



*Development of
Public-Private-Partnership Projects
in
Tamil Nadu*

Practitioners Guide

**Prepared by
Tamil Nadu Infrastructure Development Board**

April 2023



Background

- Tamil Nadu over the last 2 decades have developed and implemented projects through Public Private Partnerships (PPPs) across various sectors viz., urban, transport, tourism, water supply, waste water, solid waste management, etc.
- The State Government is keen on upscaling these efforts across a spectrum of sectors and projects to ensure value for money is derived from these projects.
- The PPP Guide is envisaged to provide guidance to the government departments and its agencies to conceptualise, structure and implement the projects through appropriate PPP frameworks.
- PPP projects are complex commercial structures and applying the right commercial principles requires analysis of individual project characteristics and financials.
- The document serves as a practical guide to formulate an appropriate project structure based on the commercial principles.
- The Guidebook comprises of 7 sections, each section briefly outlining the process for the development of PPP projects in the State of Tamil Nadu.

Structure of the Guide

-  Section 1: Introduction to Public Private Partnerships
-  Section 2: Project Identification
-  Section 3: Detailed Feasibility
-  Section 4: Project Structuring
-  Section 5: Procurement Process
-  Section 6: Contract Management
-  Section 7: Legal and Governance Framework



Section 1: Introduction to Public Private Partnerships



Introduction to PPPs

- **What is a Public –Private Partnership**

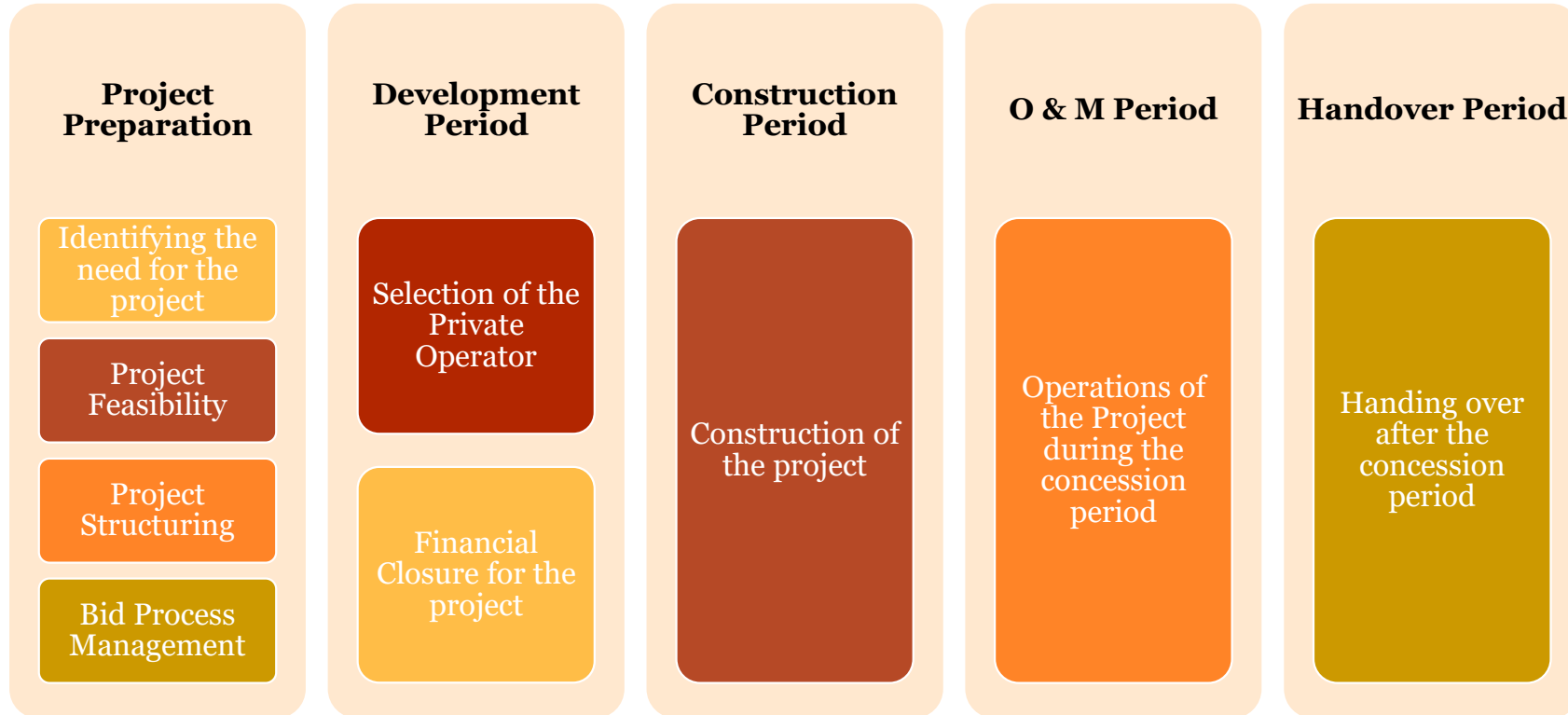
- PPP is an arrangement between the public entity and the private partner for development and operation of infrastructure facilities or delivery of services.
- Investments and management of the facility/service will be undertaken by the private sector for a specified period of time
- In PPPs, the private partner assumes the role of the public entity in the provision and delivery of services over a concession period
- Performance linked payments conforming to pre-determined and measurable attributes/standards that are monitored either independently or by a Government agency

A concession means a set of rights that are being transferred to the private entity from the public entity as part of the PPP arrangement.

- **Why Public Private Partnerships**

- Tap private sector expertise, innovation and competitive advantages in the delivery of public goods and services.
- Cost efficiency through lifecycle optimisation
- Clear allocation of risks ensuring transparency and accountability
- Access to private sector finances in the development of public infrastructure projects

PPP-Project Lifecycle



Project Preparation is critical in a PPP Project as the objective is to formulate a bankable project with an appropriate project structure for implementation

PPP-Key Stakeholders

- Government & its entities as the sponsor

Public Sector

- Private Enterprise which is awarded the Project

Concessionaire

- A legal entity created exclusively to implement and operate the project by the Concessionaire

Special Purpose Vehicle

- Lender or Consortium of lenders to the project

Financial Institutions

- Consultants assisting the sponsor

**Technical/
Legal
Consultants**

- Consultants assisting the sponsor in the selection of the Concessionaire

Transaction Advisors

- Consultants to monitor the construction and operations

Independent Engineer

- End users or beneficiaries of the project

Users

Role of Key Stakeholders

Public Sector

- Public sector is an agency/ board / corporation/ department/ local body of the government
- The sponsoring entity in a PPP project is the public sector
- The scoping of the project will be carried out by the public sector
- Responsible for the procurement of the private partner
- Providing approvals and clearances
- Support during implementation and operations

Concessionaire

- Successful bidder in a PPP project
- Responsible to implement and operate the project as per the project structure
- Promoter of the project specific SPV, if required
- Infuse Equity
- Assist in financial closure of the project
- Provide Management Support

Role of Key Stakeholders

Special Purpose Vehicle

- “Special Purpose Vehicle (SPV)” is an exclusive legal entity created by the concessionaire for the project.
- SPV plays an important role in the implementation and operations of any PPP project
- The SPV will raise finances to the project on project financing mode
- Based on the PPP format, the SPV will develop, build, maintain and operate the asset for the contracted period.
- Based on the project structure, the sponsoring entity may also become a shareholder in the SPV and may subscribe to the equity in the SPV

Financial Institutions

- Financial Institutions are banks or entities that provide debt financing to the project
- Based on the cost of the project, a consortium of lenders may also finance the project
- The FIs may also provide mezzanine debt in some cases
- Lenders may be represented on the Board of SPV
- Lenders will have the first charge on the revenues from the project for servicing the debt

Role of Key Stakeholders

Technical Consultants

- Technical consultants will be hired by the sponsoring entity to assist them in the preparation of technical reports, viz. Detailed Project Reports, Techno-Economic Feasibility Studies, DFRs, etc.
- The technical consultants should be hired through a transparent procurement process as advised in the “procurement of consultants”
- The scope of technical consultants may comprise of physical surveys, master plan, design and cost estimation, etc.
- The technical consultants, based on the project and the scope, may provide inputs to the transaction advisors during the procurement of private partner

Transaction Advisors

- Transaction Advisors are consultants hired by the sponsoring entity to assist them in the complete transaction of selecting the private partner
- The transaction advisors should be hired through a transparent procurement process as advised in the “procurement of consultants”
- The scope of transaction advisors may be defined by the sponsoring entity and usually it may comprise of financial analysis, project structuring and managing the procurement process for the selection of private partner
- The key element of Transaction Advisor is to advise the sponsoring entity on the bid parameters and drafting the concessionaire agreement for the project
- The transaction advisors should have a team comprising of technical, financial, legal and procurement experts

Role of Key Stakeholders

Independent Engineers

- Independent Engineer(s) is a consultant appointed by the sponsoring entity after the project is awarded and the concession agreement is signed.
- The role of the Independent Engineer is to monitor the progress and quality of the project as specified in the concession agreement.
- The Independent Engineer acts as “Owners Engineer” and his role has to be defined in the Concession Agreement

End Users

- End users are the beneficiaries of the project
- End users pay the concessionaire the fee/charges/tariffs as notified by the sponsor for utilizing the facility or service
- End users drive the demand for the project

PPP-Formats

Many variants of PPP formats are being implemented across different projects based on the project structure and the risks associated with these projects.

