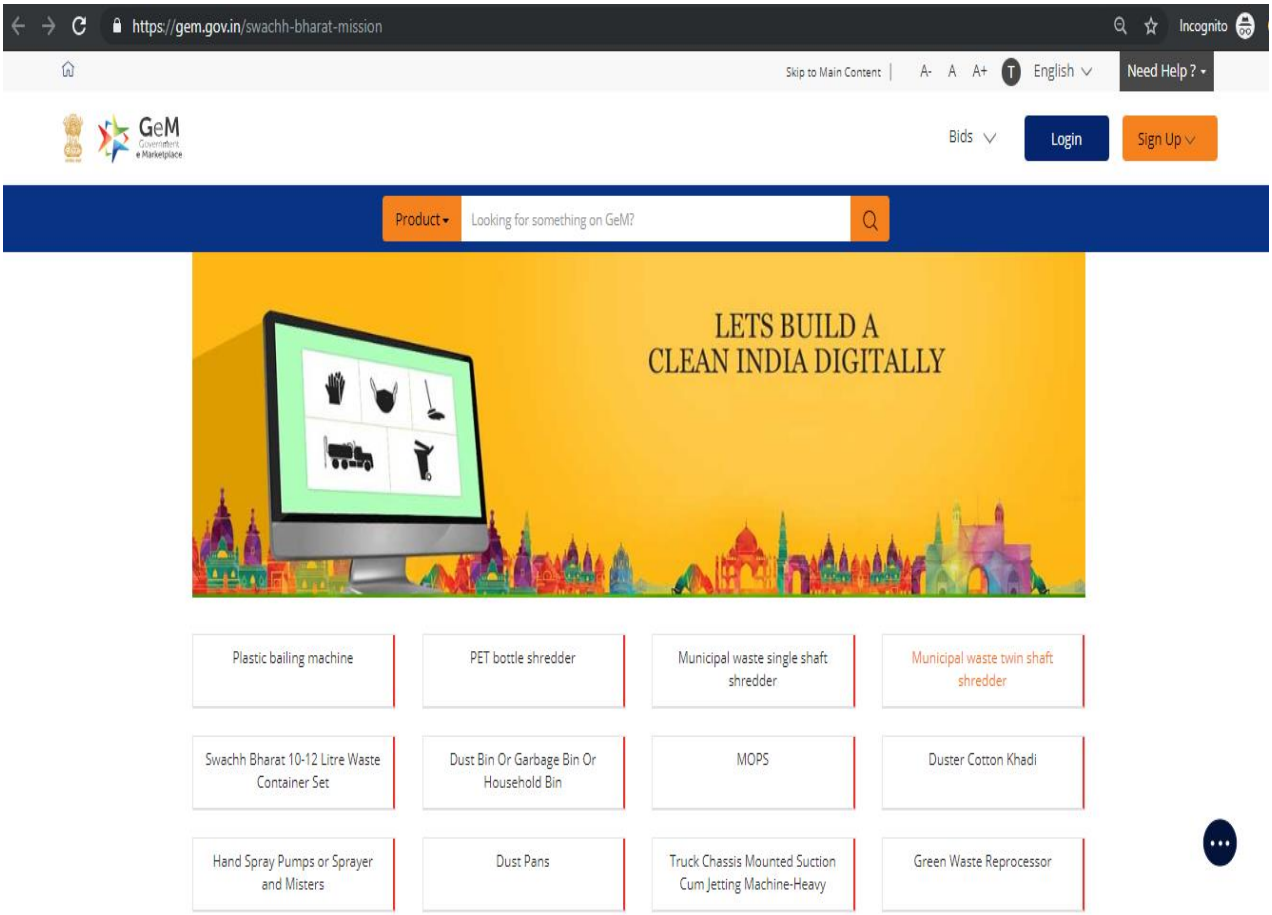
- A demand for goods shall not be divided into small quantities to make piecemeal purchases to avoid procurement through L-1 Buying/bidding/reverse auction on GeM or the necessity of obtaining the sanction of higher authorities required with reference to the estimated value of the total demand.

The responsibility of reasonableness of rate for procurements from GeM portal is the responsibility of the Procuring Entity to do due diligence for ensuring reasonableness of rates.

