सत्यमेव जयते

Reference Guide for PPP Project Appraisal

Infrastructure Finance Secretariat
Department of Economic Affairs
Ministry of Finance
Government of India
June, 2023

भारत सरकार
GOVERNMENT OF INDIA

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भारत सरकार
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Government of India
Ministry of Finance
Department of Economic Affairs

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FOREWORD

Over the past few years, the Department of Economic Affairs (DEA) has been actively engaged in developing the appropriate policy framework for private investment in infrastructure development. Public Private Partnerships (PPPs) are being encouraged for execution and operation of infrastructure projects. Besides, schemes and initiatives are being undertaken to provide financial and technical support to promote PPPs.

With infrastructure taking the centre stage, the Infrastructure Finance Secretariat (IFS) under the aegis of Department of Economic Affairs, Ministry of Finance, has strengthened its efforts to build a comprehensive and efficient PPP ecosystem, thus, creating a shelf of viable and successful PPP projects in infrastructure sub sectors. IFS in its continued efforts to build a conducive environment for PPPs has undertaken number of initiatives right from constitution of the PPPAC committee, revamping VGF and IIPDF schemes, strengthening policy and regulatory framework and issuing guidelines and model documents for project structuring.

Given the complexities of the PPP projects, the entire value chain of the PPP infrastructure development requires critical evaluation of commercial feasibility, economic viability and balancing of risks and responsibilities, right from project identification to structuring and finally to its implementation.

Recognizing these requirements, the IFS has come out with a comprehensive Reference Guide for PPP Project Appraisal, to aid the PPP project appraisal authorities in undertaking quality appraisal of PPP project proposal, which will in turn, enhance the biddability and promote success probability of the projects.

I hope that this Reference Guide is utilized by the PPP project appraisal authorities for undertaking systematic due diligence and appraisal of PPP projects. I would like to compliment the efforts of Shri Baldeo Purushartha, Joint Secretary, Dr. Molishree, Deputy Secretary and Dr. Kartik Agrawal, Deputy Director, for bringing this initiative to fruition.

(Ajay Seth)

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आज़ादी का अमृत महोत्सव

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Government of India
Ministry of Finance
Department of Economic Affairs

5th June, 2023

Foreword

Over the years, PPPs have emerged as an important tool for infrastructure development and service delivery. A well-structured PPP not only brings in greater efficiency but also helps to promote transparency, accountability and value for money in the delivery of infrastructure services. However, given the complex nature of PPP projects, there is a need for careful structuring and detailed scrutiny of these projects. Project appraisal is critical to ensure that PPP projects are aligned with the Project Sponsoring Authority's objectives and are financially sustainable. It also helps to identify and mitigate risks associated with the project.

Due to the sustained efforts of the DEA for promoting PPPs, India has fared well in PPP global benchmarks. India ranked 4th globally in terms of private sector investment commitments as per the World Bank PPP 2021 H1 report. Further, as per World Bank PPI Annual Report 2021, India is South Asia Region's largest PPI investment destination.

The Infrastructure Finance Secretariat (IFS) in the Department of Economic Affairs is consistently working towards developing policy initiatives and guidance documents for strengthening the PPP ecosystem. One of such initiatives is the development of a comprehensive "Reference Guide for PPP Project Appraisal".

This Reference Guide covers various aspects of the appraisal process from the initial screening to the final approval of the project. This Reference Guide also includes templates to assist practitioners in carrying out the appraisal process and identifying project risks and suitably mitigating the same. It is hoped that effective appraisal of PPP projects positively impact their biddability.

I hope that this Reference Guide shall be a valuable resource in ensuring that PPP projects are properly appraised and ultimately deliver the intended benefits.

(B. Purushartha)

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सत्यमेव जयते

आज़ादी का अमृत महोत्सव

भारत सरकार
वित्त मंत्रालय
आर्थिक कार्य विभाग
Government of India
Ministry of Finance
Department of Economic Affairs

08 June 2023

FOREWORD

Public Private Partnerships (PPPs) play a critical role in infrastructure development by leveraging private sector resources and expertise to improve the delivery and management of infrastructure assets. PPP ecosystem in India has evolved significantly with the introduction of policy and regulatory reforms by the government to facilitate private sector participation (PSP).