Investment & Financing

- Build-Operate- and Transfer (BOT)
- Build-Own – and Operate (BOO)
- Build –Own- Operate- Transfer (BOOT)
- Build – Transfer and Operate (BTO)
- Design- Build-Finance-Operate-Transfer (DBFOT)

Operations & Maintenance

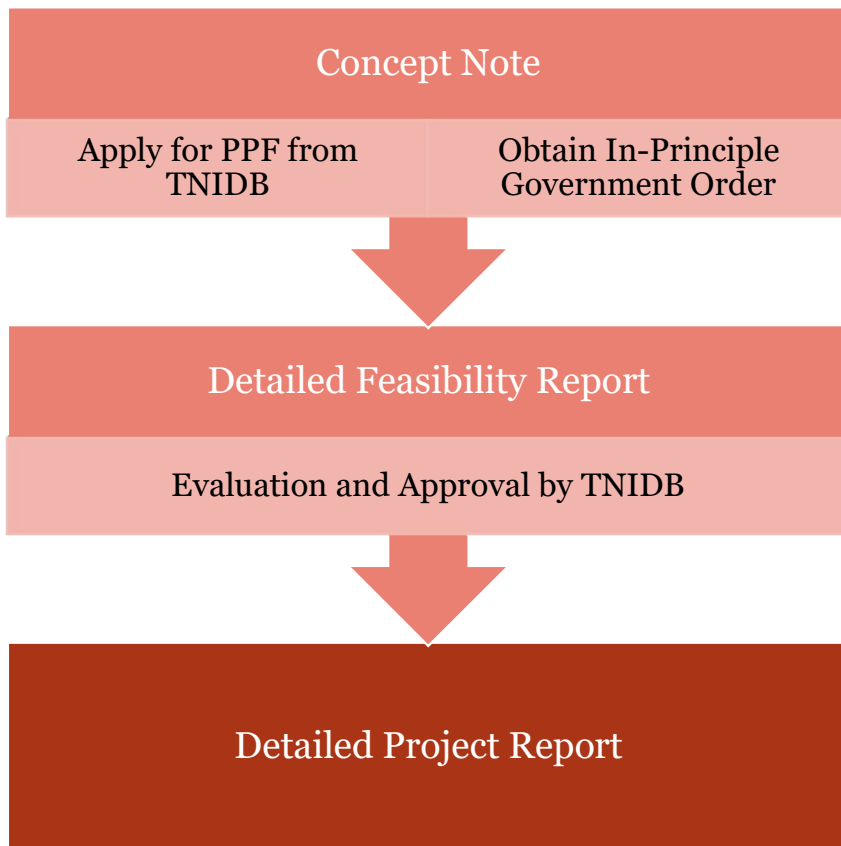
- Management Contracts (MC)
- Lease Contract (LC)
- Build-Lease and Transfer (BLT)
- Rehabilitate- Operate and Transfer (ROT)
- Rehabilitate-Own- and Operate (ROO)

Risk and Responsibility Matrix

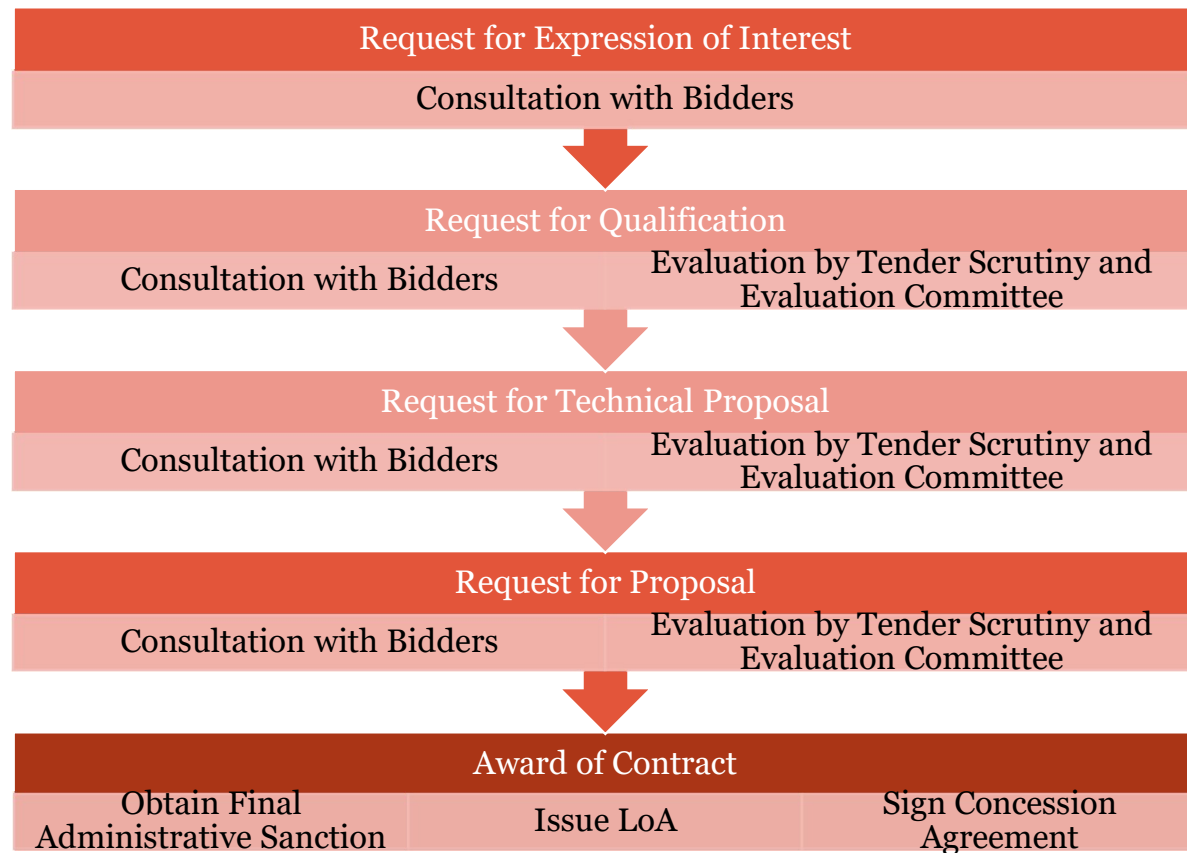
Responsibility/Risk	Public Sector/Sponsoring Entity	Private Partner
Land	✓	
Approvals and Clearances	✓	
Design & Construction Risk		✓
Financing Risk		✓
Market Risk		✓
Revenue Risk		✓
O & M Risk		✓
Payments and Debt Servicing Risk		✓
Technology Risk		✓
Management Risk		✓
Time and cost overruns risk		✓

Stages in a PPP Project

Project Development

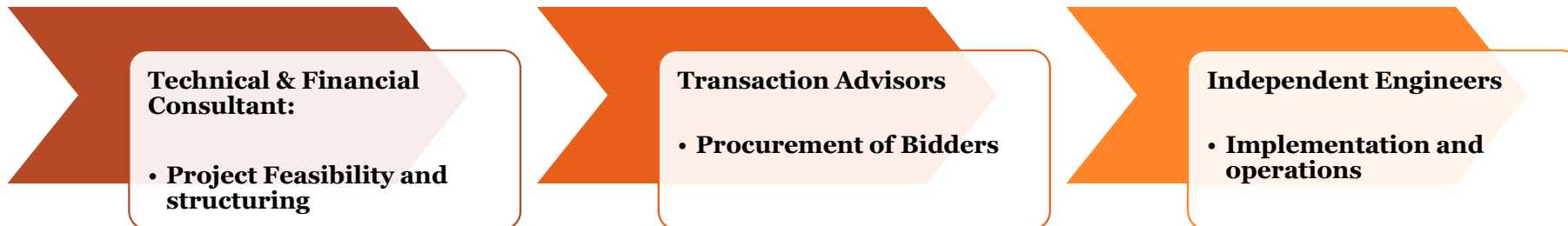


Project Procurement



Procurement of Consultants

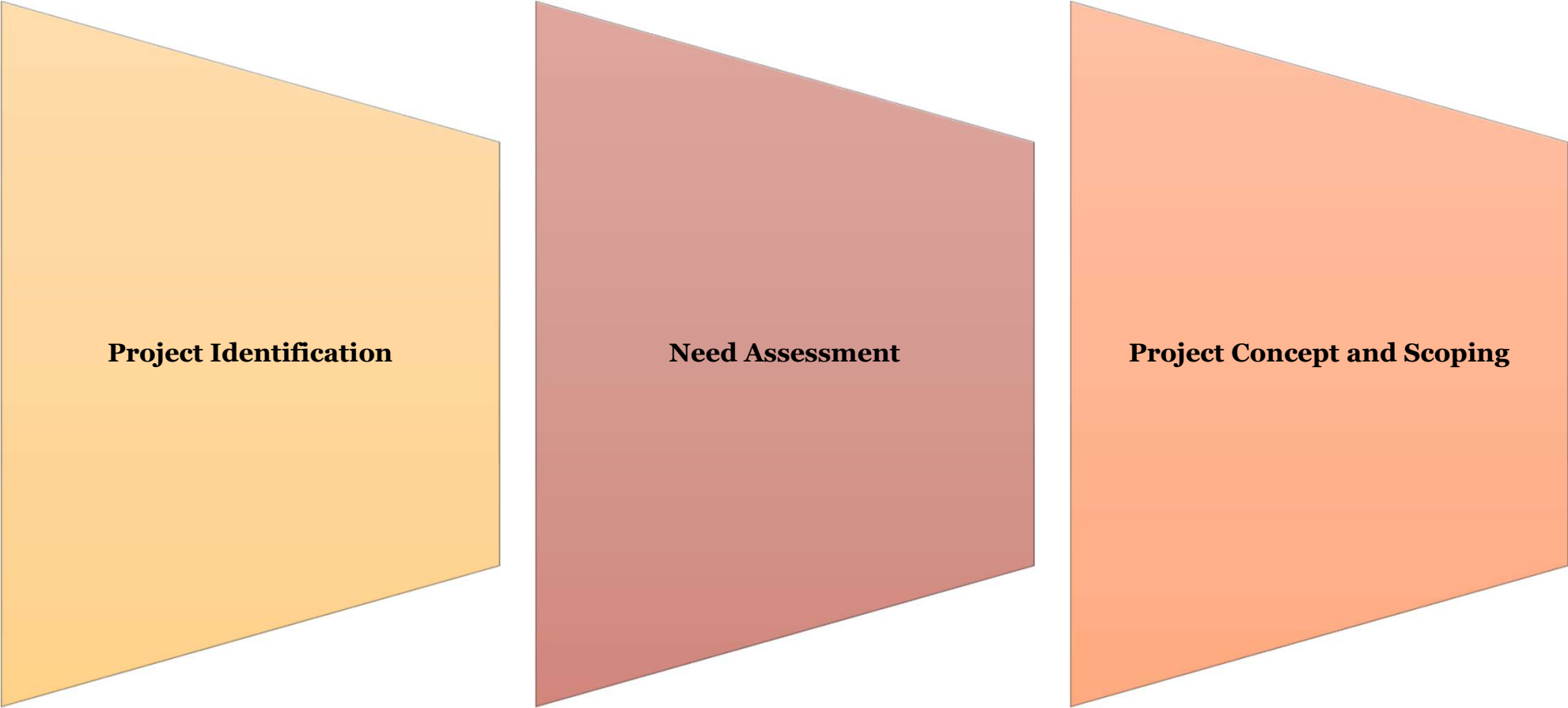
- A procurement process needs to be followed for the selection of consultants for project development and management
- The sponsor may utilize the consultants empaneled by TNIDB for various project activities and sectors
- The sponsor may use the model RFP documents prepared by TNIDB for selection of technical, financial consultants and transaction advisors
- A “Quality & Cost Based Selection” (QCBS) method is a preferred model for the selection of consultants and transaction advisors



Section 2: Project Concept



Project Identification Process



Project Identification

- Project identification is the first stage of a project life cycle that precedes project preparation and procurement stages.
- It is a crucial stage to identify the needs and assess the requirement of the project
- This stage will provide an insight for the adoption of an appropriate procurement strategy, a significant factor in the successful execution of the project
- Project identification
 - identification of the need for the project
 - options to address the need
 - economic and financial analysis of each of the options
 - benefit to the public

Need Assessment

- A need assessment is carried out to identify the requirement of the proposed development/project, project outputs and the desired outcomes.
- An overall need assessment should be carried out, taking into account the types of services based on user requirements, demand and existing and potential sources.
- The need assessment should also take into account the existing infrastructure assessment in terms of its ability to deliver the existing services and the requirements for the future.
- The need assessment should comprise of :
 - service capacity of existing assets.
 - Service/performance standards provided by existing assets
 - condition of the existing assets, including the age, longevity, maintenance, augmenting capacity, time and cost
 - implementation aspects
- The need assessment should provide guidance to the sponsoring entity the need for a greenfield development or augmenting the existing assets to ensure quality service delivery.