Details of buyer/supplier registration, purchase and payment procedures can be found at: https://gem.gov.in/

Currently, GeM has 39 categories of products available under Swachh Bharat Mission, exhibit 4.8 highlights some of the product categories under Swachh Bharat Mission on GeM.

Exhibit 4.8 Product categories under Swachh Bharat Mission on GeM



5. Risk Management

Risk is "the chance of an event occurring which would cause actual project circumstances to differ from those assumed while forecasting project benefit and costs." Over 41% of Urban Development projects overran the project costs and 100% of projects overran the scheduled project time[7]. Management of risks holds the key to project success or failure. The typical approach to management of risks involves the following activities:

1. Identification: determining what risks exist during the project lifecycle
2. Evaluation: assessing potential impact of the risks identified
3. Mitigation: addressing the risks/uncertainties identified by way of contract, insurance, etc., to the extent possible
4. Allocation: the remaining risks are allocated to the entity most suitable to manage the risks

The ULB should comprehensively identify all risks inherent in the project and the principle should then be to allocate the risks the entity that is best equipped to deal with them. Typical Risks in a Sanitation/MSWM project are set out in the Exhibit 5.1:

Exhibit 5.1 Type of Risks

Risk type	Description
Pre-operative task risks	
Delays in land acquisition	Refers to the risk that the project site will be unavailable or unable to be used within the required time, or in the manner or the cost anticipated or the site will generate unanticipated liabilities due to existing encumbrances and native claims being made on the site.
External linkages	Refers to the risk that adequate and timely connectivity to the project site is not available, which may impact the commencement of construction and overall pace of development of the project.
Financing risks	Refers to the risk that sufficient finance will not be available for the project at reasonable cost (for example: because of changes in market conditions or credit availability) resulting in delays in the financial closure for a project.
Planning risks	Refers to the risk that the pre-development studies (technical, legal, financial and others) conducted are inadequate or not robust enough resulting in possible deviations from the planned or expected outcomes in the PPP project development.
Approvals risk	Refers to the risk that necessary permits, authorizations and approvals required prior to the start of construction are not obtained in a timely fashion, resulting in delays to construction and the project as a whole.

[7] Delays and Cost Overruns in Infrastructure Projects: Extent, Causes and Remedies, by Ram Singh, DSE, Economic & Political Weekly, May 22, 2010

Construction phase risks	
Design risk	Refers to the risk that the proposed design will be unable to meet the performance and service requirements in the output specification. It can result in additional costs for modification and redesign.
Construction risk	Refers to the risk that the construction of the assets required for the project will not be completed on time, budget or to specification. It may lead to additional raw materials and labour costs, increase in the cost of maintaining existing infrastructure or providing a temporary alternative solution due to a delay in the provision of the service.
Approvals risk	Refers to the risk that delays in approvals to be obtained during the construction phase will result in a delay in the construction of the assets as per the construction schedule. Such delays in obtaining approvals may lead to cost overruns.
Operation phase risks	
Technology risk	Refers to the risk that the technology used will be unexpectedly superseded during the term of the project and will not be able to satisfy the requirements in the output specifications. It would result in increased costs of a replacement technology.
Operations and maintenance risk	Refers to the risks associated with the need for increased maintenance of the assets over the term of the project to meet performance requirements.
Payment risk	Refers to the risk that tolls are not collected in full or are not set at a level that allows recovery of costs. This is a risk for the public sector under shadow tolls and for the private sector under user tolls. There is no risk in annuity contracts.
Financial risk	Refers to the risk that the private sector over stresses a project by inappropriate financial structuring. It can result in additional funding costs for increased margins or unexpected refinancing costs.
Handover risks	
Handover risk	Refers to the risk that the concessionaire will default in the handover of the asset at the end of the project term or will deviate from the minimum quality/ value of the asset that needs to be handed back to the public entity.
Terminal value risk	Refers to the risk relating to differences from the expected realizable value of the underlying assets at the end of the project.
Other risks	
Change in law	Refers to the risk that the current legal/regulatory regime will change, having a material adverse impact on the project.
Force Majeure	Refers to the risk that events beyond the control of either entity may occur, resulting in a material adverse impact on either party's ability to perform its obligations under the PPP contract.
Concessionaire risk	Refers to the risk that the concessionaire will prove to be inappropriate or unsuitable for delivery of the project, for example due to failure of their company.