As the PPP ecosystem continues to develop, there is a growing recognition of the benefits that can be achieved through collaboration between public and private players. PPP models are increasingly being adopted by nascent sectors such as healthcare, education, and housing in addition to traditional and more mature infrastructure sectors such as roads, ports, airports, and power. However, the complexity as well as financial and operational risks associated with PPP projects necessitates thorough and effective project appraisal. It is therefore crucial to ensure that these projects are feasible, financially viable, and provide value for money.

Over the past few years, the Private Investment Unit (PIU) setup by Infrastructure Support and Development (ISD) Division under Department of Economic Affairs, has taken several initiatives to strengthen the PPP ecosystem and develop a conducive environment for PSP. The PIU has been instrumental in facilitating private investments in infrastructure by serving as the Secretariat for the Public Private Partnership Appraisal Committee (PPPAC), assisting implementation agencies in appraisal and approval of PPP projects.

To further standardize and streamline the process of project appraisals, DEA has come out with a comprehensive '*Reference Guide* for *PPP Project Appraisal*'. It provides an overview of PPPs and the key models/ structures prevalent in India. The reference guide defines the overarching principles of project appraisal and indicates the stage at which project appraisal should be undertaken. It also elucidates a typical composition of the project appraisal authority and elaborates on the mechanism of project appraisal.

We believe that the Reference Guide will be instrumental in streamlining the appraisal process by assessing the feasibility, as well as economic and financial viability of the project. It is expected to play a key role in making authorities ready for quality project appraisal, with the end-goal of balancing a PPP project in terms of risks and rewards, allocating risk to the party best suited to handle it and ensuring adequate returns to the stakeholders.

(Dr Molishree)

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Disclaimer

This Reference Guide has been prepared based on documents and practices of multilaterals, international agencies, other countries, and in-house experience of the IFS in appraising PPP projects. An attempt has also been made to provide Indian context to issues concerning PPP project appraisal.

The appraisal points provided in this Reference Guide do not in any way restrict or relieve the project appraisers from any responsibility of conducting a thorough and effective appraisal. This Reference Guide only seeks to enhance the knowledge of the PPP project appraisal authorities about the theory and practice of PPP project appraisal. The IFS cannot be held responsible in any manner for any failure of a project or devolvement of contingent liability on the PSA or any other government instrumentality or any other materiality for any reason whatsoever.

While due care has been taken in preparation of this Reference Guide, however, any inadvertent error is regretted.

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List of Abbreviations

Acronym	Expansion
ADB	Asian Development Bank
BOT	Build Operate Transfer
CCEA	Cabinet Committee on Economic Affairs
COD	Commercial Operation Date
CPCB	Central Pollution Control Board
DBFOO	Design Build Finance Operate Own
DBFOT	Design Build Finance Operate Transfer
DCF	Discounted Cash Flow
DPR	Detailed Project Report
DSCR	Debt Service Coverage Ratio
EoI	Expression of Interest
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
ESG	Environmental, Social and Governance
GOI	Government of India
HAM	Hybrid Annuity Model
IRR	Internal Rate of Return
KPI	Key Performance Indicators
LOA	Letter of Award
MCA	Model Concession Agreement
NPV	Net Present Value
PAT	Profit After Tax
PIM	Project Information Memorandum
PPP	Public Private Partnership
PPPAC	Public Private Partnership Appraisal Committee notified by DEA on 12th January, 2006 pursuant to Union Cabinet decision dated 27th October, 2005
PSC	Public Sector Comparator
PSA	All Central Government Ministries/Departments, Central Public Sector Enterprises (CPSEs), Statutory Authorities or other entities under their administrative control, which sponsor/undertake PPP projects, are hereinafter referred as "Project Sponsoring Authority (PSA)"
O&M	Operation and Maintenance
OMDA	Operation, Management and Development Agreement

RFP	Request for Proposal
RFQ	Request for Qualification
R&R	Resettlement and Rehabilitation
SFC	Standing Finance Committee
TOT	Toll Operate Transfer
VFM	Value For Money
VGF	Viability Gap Funding
WACC	Weighted Average Cost of Capital

Chapter 1
Introduction

Infrastructure development is a strong catalyst for sustainable economic growth. Government of India has a strong commitment towards development of infrastructure through both policy and fiscal interventions, administered through a programmatic approach to infrastructure. For the first time in India, in 2019, a national level pipeline of greenfield infrastructure projects was created in the form of Rs. 100-lakh crore National Infrastructure Pipeline. In four years of the launch of the pipeline, more than 50% of projects are under implementation. In 2021, the National Monetization Pipeline was launched for ushering in private investment as well as bringing in private sector efficiencies in brownfield infrastructure projects. Further, the PM Gati Shakti Master Plan has been launched to provide a new direction to infrastructure planning, implementation, and monitoring – through coordinated implementation of infrastructure projects.