Project Concept and Scoping

Project Concept

Rationale for the project

Project Components

Desired Output/Outcome

Estimated Cost and Revenue

Sponsoring agency readiness

Project Scoping

Clearly defining the scope

Size of the project

Project outcomes

Type of PPP Format

Implementation Structure



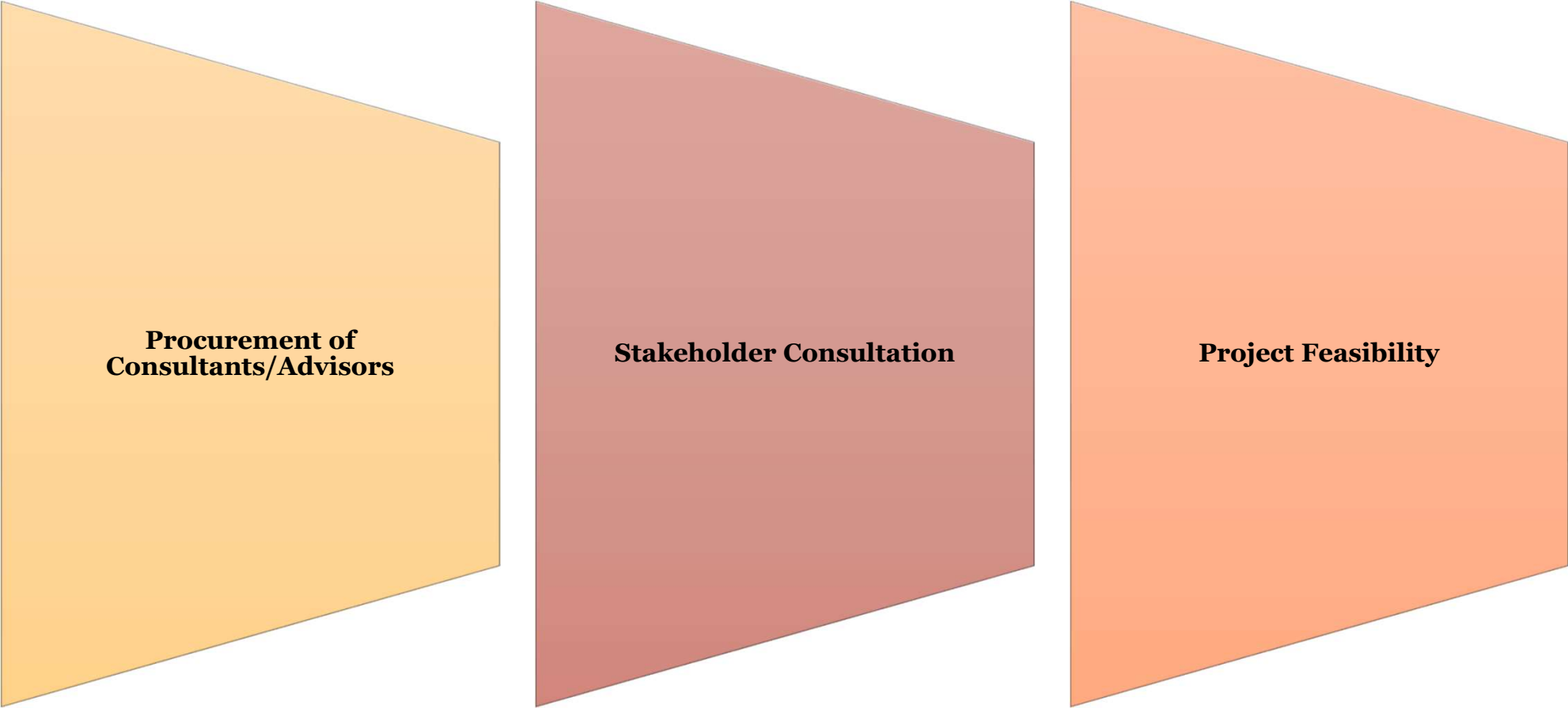
Section 3: Detailed Feasibility Report



Feasibility Studies

- Feasibility studies for a project are key in the project development process of a PPP Project and is critical in project structuring, bid documentation and implementation.
 - Feasibility studies include assessing the technical, financial, and legal suitability of a project and are carried out by various stakeholders
 - Project sponsor: to establish the need and structure a PPP format
 - Bidders/Private partner: at the time of bidding or after the project award
 - Lenders: during financial closure stage
 - **Pre-feasibility Study**- preliminary assessment of project viability that usually takes place in the identification stage of the project cycle.
 - **Feasibility Study (FS/DFS)**—would include technical feasibility, legal and financial feasibility of the project covering a project components /development plan, market assessment, design, costs and benefits, social and environmental aspects, institutional issues, financial analysis, project structuring options, risk assessment etc.
 - **Detailed Project Report (DPR)** -will comprise, in addition to the contents of a FS/DFS, will provide design details, specifications, detailed costing and drawings, implementation plan, etc.
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Project Feasibility Process



Project Feasibility Components

<p>Need & Option Analysis</p>	<ul style="list-style-type: none"> • Need and Demand • Delivery option
<p>Technical/Legal Feasibility</p>	<ul style="list-style-type: none"> • Assessment of Technology/O&M options • Legal/regulatory assessment • Environmental and Social assessment
<p>Financial Feasibility</p>	<ul style="list-style-type: none"> • Preliminary financial assessment • Cost and Revenue assumptions • Grant/ Government Support/VGF
<p>Project Structuring</p>	<ul style="list-style-type: none"> • Appropriate PPP format • Defining roles and responsibilities • Contractual framework
<p>Institutional Assessment</p>	<ul style="list-style-type: none"> • Internal resources • Project management

Need and Option Analysis

Need Analysis

Type of users

Demand

Existing service provision/standards

Future requirements

Option Analysis

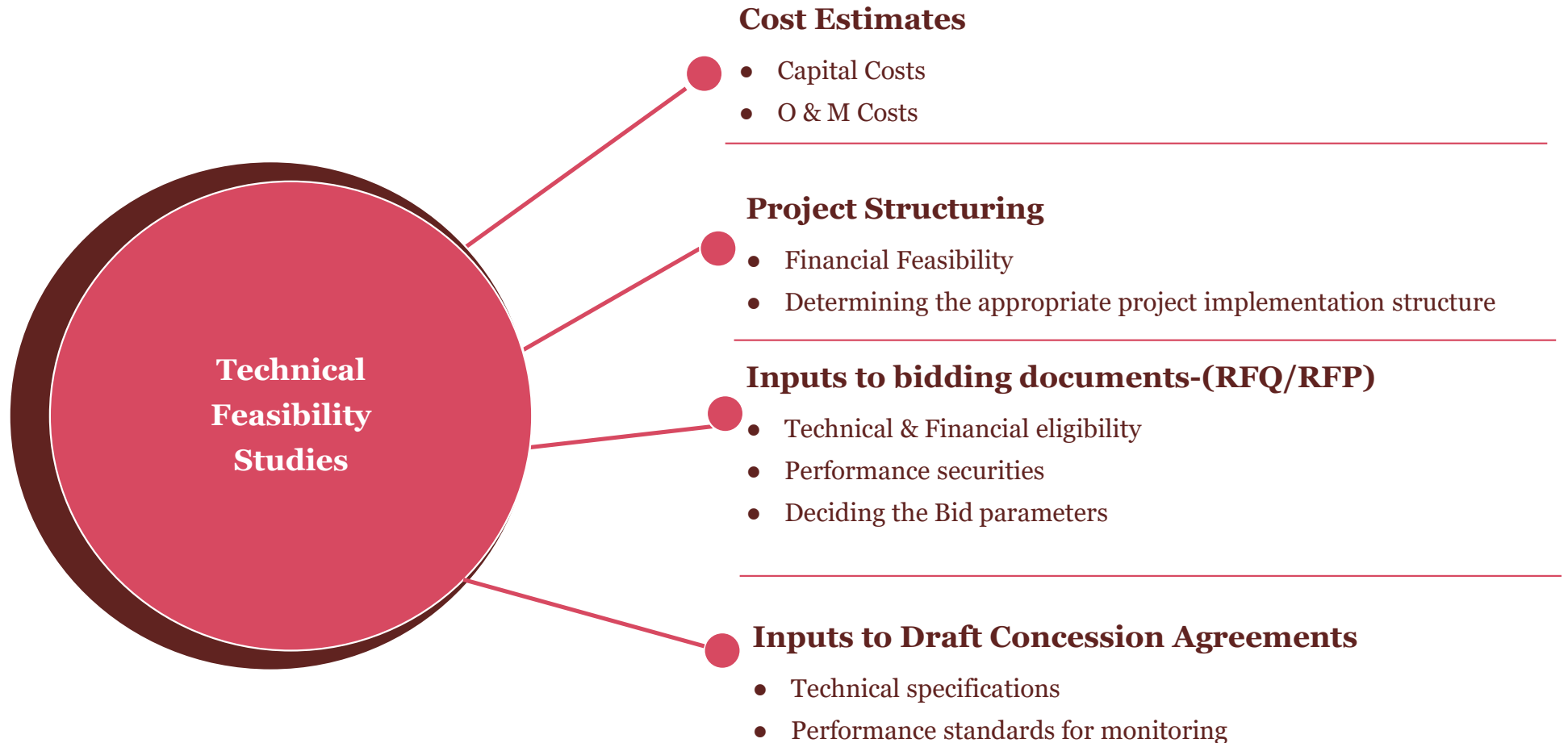
Demand and cost analysis

Estimation of life cycle costs

Technical suitability

Delivery models

Technical Feasibility Studies are key inputs to



Technical Feasibility Include

- The technical feasibility studies should include
 - engineering/design options
 - costs for each of the option
 - ease of implementation
 - environmental and social impacts and
 - associated requirements in terms of connectivity, external infrastructure, land etc.
- Based on the above, the technical feasibility study should suggest an optimum option in terms of prudent design, cost, sustainability, O&M aspects, etc.
- The technical feasibility should ensure that the sponsoring entity takes a well informed decision with regards to implementation of the project on a PPP format.

The technical feasibility study is critical in project structuring, bid documentation and implementation

The technical feasibility study should examine the design and engineering options taking cognizance of the life of the project and risk of obsolescence of the design/technology, particularly in technology intensive projects.