Sponsor risk	Refers to the risk that the Sponsor will prove to be an unsuitable partner for the project, for example due to poor project management or a failure to fully recognise the agreed terms of the Concession Agreement.
Concessionaire event of default	Refers to the risk that the private partner will not fulfil its contractual obligations and that the Government will be unable to either enforce those obligations against the sponsors, or recover some form of compensation or remedy from the sponsors for any loss sustained by it as a result of the breach or the private partner will prove to be inappropriate or unsuitable for delivery of the project.
Government event of default	Refers to the risk that the Government will not fulfil its contractual obligations and that the private partner will be unable to either enforce those obligations against the Government, or recover some form of compensation or remedy from the Government for any loss sustained by it as a result of the breach.

Exhibit 5.2 details out Risks and corresponding consequences and mitigation strategies:

Risk	Consequence	Mitigation
Site risk	Time & cost overruns Risk premium quoted by Concessionaire	Detailed investigative studies through expert technical consultants at the pre-award stage
Land acquisition risk	Time & cost overruns Risk premium quoted by Concessionaire	Detailed title searches and investigation of land records at the pre-award stage Greater public involvement and transparency in procedures
Statutory clearances risk	Time overruns Risk premium quoted by Concessionaire	Advanced planning and better coordination between Government entities
Environmental risks	Time & cost overruns Risk premium quoted by Concessionaire	Detailed studies into site contamination at the pre-award stage, regular environment audits
Payment/Revenue risk	Fall in revenues	Allocating risk to private party Developing alternative revenue sources
Design and Engineering risk	Time & cost overruns Fall in service or safety standards	Stricter inspections by independent engineer, performance guarantees, provisions for penalties
Construction risk	Time & cost overruns Fall in service or safety standards	Stricter inspections by independent engineer, performance guarantees, provisions for penalties & liquidated damages
Operation & Maintenance risk	Time & cost overruns Fall in service or safety standards	Stricter inspections by independent engineer, performance guarantees, provisions for penalties & liquidated damages

Risk	Consequence	Mitigation
Financial risk	Restructuring, refinancing, renegotiation, termination	Higher eligibility requirements at the time of bidding, financial covenants, collaterals, guarantees Hedging through financial products
Concessionaire Managerial risk	Restructuring, renegotiation, termination	Higher eligibility requirements at the time of bidding, lock-in requirements for a certain time period
Change in scope	Time & cost overruns Restructuring, renegotiation, termination	Detailed market studies at the pre-award stage through expert consultants
Change in law or policy	Time & cost overruns, revenue reduction Additional approvals required	Increasing awareness of possible changes and planning ahead for responding to changes, if they occur
Force Majeure	Multiple (depending on type of event)	Insurance Having disaster recovery and business continuity plans in place
Social Risks	Time & cost overruns Restructuring, renegotiation, termination	Wider public communications, greater transparency, more user surveys at the development stage

Exhibit 5.3 provides a risk allocation matrix that captures select risks and possible allocation. While the matrix is not exhaustive, it provides ULBs and officials a possible framework to review and analyse the project specific risks.