To accord greater thrust to the infrastructure development and investments, the "Infrastructure Finance Secretariat" (IFS) has been setup in the Department of Economic Affairs, to address various lacunae in the infrastructure policy value-chain through focused sectoral financing studies, identification of policy bottlenecks and engagement with myriad stakeholders in this space[1].

IFS has initiated various studies to cater to the high infrastructure investment requirements for sustaining fast paced infrastructure development which in turn necessitates inflow of private investments to supplement the public expenditure, thereby increasing the need for PPP projects.

PPPs present a number of recognized advantages for the public sector to exploit. These include the ability to raise additional finances, bringing in private efficiencies in construction and operations, increasing quality of infrastructure services and the ability to speed up infrastructure development. These positive characteristics of PPP arrangements in developing infrastructure appear particularly attractive, be it the center or state or local governments. Given the enormous financing requirements and the equally large funding gap coupled with the need for efficient public services, growing market stability and privatization trends have created a favourable environment for private investment in infrastructure.

A long experience of private participation in various sectors like road, power, airports and ports helped in growing acceptance that PPP arrangements can be used as an instrument to meet infrastructure requirements in a wide range of sectors ranging from traditional economic sectors like roads to social sectors like health and education.

However, PPP projects are complex in nature. The high initial investments, long concession period, transfer of public assets to the private sector and the need to balance the divergent interests and risks inter-alia make designing and managing a PPP arrangement difficult. Given the high level of unpredictability involved in PPP projects, PSAs need to focus on balancing and offsetting different kinds of risks inherent in the project, along with ensuring financial sustainability of the project. In

[1]Key Initiatives of IFS, DEA to strengthen the PPP ecosystem have been detailed out in Annexure VIII

addition, disputes arising out of project terms and conditions could lead to significant payouts by the government.

Therefore, PPP projects require careful structuring and closer scrutiny. Due diligence in deciding project terms and conditions along with standardization and discipline, consistency with processes in other sectors and consideration of best practices are quite crucial.

Recognizing these requirements, the Infrastructure Finance Secretariat (IFS) in the Department of Economic Affairs, Ministry of Finance, Government of India has come out with a comprehensive Reference Guide for PPP project Appraisal, hereinafter referred to as 'Guide' to aid the PPP project appraisal authorities in quality appraisal.

This Guide may be referred to by project appraisal authorities as a reference and guiding document for the purpose of quality appraisal of PPP projects.

Chapter 2

Understanding Public Private Partnerships (PPPs)

A PPP is a partnership between the public sector and the private sector for the purpose of delivering a project or a service which is traditionally provided by the public sector. PPP recognizes that both parties have certain advantages relative to the other in the performance of specific tasks. The fundamental characteristic of PPP is that each party is obligated to do what it does best and thereby maximizes utility of public services and infrastructure delivery in the economically most efficient manner.

Such collaborations where public and private sector join forces for a shared objective of infrastructure development are termed as Public Private Partnership or PPP. Depending on the model of PPP, the private player may be required to arrange the finance, mobilize resources for the project, improve the effectiveness, efficiencies and quality standards of infrastructure project, etc.

The overall aim of PPP is therefore to structure the relationship between the parties in such a way that risks are borne by the respective party best able to manage them and increased value is achieved through the exploitation of private sector skills and competencies. Thus, the main characteristics of PPPs include sharing rights and duties along with risk and reward between both public and private players. PPPs also act as an important channel to improve service delivery and innovation in infrastructure sectors.

PPPs are undertaken in multifarious forms such as DBFOT, BOT (HAM), BOT (Annuity), etc. according to the nature and requirement of the project. As compared to the traditional public procurement contracts, PPPs are complex in nature and therefore, necessitate careful design, structuring and implementation of the project.