Financial Feasibility

- One of the key objectives of PPP is to attract private sector funding into the project. Financial feasibility is critical for the bankability of the project
- Financial feasibility forms the basis for determining an appropriate project structure and
 - is a key component of project financing
 - is an iterative process
 - allows the project sponsor make an informed decision on an appropriate procurement strategy for the project
 - is critical to potential lenders
 - will assess the repayment capacity over the concession period
 - is used to determine the financing strategy especially the sources of funds- debt, equity or Government support.

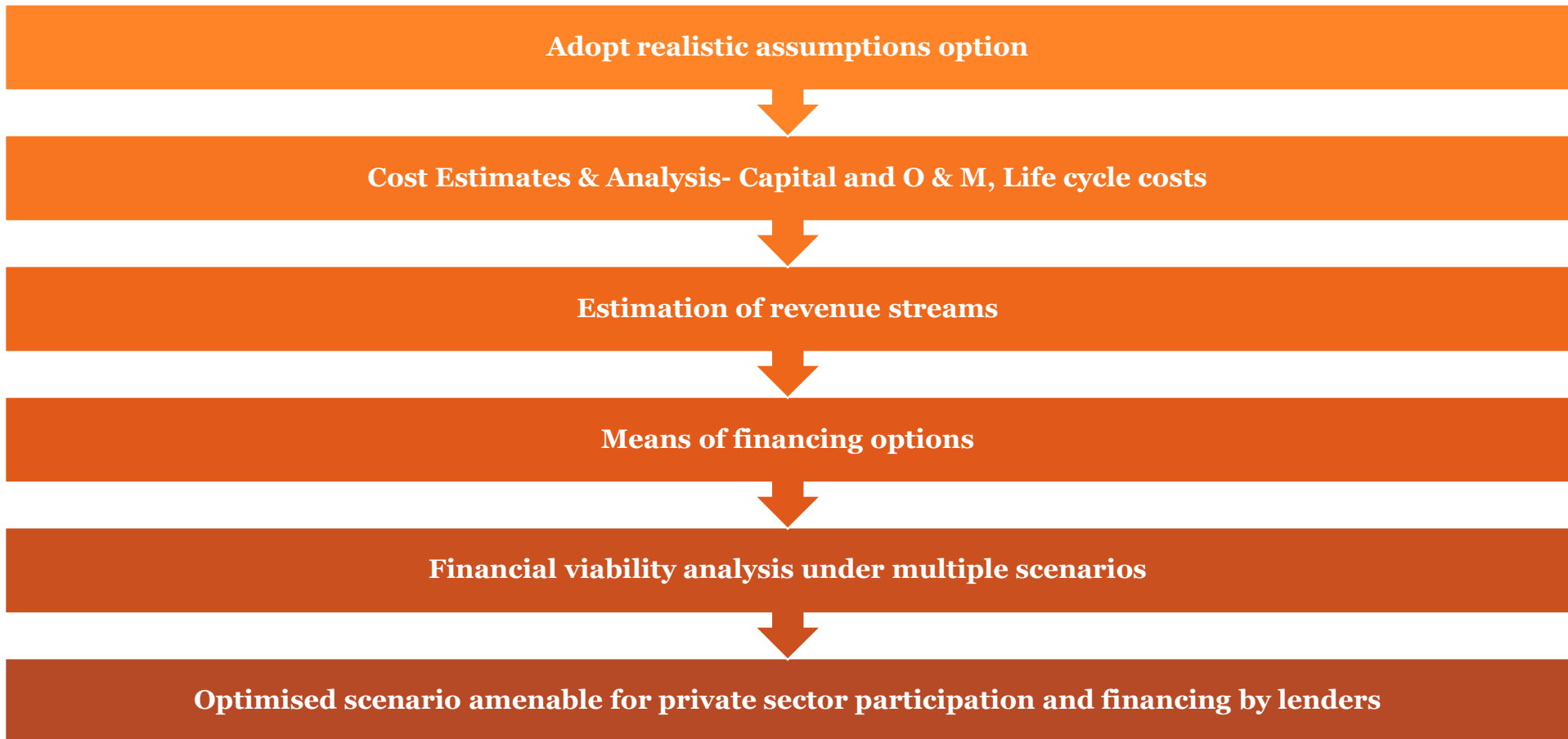
Financial Feasibility Assessment

- Financial feasibility of a project is assessed on the basis of proposed investments and projected cash flows
- Typically, the project should
 - generate sufficient revenues that would allow a reasonable return on investment to the private partner and Value for Money for the public partner.**
- A project could be termed financially **viable project** if
 - it meets debt service obligations
 - the project NPV and equity NPV are positive when discounted at weighted average cost of capital (WACC)
 - the estimated equity IRR is >than the cost of equity
- Key financial indicators
 - Project Net Present Value (PNPV)
 - Equity Net Present Value (ENPV)
 - Project Internal Rate of Return (PIRR)
 - Equity Internal Rate of Return (EIRR)

Lenders Assessment

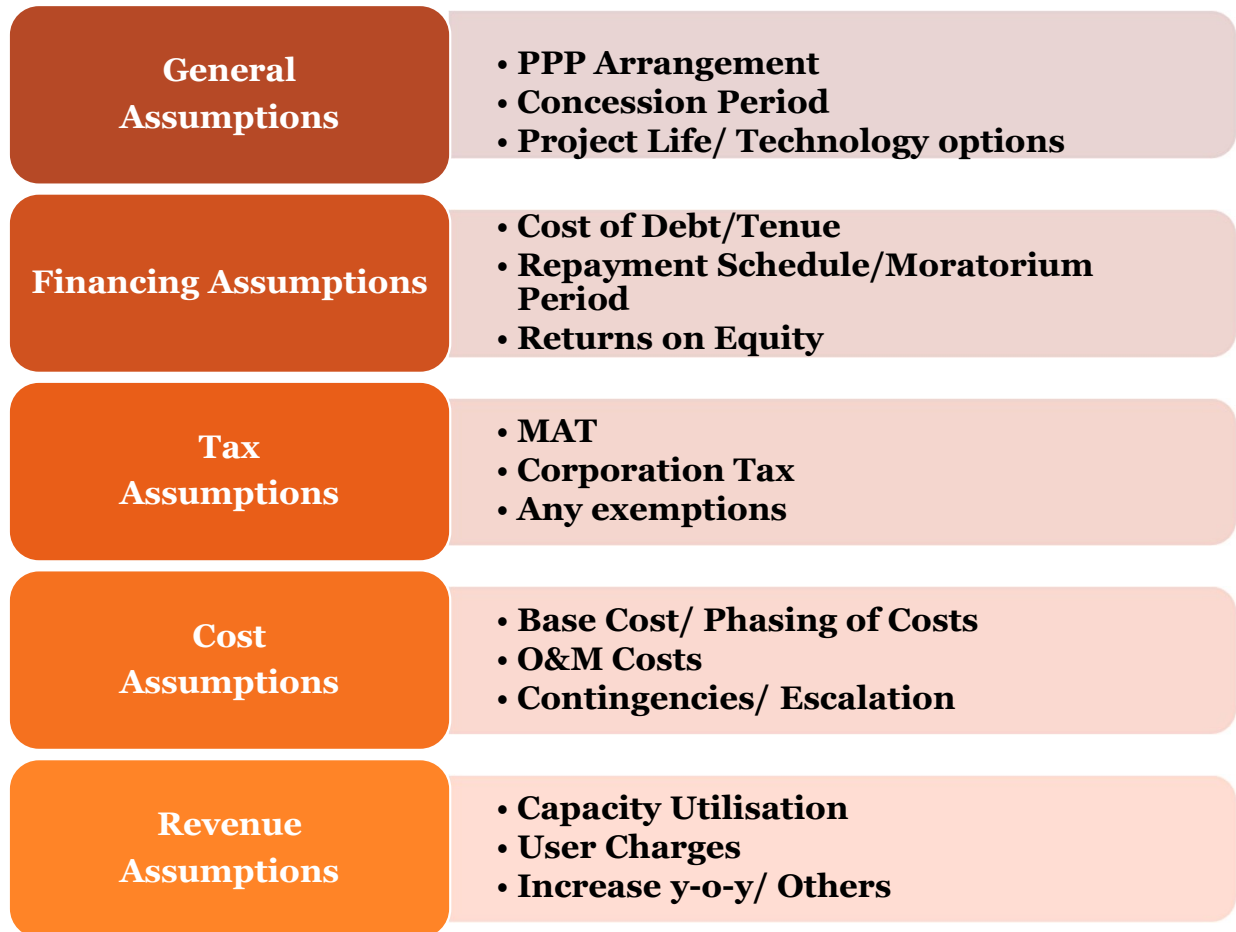
- The amount of debt is primarily determined by its ability to service its debt services from future cash flows.
- **Debt Service Coverage Ratio (DSCR)** is the ratio of free cash flow to debt service.
 - $DSCR = \text{Net Operating Income} / \text{Total Debt Service}$
- $DSCR > 1$ means, the project is generating enough income to pay its debt obligations
- $DSCR < 1$ means that the project company has negative cash flows

Process of Determining Financial Feasibility



Financial Feasibility- Assumptions

- In a PPP project, the financial feasibility is determined based on the project’s cash flows and other financial statements. Hence, the assumptions have to be realistic
- Indicative categories of assumptions are general assumptions, financing assumptions, tax assumptions, cost and revenue assumptions and market-related assumptions.