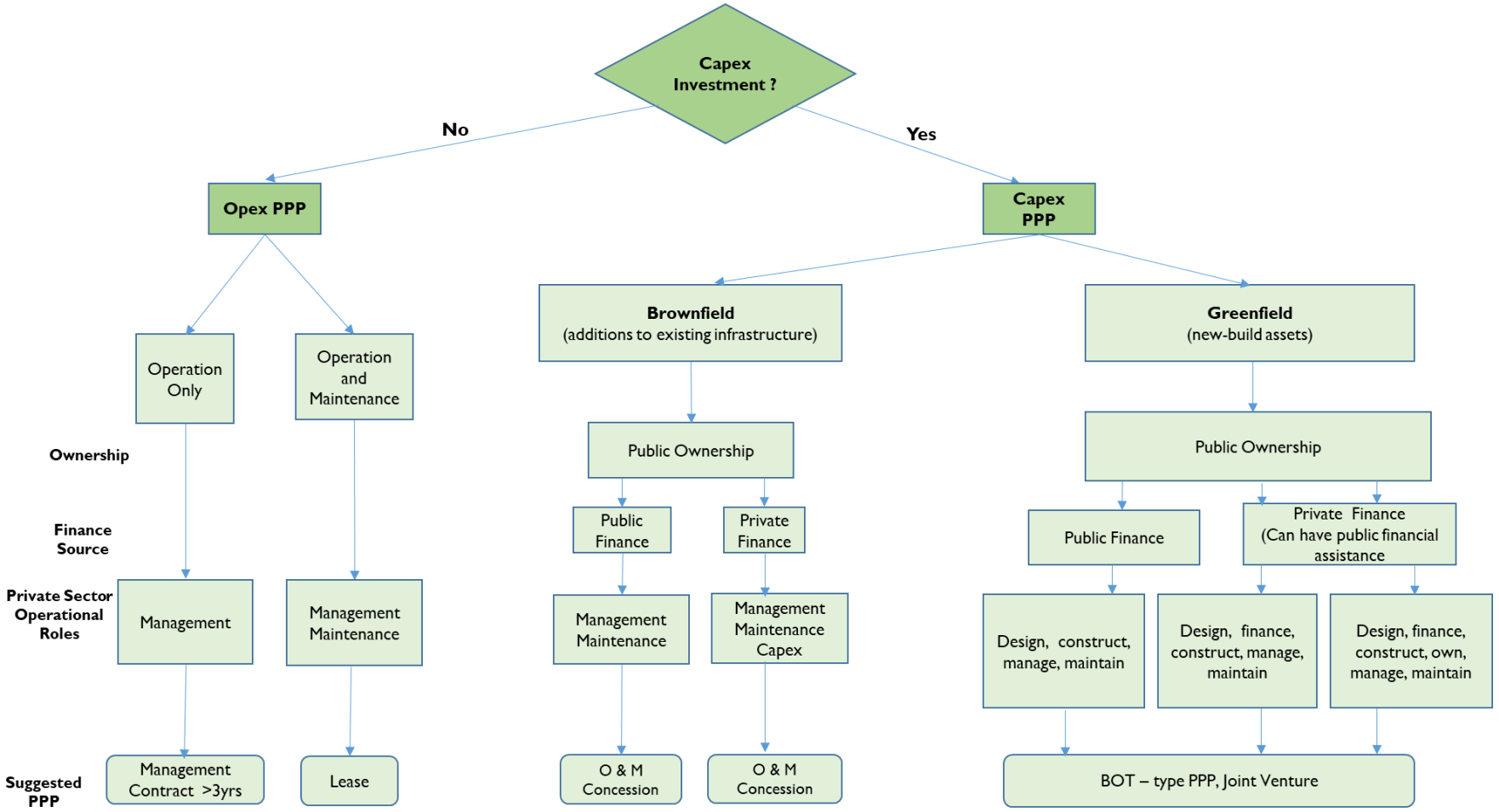
Exhibit 5.3 Indicative Risk Allocation matrix

Type of Risk	Risk Allocation *(depends on contract structure)*		
	Service contract	**Management Contract**	**BOT/Concession**
Design Risk	ULB and/or state agency	Private developer	Private Developer
Construction Risk	To be borne by both the parties as per the provision of the contract.	To be borne by the private developer other than the asset transfer delay.	
Operation Risk	To be borne by the Private developer other than the change in scope of the project by the ULB and/or state agency.		
Revenue Risk	ULB and/or state agency	Partly by ULB and Private player as per the provision of the contract	
Financial Risk	ULB and/or state agency	Private developer	Private developer
Environmental Risk	ULB and/or state agency	Private developer other than the pre-existing environmental liability to be taken care by ULB and/or state agency	
Force Majeure Risk	To be borne by the parties as per the provisions of the contract.		

6. Engagement Modes and case studies

Exhibit 6.1 depicts a decision tree for various engagement modes based on the type of projects, ownership, finance source and role of private sector.

Exhibit 6.1 Engagement modes – Decision Tree



Below are the typical engagement modes and corresponding features used in Sanitation/MSWM projects and their relevance.