2.1. Definition of PPPs

While there are many definitions of PPPs, some of the prominent definitions provided by different agencies are as follows:

Table 1:Definition of PPP by Government Agencies and Multilaterals

Agency	Definition
Department of Economic Affairs	Public Private Partnership or "PPP" is a form of fixed-term contractual arrangement between a public entity on one side and a private entity on the other, for the provision of public assets and/or public services through investments being made and/or management being undertaken by the private entity, may or may not require payment of fee by users, for a specified period of time, where there is well defined allocation of risk between the private entity and the public entity and the private entity's performance is contractually obligated to conform (or are benchmarked) to specified and pre-determined performance standards

Agency	Definition
Manual for Procurement of Goods, 2017, Department of Expenditure	PPP means an arrangement between the central, a statutory entity or any other Government-owned entity, on one side, and a private sector entity, on the other, for the provision of public assets or public services or both, or a combination thereof, through investments being made or management being undertaken by the private sector entity, for a specified period of time, where there is predefined allocation of risk between the private sector and the public entity and the private entity receives performance linked payments based on performance standards.
Asian Development Bank	PPPs broadly refer to long-term, contractual partnerships between the public and private sector agencies, specially targeted towards financing, designing, implementing and operating infrastructure facilities and services that are traditionally provided by the public sector.
World Bank	PPPs are a mechanism for government to procure and implement public infrastructure and/or services using the resources and expertise of the private sector. Where governments are facing ageing or lack of infrastructure and require more efficient services, private sector partnership can help foster new solutions & bring finance.
International Finance Corporation	PPPs are a tool that help governments leverage the expertise and efficiency of the private sector, raise capital, and spur development. They also help allocate risk across the public and private sectors to where it can best be managed and ensure that resources are wisely distributed in addressing the most urgent development needs.

Source: Compiled from respective websites of the agencies

While there are different definitions or expressions of the term PPP, some of the common features of PPP are quite apparent:

- A PPP is a partnership between the public sector and the private sector for the purpose of delivering a project or service,
- PPP projects involve bestowing of concession which may include a set of rights to design, develop, build, operate and collect user charges from public infrastructure, to the private party for a fixed period of time with pre-determined KPIs,
- Under PPP mode, either the user or the Government (tax payers) or the future generation pays for the services provided by the private party,
- One of the main characteristic of PPPs is sharing of risks, rewards, rights and duties optimally between the parties to the arrangement.

2.2. Roles and Responsibilities of the Parties to a PPP

The two parties involved in PPP projects are the public and the private players. For the success of PPPs, roles and responsibilities of the two parties are to be clearly defined. The principal roles of the parties are enumerated below:

- **Principal roles for the private sector in PPP projects are:**
  - To mobilize additional capital,
  - To provide alternative management and implementation skills,
  - To provide value added services to the consumer and the public at large,
  - To provide better identification of needs and optimal use of resources,

- To transfer the asset at the end of the concession period in accordance with the terms of the concession agreement.

- **Principal roles for the PSA (public entity) in PPP projects are:**
  - To identify the need of the project;
  - To effectively structure the project keeping in mind the interest of the parties involved;
  - To facilitate the implementation of the envisaged project such as land acquisition, utility shifting etc.;
  - To monitor the project based KPIs during the construction as well as operating stage;
  - To take over the asset at the end of the concession period.

It is important to note here that the roles and responsibilities of the two parties involved in a PPP project may be designed as per contours and requirements of the project.

2.3. Why PPP?

PPP arrangements are not only driven by limitations in public funds to cover investment needs but also by efforts to increase the quality and efficiency of public services. There is a growing acceptance that PPP arrangements can be used to meet infrastructure and service needs in a wide variety of sectors. Success of PPP projects, increasing availability of private sector funds, private sector capacity to adopt a higher risk profile; and a generalized global trend to utilize private efficiencies in infrastructure service provision has resulted in attempts to introduce the PPP concept in all sectors of infrastructure by the Centre and States.

There is a growing understanding among Governments about the existence of:

- An enormous financing requirement in developing world class infrastructure facilities and services for the people at large,
- An equally large financial shortfall in available public funds and the limited ability of public institutions to cover costs,
- Requirement not only to identify additional funding sources but also attention to the more effective use of public funds and to increase their impact.