Life Cycle Cost Analysis

- Life cycle costs need to be assessed in order to arrive at the funding requirements
- Life cycle costs are measured in terms of capital expenditure and operating expenditure (O&M costs).
- **The costs for financial analysis are to be derived from the technical feasibility study conducted for the project.**



Typical Financing Options

Project Financing

- Assessment based on the cash flow expected from the project only
- Non-recourse financing
- Debt service capacity based on future cash flows of a project itself

Corporate Financing

- Assessment of borrower's over all balance sheet
- Recourse to other assets of the company or its promoters/parent
- Debt service capacity based on future cash flows, taking into account prior performance of all the projects

In the case of PPP projects, the project is funded through project finance route solely based on the financial viability of the project

Means of Financing

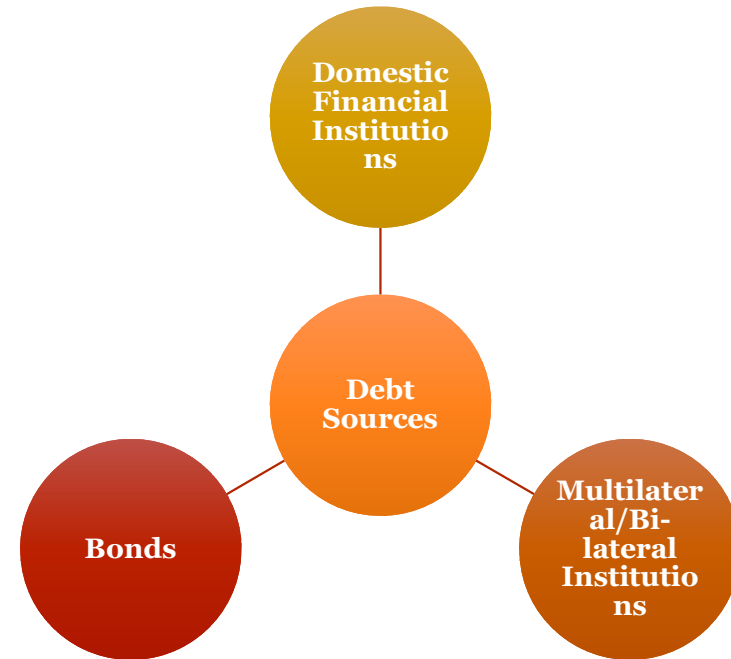
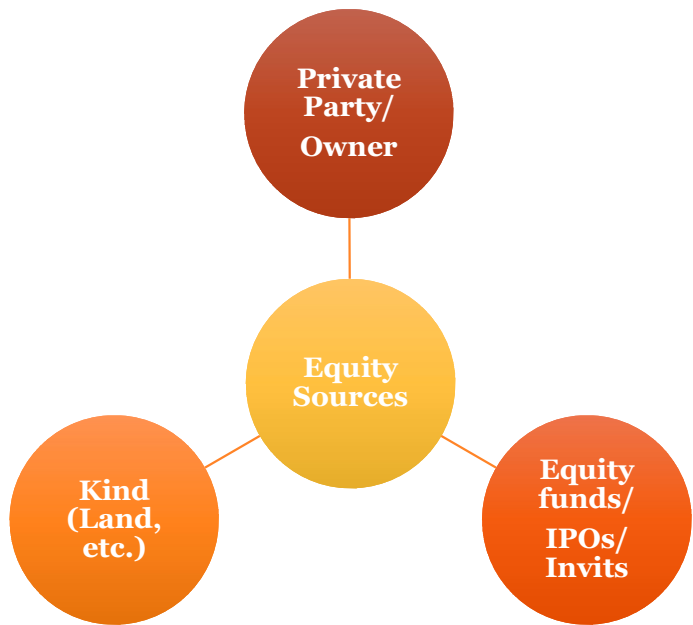
- Means or sources of finance is a critical component of financial feasibility and project financing.



Conventional Means of Financing

- **Equity** -provided by the private partner.

Debt -raised from banks, development partners and Government Agencies or the issue of bonds.



- **Debt to Equity Ratio:** the ratio between the quantum of debt to quantum of equity that is proposed to finance a project.
- Typically, a debt to equity ratio of 70/30 is assumed for projects and may vary based on the risks involved in the project.

Innovative Means of Financing

- **Mezzanine Financing**

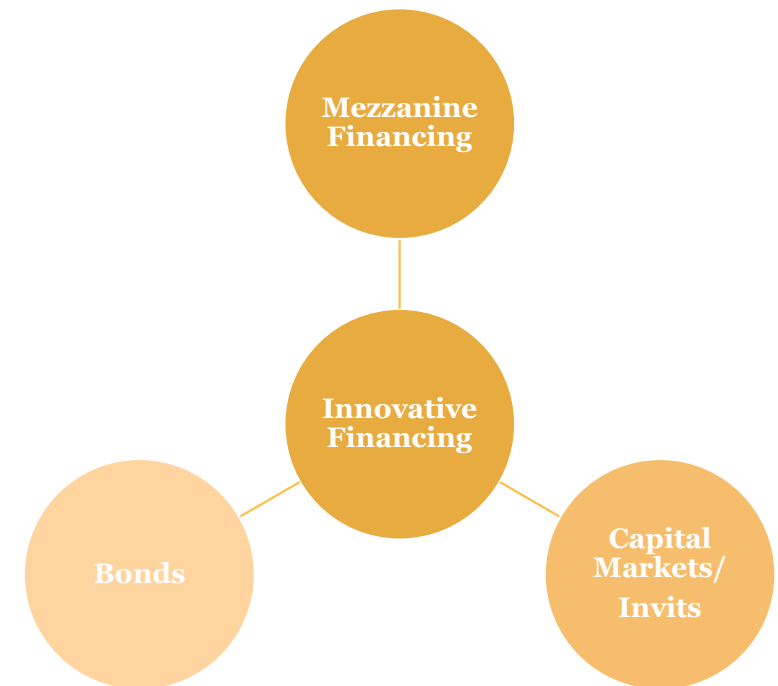
- Mezzanine financing is a **hybrid of debt and equity financing** that gives the lender the right to convert the debt to an equity interest in the company in case of default
- Mezzanine finance is also treated as an equity in the project

- **Bonds**

- Bonds are investment securities where an investor lends money for a set period of time, in exchange for regular interest payments. Once the bond reaches maturity, the bond issuer returns the investor's money. Example of successful bonds -municipal bonds by the Ahmedabad Municipal Corporation /Pune Municipal Corporation, etc.

- **Capital Markets through Infrastructure Investment Trusts (Invits)**

- Infrastructure Investment Trust (InvITs) is Collective Investment Scheme similar to a mutual fund, which enables direct investment of money from individual and institutional investors.
- An InvIT is designed as a tiered structure with Sponsor setting up the InvIT which in turn invests into the eligible infrastructure projects either directly or via special purpose vehicles (SPVs).



Market Assessment Study

- Demand assessment
- Market surveys
- Willingness to pay
- Competing facilities
- Technology options

**Environmental & Social
Impact Assessment Study**

- Project Screening
- Assessment of environmental impacts
- Environmental Management Plan
- Social Impacts due to the project
- Planned interventions
- Institutional arrangements for monitoring

Support from State Government & TNIDB

- **Capital Support**

- The Infrastructure Development Act 2012 provides financial support of the State Government to PPP projects on a case to case basis.
- The maximum State support is limited to 40% of total project costs and may be in the form of
 - Capital grant/ VGF/Subsidy
 - Equity during construction period
- TNIDB will provide the necessary recommendation to the State Government after carrying out a project appraisal
- The state support may be availed only after exhausting the sponsoring agency's own resources/ financial support from GoI.

- **Project Preparation Fund**

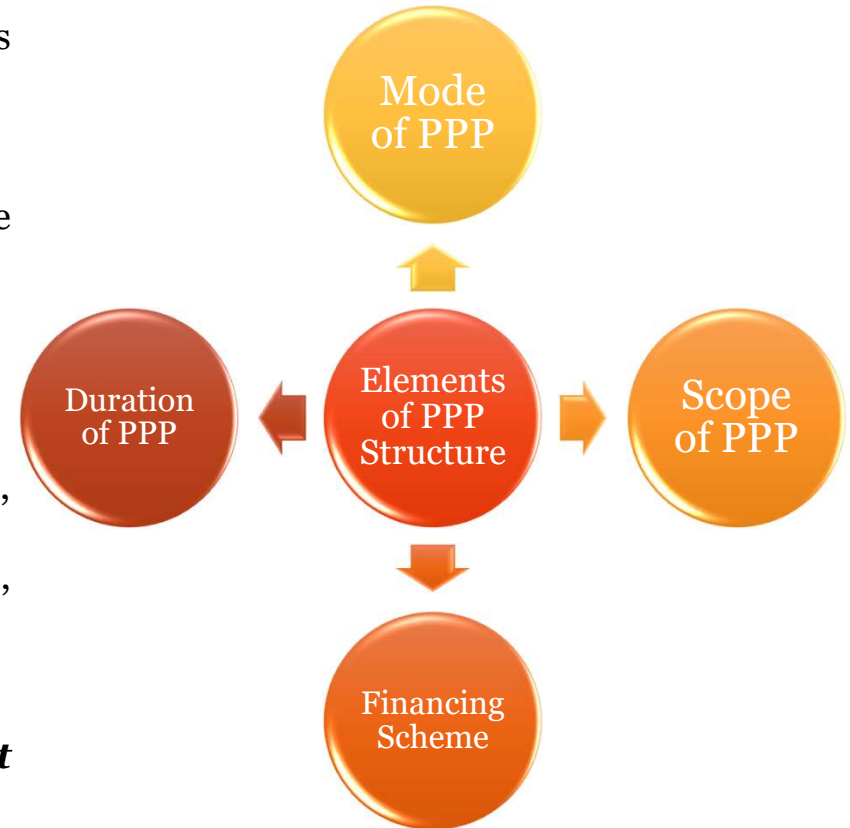
- A pro-active project development approach is very critical in formulating PPP Projects
- TNIDB operates an exclusive Project Preparation Fund for project development activities of PPP projects
- The PPF may be utilized by sponsoring agencies for feasibility studies, DPRs, hiring the services of specialist experts and consultants, capacity building and research activities

Section 4: Project Structuring



Project Structuring

- Structuring a PPP project -allocating responsibilities, rights, and risks largely between the sponsor and the private sector.
- The project structure should be developed through an iterative process considering multiple options.
- The feasibility report could be the basis for structuring the PPP
- The key tenets of project structure include –scope of the PPP, appropriate PPP mode, the financial scheme, revenue streams, duration of the PPP, and the overall operating framework.
- ***An efficient project structuring of a viable PPP project should provide Value for Money to the sponsor***