Exhibit 6.2 Engagement modes and features

Mode\Features	Asset Ownership	Duration	Capital Investment	Private Player Roles	Relevance
Management Contracts/ Concession Agreements	Public	Short to medium (3-7 years)	Public	Management of all aspects of operation & maintenance	Contracting to the private sector most or all of the operations and maintenance of a public facility or service. Ultimate obligation of service provision remains with the public entity, the day-to-day management control is vested with the private sector. Usually the private sector is not required to make capital investments.
BOT (Build-Operate-Transfer) / DBFOT (Design-Build-Finance-Operate Transfer) /	Public	Long (20-30 years)	Private	Design, finance, construct, manage and maintain	Responsibility for construction and operations with the private partner while ownership is retained by the public entity.
BOOT (Build-Own Operate-Transfer) DBOOT (Design- Build-	Private	Long (20-30 years)	Private	Design, construct, own, manage, maintain and transfer	Private partner has the responsibility for construction and operations. Ownership is with the private partner for the duration of the concession.
EPC* (Engineering-Procurement-Construction)	Public	Short (2-3 years)	Public	Engineering, purchase and construct	Private developer has the responsibility of detailed design of project, procurement of all the equipment and materials required and construction of functioning facility prescribed by the client within stipulated time period.

Exhibit 6.3 Obligations across Engagement Modes

Mode\Obligations	Concessionaire Obligations	ULB / Lead ULB Obligations (In case of cluster of ULBs)
Management Contracts	• Operations and maintenance of ULB's equipment during the contract period • Provide the services on ULB's behalf during the contract period as per the contract • Transfer the ULB's equipment, assets and project sites to ULB at the end of contract period	• Handing over of ULB's equipment, assets and project sites to concessionaire for the contract period • Monitoring the performance of the concessionaire as per the contract • Payment to concessionaire as per the contract
Concession Agreements	• Organise all equipment and assets as per the contract • Operations and maintenance of equipment and assets providing the services as per the contract during the contract period • Transfer the equipment, assets and project sites to ULB at the end of contract period	• Handing over the project sites to concessionaire for the contract period • Monitoring the performance of the concessionaire as per the contract • Payment to concessionaire as per the contract

BOT (Build-Operate-Transfer)	• Design, Build, install and commission the equipment and construct the facility as per the contract • Operations and maintenance of equipment and assets providing the services as per the contract during the contract period • Transfer the equipment, assets and project sites to ULB at the end of contract period	• Handing over the project sites to concessionaire for the contract period • Monitoring the performance of the concessionaire as per the contract • Financial Assistance and Payment of charges to concessionaire as per the contract • Other obligations as per the contract including any supply of materials
DBFOT (Design-Build-Finance-Operate Transfer)	• Design, Build, Finance, install and commission the equipment and construct the facility as per the contract • Operations and maintenance of equipment and assets providing the services as per the contract during the contract period • Transfer the equipment, assets and project sites to ULB at the end of contract period	• Handing over the project sites to concessionaire for the contract period • Monitoring the performance of the concessionaire as per the contract • Payment of charges to concessionaire as per the contract • Other obligations as per the contract including any supply of materials
DpFBOT (Design-Part-Finance-Build-Operate-Transfer)	• Design, Build, part-Finance, install and commission the equipment and construct the facility as per the contract • Operations and maintenance of equipment and assets providing the services as per the contract during the contract period • Transfer the equipment, assets and project sites to ULB at the end of contract period	• Handing over the project sites to concessionaire for the contract period • Monitoring the performance of the concessionaire as per the contract • Financial Assistance and Payment of charges to concessionaire as per the contract • Other obligations as per the contract including any supply of materials
BOOT (Build-Own Operate-Transfer)	• Build, install and commission the equipment and construct the facility as per the contract • Own, operate and maintain equipment and assets providing the services as per the contract during the contract period • Transfer the equipment, assets and project sites to ULB at the end of contract period	• Handing over the project sites to concessionaire for the contract period • Monitoring the performance of the concessionaire as per the contract • Financial Assistance and Payment of charges to concessionaire as per the contract • Other obligations as per the contract including any supply of materials
DBOOT (Design-Build-Own-Operate-Transfer)	• Design, Build, install and commission the equipment and construct the facility as per the contract	• Handing over the project sites to concessionaire for the contract period

Exhibit 6.4 provides comparison of engagements modes for Toilets:

Exhibit 6.4 Toilets: Engagement Modes Comparison

Conditions	Service Contract	Operate Maintain Transfer (OMT)	Rehabilitate Operate Maintain Transfer (ROMT)	Design Build Operate Transfer (BOT variants)
Definition	Toilet already constructed and maintained by ULB / other agencies, requires only operation, requiring no financing by operator	Toilet already constructed by ULB / other agencies, requires minor repairs prior to O&M, requiring full financing for O&M by operator	Toilets already constructed by ULB / other agencies, but require major structural rehabilitation in the same location, O&M, and requires part or full financing for both rehabilitation and O&M by operator	Newly constructed / installed toilets, requires complete new design, construction in a new location, O&M, requiring complete financing by operator
Land requirement	Already existing	Already existing	Already existing, land adjacent to structure could be used	Normally made available by ULB and/acquired from market
Financing required by ULB	High	Medium to High (for construction alone)	Low to Medium (no / partly for rehabilitation and/O&M)	No to Low (neither construction or O&M)
Financing by operator	Compensated by ULB for pre –defined manpower services	ULB to finance minor improvements. Complete financing for O&M by operator	Requires complete financing for both rehabilitation and O&M by operator or partly	Requires complete financing for construction and O&M

			compensated for rehabilitation alone	
Revenue augmentation options for operator	None	Userchargesand/ advertisements revenue	User charges and / advertisements revenue	User charges, advertisement revenue and / space for shops (for ex. ATM, kiosks)
Possibilities for changes in existing contracts clauses	High	High	Medium	Low
Type of operator / agency	Individual / manpower agency/SHG/ULB contracted staff	Company/contractor/ manpower agency/SHG	Company / contractor	Company
Operator financial capacities required	Not applicable	Low	Medium	High

As part of preparation of this Toolkit, select features of 23 projects (8 Sanitation and 15 MSWM) were profiled for preparation of detailed case studies (Annexure I – Case Studies). Below are the typical engagement modes, obligations of respective parties and corresponding case studies.

Exhibit 6.5 Engagement modes used in Sanitation Projects

Scope	Operation & Maintenance of Toilets / Collection & Transportation	Toilet Blocks/ Processing & Disposal Facility	Integrated Management System
Engagement Modes & Example Case Studies	• Management Contract: South Delhi, Hyderabad (Case Studies 2, 3) • Concession Agreement	• BOT: Noida, Visakhapatnam (Case Studies 1, 4) • DBOT: Andhra Pradesh (Case Study 5) • Separate EPC (Balasore, Case Study 8 and O&M Contract	• DBOT: Devanahalli (Case Study 6) • Management Contract: Leh (Case Studies 7) • BOT • Separate EPC and O&M Contract

Exhibit 6.6 Engagement modes used in MSWM Projects

Scope	Mechanical Sweeping / Collection & Transportation	MSW Processing facility (Waste to Energy)	MSW Processing & Disposal Facility	MSW Integrated Management System	Landfill remediation, construction & post- closure of landfill
Engagement Modes & Example Case Studies	• Management Contract: Guwahati (Case Study 2) • Concession Agreement: Noida, South Delhi, Indore (Case Studies 1, 3 & 4) • BOOT: Noida (Case Study 5)	• BOOT: North Delhi (Case Study 6) • DBFOT: South Delhi (Case Study 7) • Separate EPC and O&M Contract	• BOOT: Nanded (Case Study 8) • DBFOT: Kadapa (Case Study 9) • Separate EPC and O&M Contract	• DBFOT: Faridabad Cluster (Case Study 10) • DpFBOT: Bhopal and Katni Cluster (Case Studies 11 & 12) • BOOT: Noida (Case Study 13) • BOT • Separate EPC and O&M Contract	• DBOT: Bengaluru (Case Study 14) • DBOO: Noida(Case Study 15) • BOT • Separate EPC and O&M Contract