At the same time, there is a growing realization that cooperation with the private sector, in PPP projects, is able to offer a number of advantages, including:

- **Acceleration of infrastructure investment -** PPPs permit the public sector to translate upfront capital expenditure into a flow of ongoing service payments in future. This enables projects to proceed when the availability of public capital may be constrained (either by public spending caps or annual budgeting cycles), thus bringing forward much needed investment.
- **Faster implementation -** The allocation of design and construction responsibility to the private sector, combined with payments linked to the availability of a service, provides significant incentives to the private sector to deliver capital projects within shorter construction timeframes.
- **Reduced whole life costs -** PPP projects which require operational and maintenance service provision provide the private sector with strong incentives to minimize costs over the whole life of a project, something that is inherently difficult to achieve within the constraints of traditional public sector budgeting.

- **Optimal risk allocation -** a core principle of any PPP is the allocation of risk to the party best able to manage it at least relative cost. The aim is to optimize rather than maximize risk transfer, to ensure that optimal value is achieved. The success of PPP projects depend on how well the risks are optimally allocated.
- **Better incentives to perform -** the allocation of project risk may incentivize a private sector contractor to improve its management and performance on any given project. In PPP projects, full payment to the private sector contractor occurs only if the required service standards are being met on an ongoing basis, i.e., if the KPIs are met.
- **Improved quality of service -** National and International experience suggests that the quality of service achieved under a PPP is often better than that is achieved by traditional procurement. This may reflect better integration of services with supporting assets, improved economies of scale, the introduction of innovation in service delivery, or the performance incentives and penalties typically included within a PPP contract.
- **Generation of additional revenues -** the private sector may be able to generate additional revenues from third parties, thereby reducing the cost of any public sector subvention required. Additional revenue may be generated through the use of spare capacity etc.
- **Enhanced public management -** by transferring responsibility for providing public services, government may act as regulators and focus upon service planning and performance monitoring instead of the management of the day-to-day delivery of public services. In addition, by exposing public services to competition, PPPs enable the cost of public services to be benchmarked against market standards.

Therefore, PPPs can be used as an effective tool in improving the quality and delivery of infrastructure services. When structured appropriately and implemented in a balanced policy and regulatory environment, PPPs can bring greater efficiency and sustainability to the provision of public services. PPPs allow for better allocation of risk between public and private entities. PPPs involve investments by private sector which help in reducing burden on government spending and improve fiscal management.

While PPPs can present a number of advantages, it must be remembered that PPPs are also complex to design, implement and manage. The real concern in PPP projects is their innate complexity that is coalesced into long-term concession leading to uncertainties which are not known when the project is structured. Therefore, there should be mechanisms engrained in PPP projects to adapt to uncertainties that may arise in future. Another concern in PPP projects is the perceived higher cost of capital of the private player. The cost of equity as well as the cost of debt is high for the private players. Contingent liabilities pose another concern in PPP projects as the payments are not accurately captured in the books of the government as it arises due to certain events such as termination of the concession that is not foreseen.

PPPs have various limitations which should also be taken into account while they are being considered. The major limitations include:

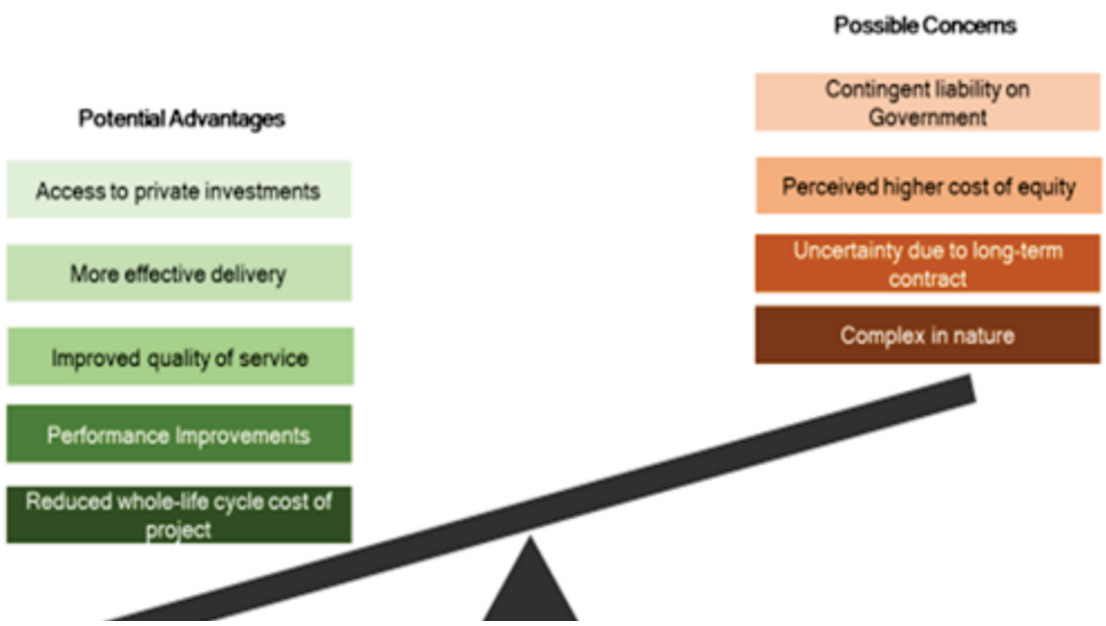
- Not all projects are feasible (for various reasons: political, legal, commercial viability, limited scope for operations and maintenance, limited scope for life cycle approach, etc.).
- The private sector may not take interest in a project due to perceived high risks or may lack technical, financial or managerial capacity to implement the project.

- A PPP project may be more costly unless additional costs (due to higher transaction and financing costs) can be off-set through efficiency gains.
- PPP alone may not be sufficient to improve economic performance of the project unless other necessary conditions like, sector and market reform, are met.
- Often, the success of PPPs depends on regulatory efficiency.

PPP projects would be successful only if there is an effective implementation structure and the objectives of all parties can be met within the partnership. In order to reap maximum benefit from PPP, all potential participants must enhance their understanding of the different approaches and the optimal methods to structure such arrangements

Although, the pros outweigh the cons in PPP projects as seen in Figure 1 below, however, it is important to note that PPP is by no means the only option. PPP may not be considered if it can be demonstrated that other approaches will achieve additional value compared with PPP

Figure 1: Potential advantages & possible concerns in a PPP Mode of Implementation



2.4 PPP Project Life Cycle

This Reference Guide aims at developing a systematic process for effective PPP project appraisal for reviewing project particulars as developed by the PSA, before the PPP procurement process begins. However, before undertaking rigorous appraisal of the project proposal, it is of equal importance to understand the nuances of PPP project structuring and its project life cycle.

The PPPs are complex contractual arrangements with six broadly distinct phases over the project life. Each of the phases have their own nuances and impacts on the overall success or failure of the project. Each of the six phases are further sub-divided into a number of stages. In this section, a bird's eye view of the six Phases and various stages of PPP project lifecycle are discussed (Figure 2). It is worth mentioning that like various PPP structures and taxonomy, different phases of PPP project life-cycle as identified hereunder are indicative and may have overlapping. The Phases and their stages

may be taken up simultaneously if the project contours permit as these are not water-tight compartmentalization[2]. The actual Phases and activities undertaken in any stage may accordingly vary with the peculiar needs of the project.

Phase 1 - Project Identification: The first and foremost phase in the PPP lifecycle is the project identification phase which requires a 'need analysis' (whether infrastructure asset services are required) for the infrastructure services and an 'options analysis' (ways in which the infrastructure asset services can be provided) for providing the services. The PSA may identify the fundamental need that the proposed project will address along with beneficiaries who will be benefited from the project and the potential project solutions available for the same.

Once the need is established, the potential project solutions are then evaluated for their suitability for development as PPPs and feasibility reports are prepared.

Phase 2 - Feasibility Analysis[2]: The potential project implementation modes considered suitable in the Phase 1 analysis are studied in detail through a full scale feasibility study. This feasibility analysis phase comprises activities such as detailed feasibility assessment of the project including technical feasibility, financial feasibility, economic feasibility, legal feasibility, environmental feasibility, etc. The outcome of this activity is to arrive at whether the project is feasible to be implemented in PPP and selection of the preferred mode with proposed project structuring.