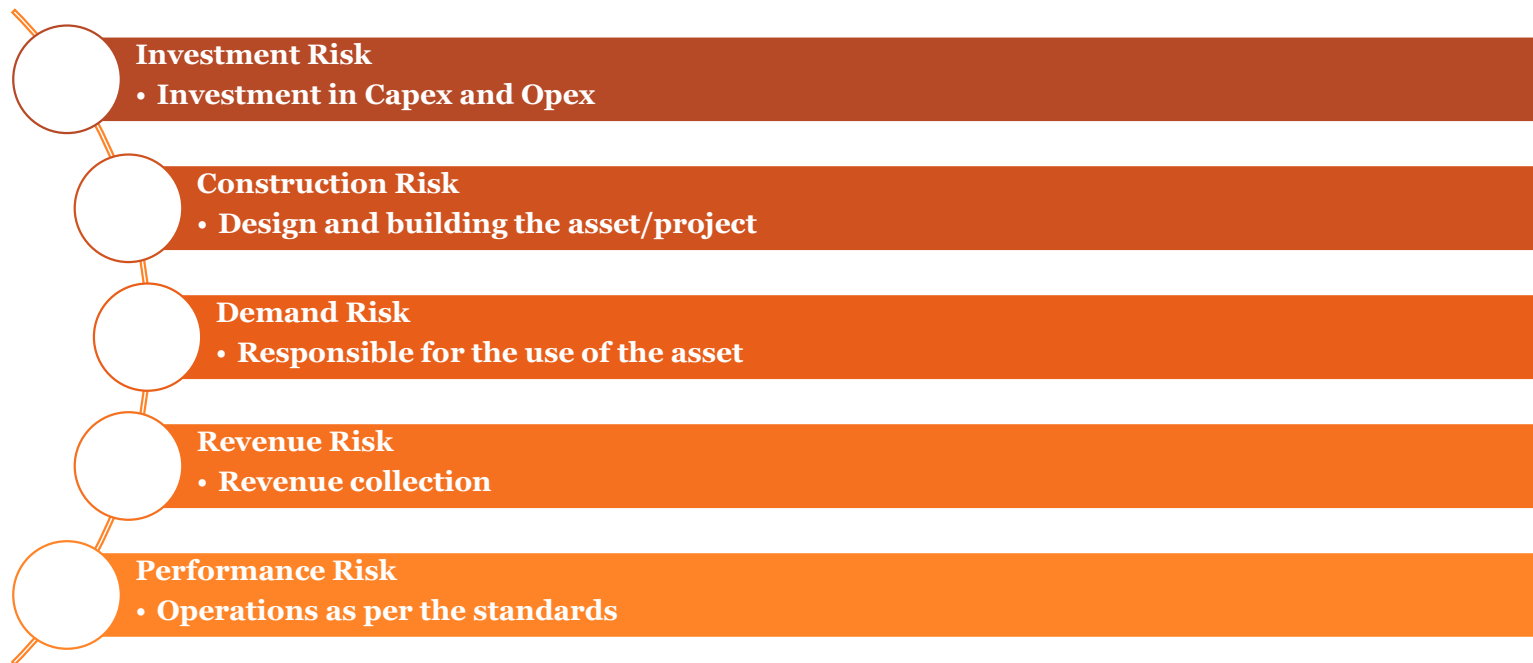


Points to be considered in PPP Project Structuring



Factors determining the PPP Format

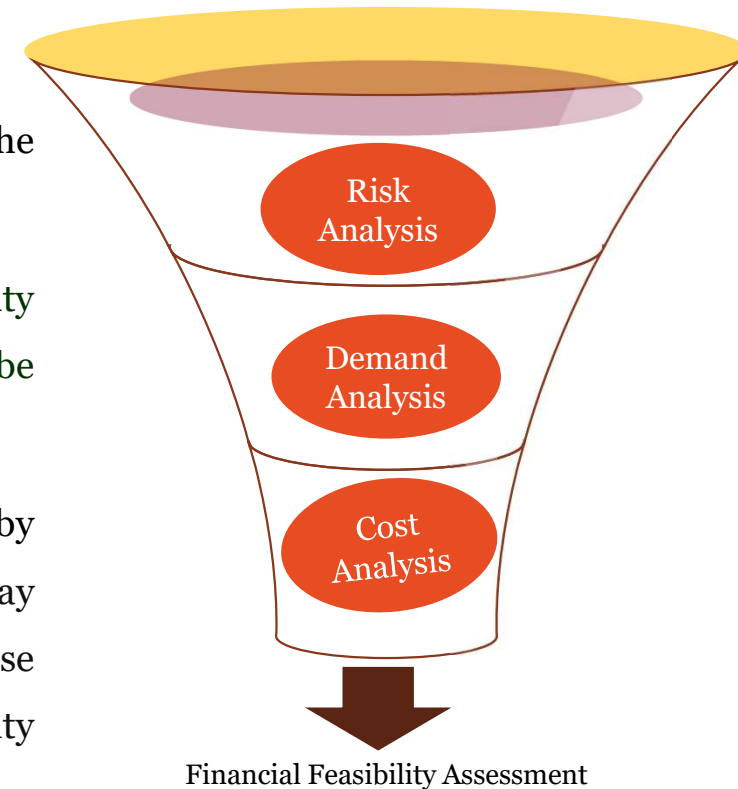
- The main objective of deciding on a PPP format is to create a win-win situation for the sponsor and the private sector.
- The PPP format will define the nature of the risk allocation, viz., investment risk, demand risk, construction risk, performance risk, etc.



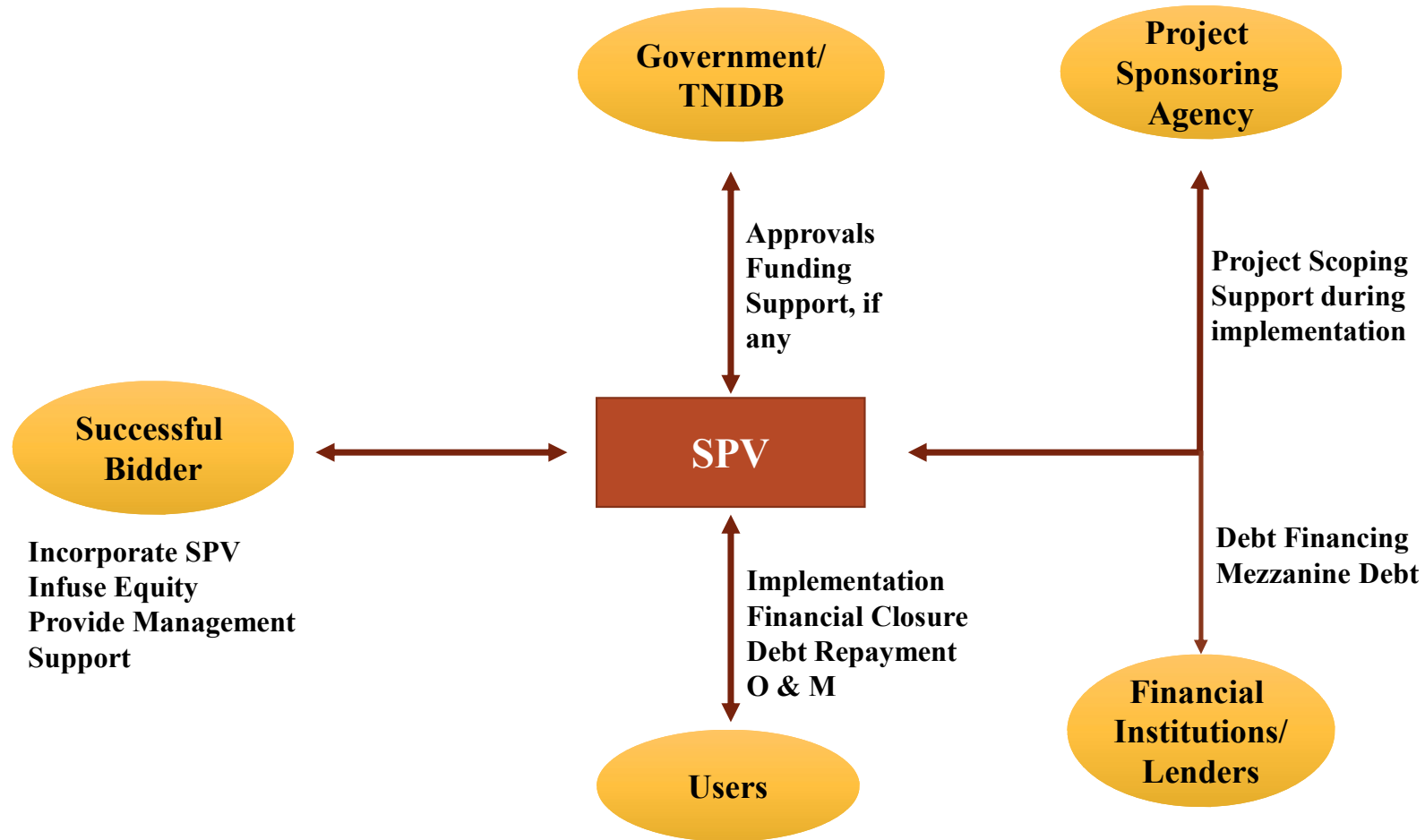
Usually, the PPP formats viz., BOT and its variants, Management Contracts, Lease Contracts, etc. are commonly adopted for the development of projects across various sectors.

Financing Scheme

- An alternative or optimized project structure should be considered if the project is financially not viable as per the scope and assumed PPP format.
- Some options include seeking grant or a Viability Gap Funding from the sponsor or Government.
- The VGF may allow provision of upfront grants to improve financial viability of a socially or economically desirable project that would otherwise not be financially sustainable.
- In addition, Hybrid Annuity Model (HAM) structure may also be explored by the project sponsor. In Hybrid Annuity Model (HAM), the project sponsor may pay upfront a portion (40%) of the project cost during the construction phase and the remaining will be arranged by the developer and recovered as annuity amounts during the concession period.



SPV as the Implementation Agency



Section 5: Procurement Process



Procurement Process

- ❑ Procurement processes are to be governed by the business and financial rules of Government of Tamil Nadu and the sponsoring entity.
- ❑ The contours of the procurement process need to be finalised during the project structuring stage
- ❑ **The sponsor should provide project specific information and clarity on the terms and conditions of the PPP arrangement**
- ❑ The process should be transparent, open, competitive, free, fair, efficient and should be in compliance with the TN Transparency in Tenders Rules 2012.
- ❑ The actual process for selection of a private partner starts only after the project structuring exercise is completed and the administrative approvals are obtained.
- ❑ GoTN follows a competitive procurement strategy which will include a single stage or a two stage bid process. The TNTIT Rules also allows Expressions of Interest (EoI) as part of competitive procurement strategies.



Request for Expression of Interest (EoI)

REoI

- generate interest from private entities
- alternatives to the existing project scope, etc.
- to be followed by RFQ and RFP stages

No bar on shortlisting

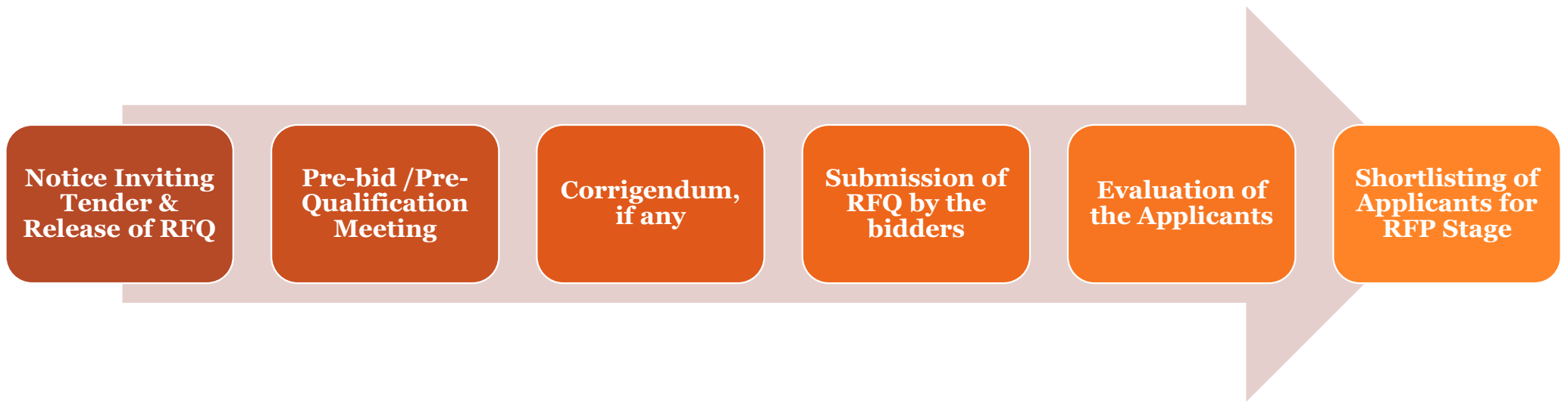
- EoI shall not be used to either shortlist or disqualify tenderers