7. Recommendations

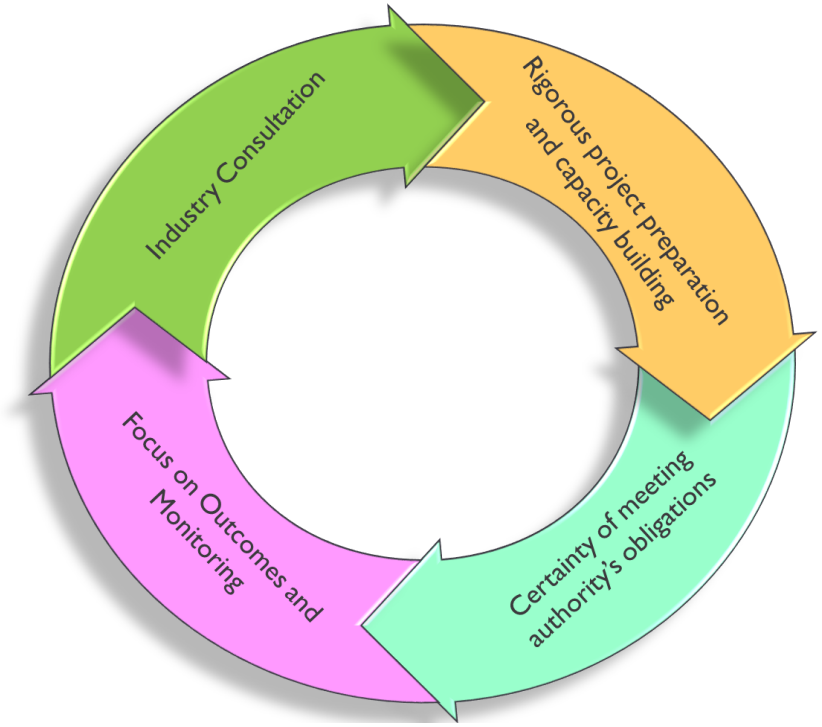


Exhibit 7.1 Recommendations

- **Industry Consultation:**
  Lack of industry consultation often leads to unrealistic technical and unviable financial models causing lack of participation from the private sector and failure of the procurement process. Continuous industry consultation throughout the procurement process is essential for the success of public procurement. Industry can not only provide key technical inputs during project design phase but also create sustainable business models, ensuring suitable competitive participation from the private sector.

- **Rigorous project preparation and capacity building**
  Adequate preparatory efforts and domain/procurement understanding are critical to structure and implement good sanitation and MSWM projects. Lack of procurement understanding and a single guideline to refer, usually make ULB officials consider procurement as 'complex' activity further leading to administrative delays. Wherever local capacity is weak, handholding by the specialist central/state nodal agencies of is critical. Use of external assistance from DPR consultants and Transaction advisors should be complemented with local training to ensure that the ULB officials understand the domain, structuring and contractual issues and are geared for managing the monitoring and supervision roles.

- **Certainty of meeting authority's obligations**
  Earmarking and making available land prior at the stage of bidding is critical. Additionally, for MSWM projects, time taken for environmental clearance could severely impact project implementation, hence either authority shall get the environmental/other clearances during allocation of land or shall provide all necessary support to get all the necessary clearances. Any deviation from agreed contractual obligations post commencement tends to create uncertainty and opens the project for protracted negotiations which can be long and painful. In general, the greater the certainty of the Authority meeting its obligations, the greater its ability to enforce the private operators to meet their part of the obligations.

- **Focus on Outcomes and Monitoring**
  Sanitation and MSWM projects should be structured to monitor and focus on outcome based

indicators rather than input based factors. Very often the tendency to define the input specifications very tightly can constrain innovation and competition that can potentially trigger greater efficiency and better service delivery. For instance, rather than restrict a particular type of waste processing, it may be useful to have all proven waste processing technologies to compete with output/outcome specifications, rather than carry out a bidding on the basis of a specific technology.

A public project performance monitoring dashboard can help in creating a transparent and credible monitoring system. Such system will ensure the right balance between the monitoring by the authority and private operator's performance. Over time, such system could be used for selection of private operator based on their past project performance.

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30. PSP Toolkit for IFSM, CEPT: Tender Document - Service contract for scheduled emptying of septic tanks

9. Annexures

1. Annexure I – Case Studies
2. Annexure II – Empanelment List
3. Annexure III – Model Bid Documents
    - Turnkey project on Design, Construction, Commissioning and Operation of Fecal Sludge & Septage treatment plant
    - Service contract for scheduled emptying of septic tanks