Minimum Timeframe

- 4 weeks from the date of advertisement

Request For Qualification Process

- The RFQ process is carried out to short-list and pre-qualify applicants for shortlisting to the RFP Stage
- The RFQ process will identify bidders having the requisite technical & financial capacity to undertake the project.
- The qualification criteria and evaluation methodology should be clearly spelt out in the RFQ document
- The sponsoring agency/department may constitute an Evaluation Committee for shortlisting the bidders
- **Minimum Time Frame:** 4 Weeks



Contents of the RFQ

Description of the project

Estimated project cost

Tender process and schedule of tender proceedings

Eligibility Criteria

Formats for submission

Documentary proof of eligibility

Evaluation methodology

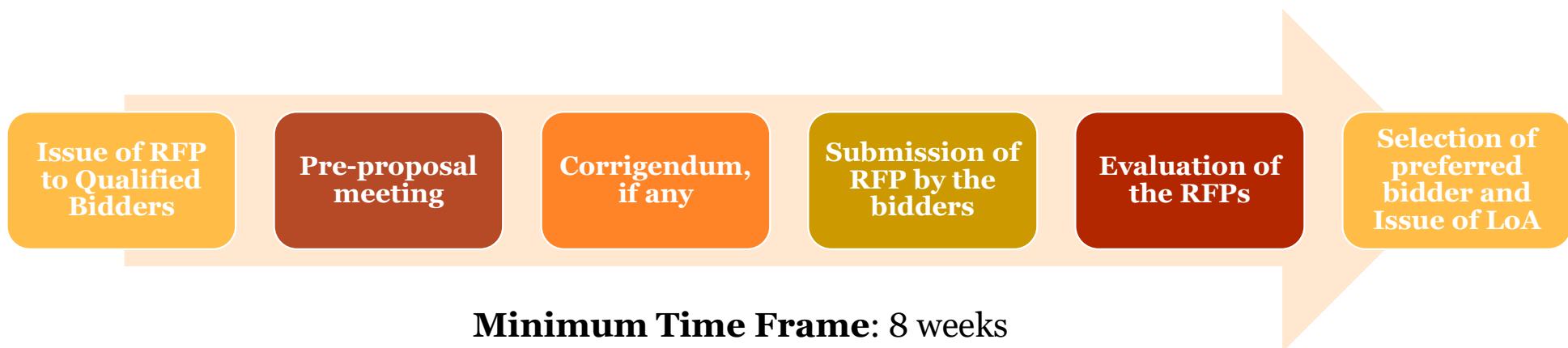
Other information with regards to black listing, conflict of interest, etc.

Request for Technical Proposal (RFTP)

- The sponsoring entity may issue a Request for Technical Proposals (RTP) to all qualified applicants.
- The Request for Technical Proposals (RTP) shall specify the Minimum Technical Requirements (MTR), formulated based on the Feasibility Study/technical study.
- The Minimum Technical Requirements (MTR) should include the following:
 - the scope of the Project; output specifications; the design/codes/standards; O & M requirements; performance standards.
- The RTP should involve a technical evaluation and only submissions that pass the minimum technical criteria (specified in the RTP) will be invited to submit a Final Offer at the Request for Proposal (RFP) stage.
- The minimum period for submission of proposals should be 6 weeks with a pre-bid meeting atleast 3 weeks before the bid submission date
- The Procuring Entity may combine the Request for Technical Proposal (RTP) with the Request for Proposal (RFP) to ensure price competition

Request For Proposal Process

- The RFP process is to obtain financial offers from the bidders pre-qualified at the RFQ stage.
- The RFP document may provide details of project feasibility, bid parameters and draft agreement to all pre-qualified bidders.
- The financial bids in the RFP stage should be invited by way of a **single bidding parameter**
- The single criterion may be any one or a combination of:
 - concession fee; tariff/user charges; period of the concession; upfront payments; revenue share; annuity payment; lease rent; amount of VGF or state support, others, etc.
- The lowest tenderer should be selected on the basis of the financial bids



Contents of the RFP

Project details including technical and financial details (PIM)

Tender process and schedule of tender proceedings

Evaluation Criteria

Outputs

Formats for submission

Draft Concession Agreement

- ***The Draft Concession Agreement is the critical component of the RFP Process***
-

Single Stage Procurement Process

- **PPP Projects < Rs. 10 Cr**
 - For Public Private Partnership (PPP) Projects with a value less than Rs.10 crore (Rupees Ten Crore), a single stage, two cover, open and competitive tendering may be adopted
 - One Cover should comprise of qualification information and technical proposal and second cover should comprise of financial proposal.
- **PPP Projects > Rs. 10 Cr**
 - All PPP Projects with value more than Rs. 10 Cr should take the approval of Tamil Nadu Infrastructure Development Board
 - For projects > Rs. 10 Cr, in some cases, the sponsor may adopt a single stage, two cover and open competitive bidding
 - The RFQ and RFP in such cases should be received in separate covers
 - The sponsor should provide reasons in writing for the adoption of single stage process

Section 6: Contract Management

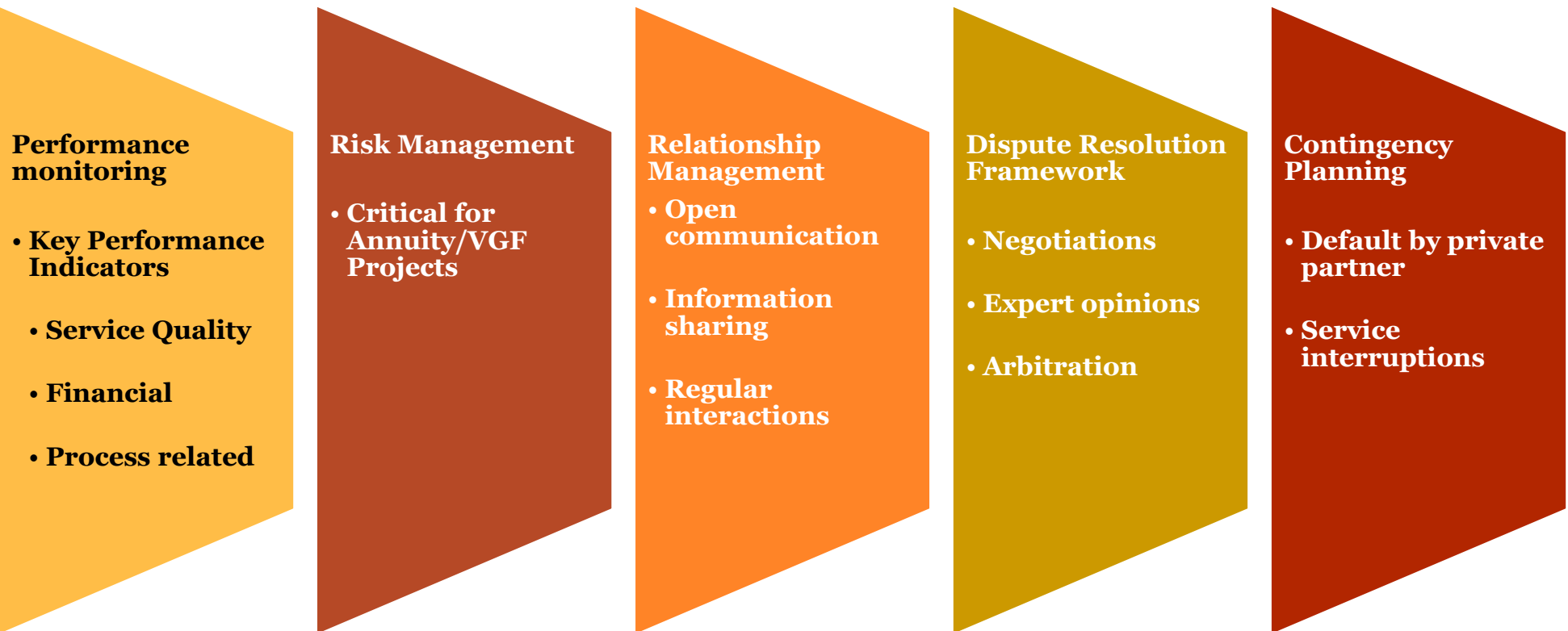


Contract Management

- Contract management is crucial in a PPP project. Well-structured contracts and effective on ground preparation are key to good contract management.
- The sponsoring entity should have a thorough understanding of the post award contract management function to enable the entity and the private partner achieve the desired outcomes.
- The sponsor may set up an exclusive contract management team manned with key professionals based on the size, complexity of the project and the risks associated with the project.
- It is advisable that a plan may be drawn up by the sponsoring entity providing a comprehensive approach to the contract management activity



Elements of Contract Management Plan

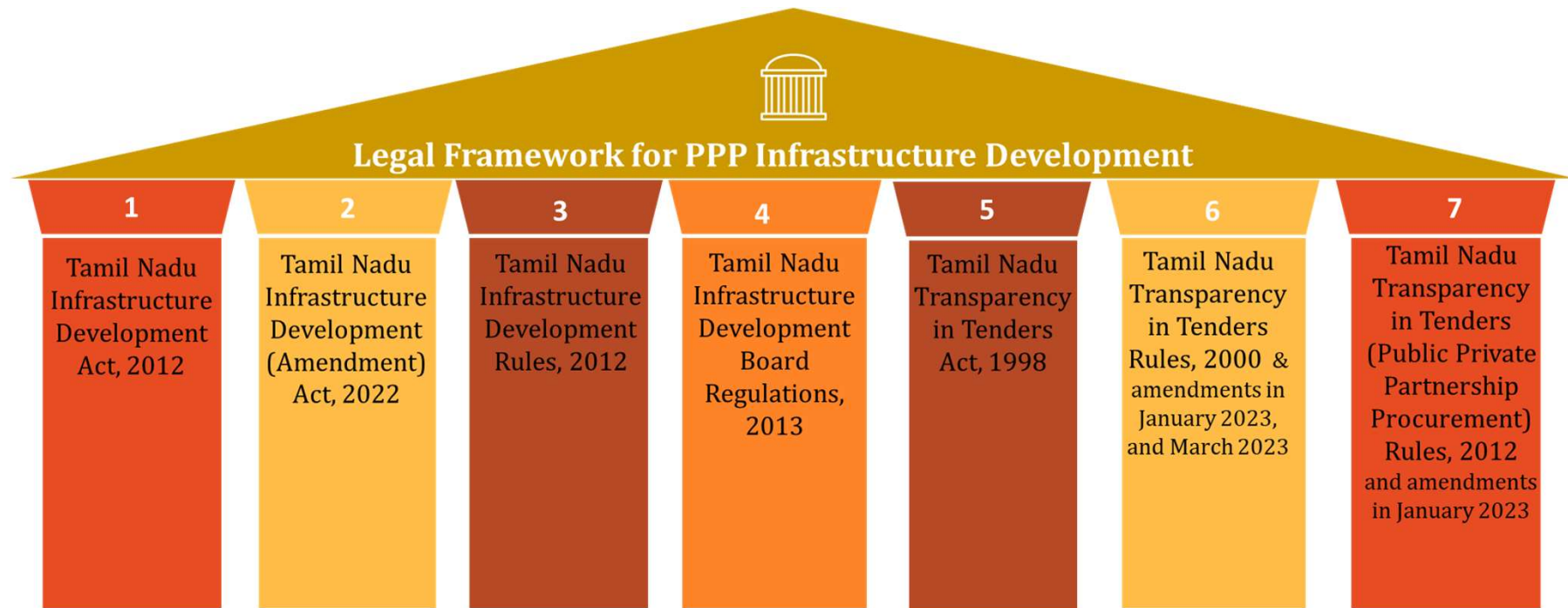


Section 7: Legal and Governance Framework



Legal Framework

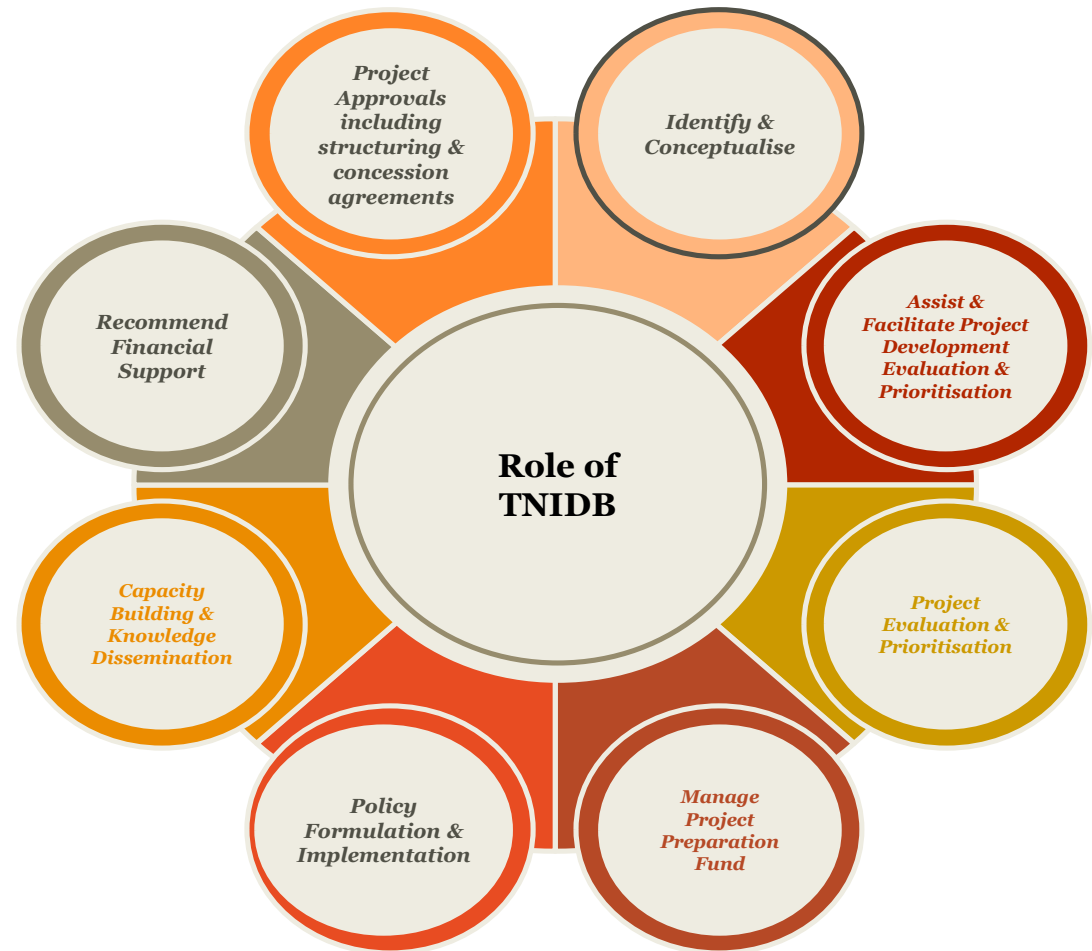
- The Government of Tamil Nadu has formulated an exclusive “The Tamil Nadu Infrastructure Development Act 2012” to provide a legal framework to enable and facilitate infrastructure projects through private sector participation. The development and implementation of PPP projects in Tamil Nadu is guided and regulated by the following legislations and rules.



The Act and the Rules along with the amendments may be accessed from the website of TNIDB @ <https://tnidb.tn.gov.in/en>

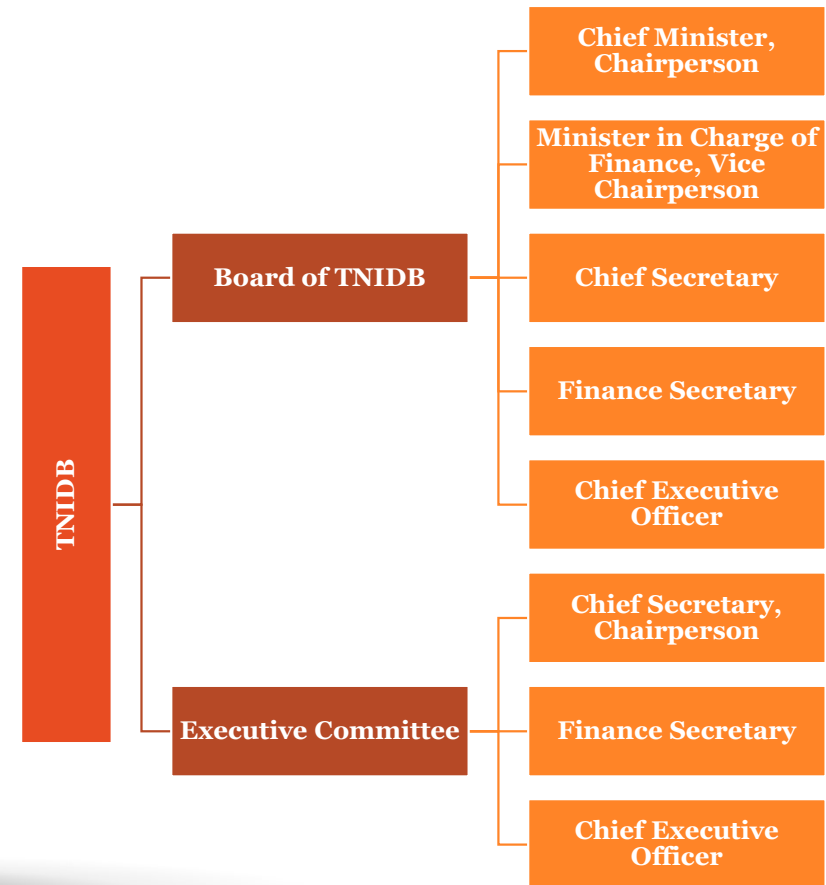
Institutional Framework

- The Government of Tamil Nadu has formulated The Tamil Nadu Infrastructure Development Act 2012 to provide an legal framework to enable and facilitate infrastructure projects through private sector participation
- The Government of Tamil Nadu has established Tamil Nadu Infrastructure Development Board (TNIDB) to provide expert advice and guide decision-making on Tamil Nadu’s infrastructure needs and priorities, particularly PPP Projects.
- TNIDB functions under the administrative control of the Finance Department of GoTN



Governance Framework

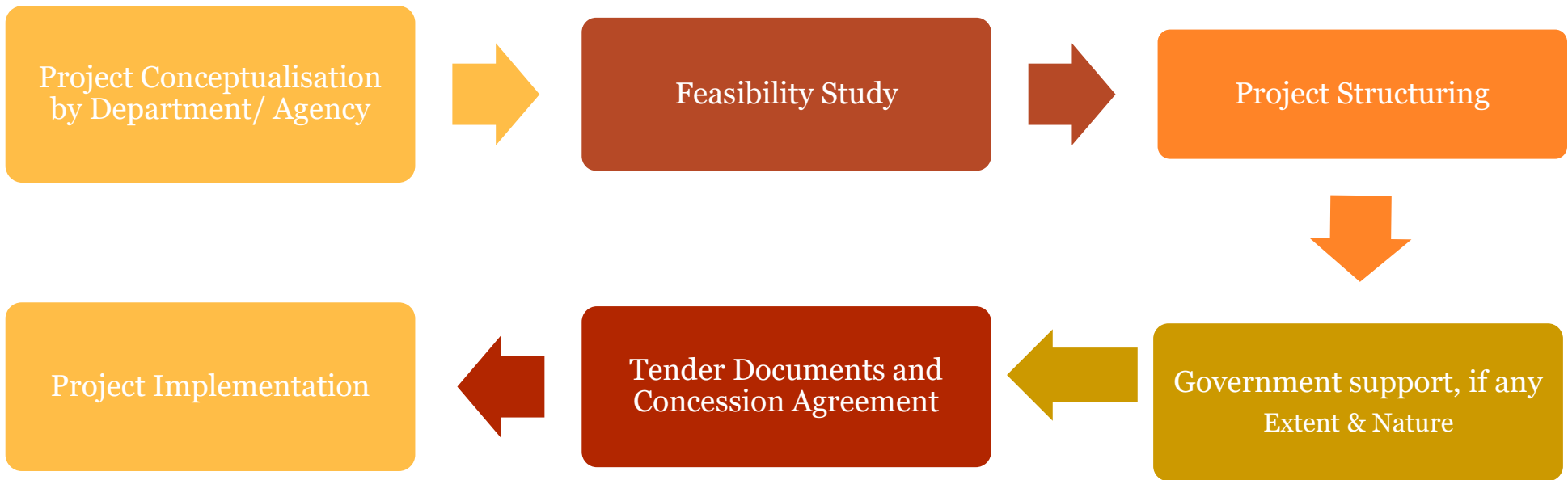
- The Board of TNIDB headed by the Chief Minister is the highest decision making body for the development of PPP Projects including policy formulation
- The Executive Committee headed by the Chief Secretary will provide the approvals and assistance for the implementation of PPP projects. The EC works under the overall guidance of the Board
 - *Chief Operating Officer*
 - *Sectoral Specialists and Analysts and*
 - *Consultants and domain experts*



Project Approval Process by TNIDB

The project approval process for PPP Projects

Approval by TNIDB



Approval by TNIDB

For clarifications, please contact

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