Phase 3 - Project Structuring: Project feasibility analysis is followed by project structuring. At this stage, the contours of PPP mode are finalized. This stage encompasses risk identification, risk allocation, defining the contractual framework for implementation of the project under PPP mode, outlining the responsibility framework between PSA and private partner, finalizing monitoring parameters and the institutional structure for monitoring of the project and detailing out the disbursement mechanism for funding assistance (if any) from the PSA. In this stage, key performance indicators (KPIs), technical output specifications and operational performance specifications are also defined. Besides, the frequency and format of reporting in line with the defined KPIs is also finalized.

Simultaneously, PSA undertakes preparation of the bid documents including RFQ/RFP/PIM/Draft Concession Agreement and the Financial Model in accordance with the proposed project structure. These documents detail out the general bidding terms and processes, bid parameter, eligibility criteria, bid security, technical capacity, financial capacity, change in ownership as well as the critical clauses and elements of the Draft Concession Agreement such as Scope of Work, Conditions Precedent, Obligations of Concessionaire and PSA, Performance Security, Event of Default, Penalties, Termination Payment, etc.

Phase 4 - PPP Project Appraisal: At the conclusion of Phase 3, the project structuring and contractual documents prepared by the PSA are subjected to careful scrutiny, i.e., appraisal by the designated appraisal authority. The PPP project appraisal clears the way for the project to proceed to the PPP procurement phase subject to the approval of the project by the competent authority. The detailed methodology/mechanism for PPP project appraisal has been elaborated in Chapter 5.

Phase 5 - PPP Procurement: The next Phase is the PPP procurement which involves finalization of the process of procurement of bids, conducting EoI, RFQ and RFP processes as per requirement, formation of bid opening and evaluation committee, identifying a private partner, issuance of letter of award and execution of concession agreement. Various modes of procurement[3] can be used for

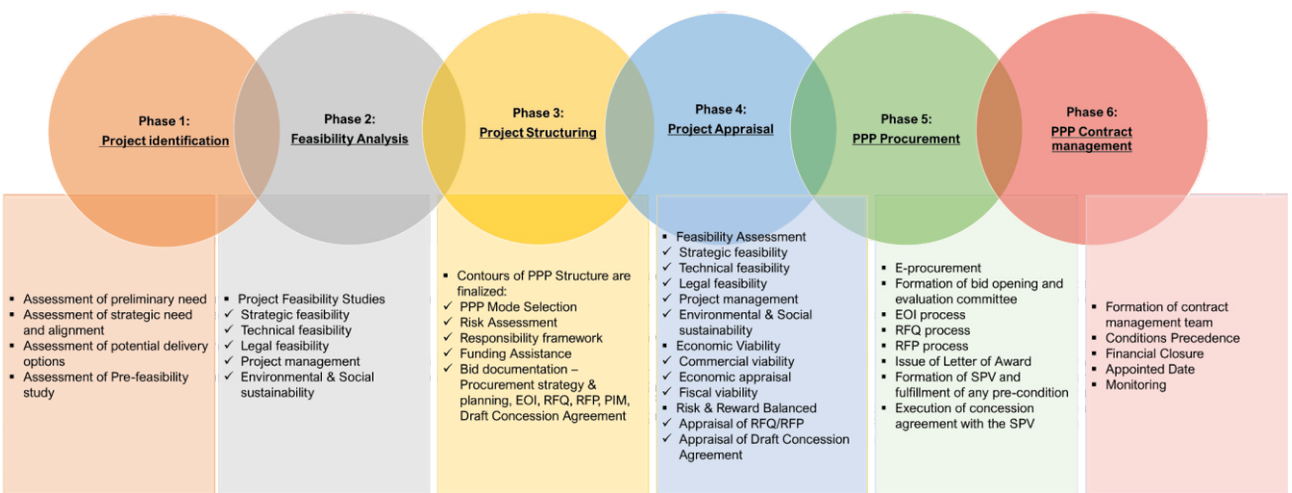
[2]IFS has notified empanelment of 12 TAs which may be utilized for end to end PPP transaction advisory. Further, funding for TA cost is being provided under the IIPDF Scheme.

procurement of PPP projects including Open Tender Enquiry, Global Tender Enquiry and Limited Tender Enquiry etc.

Phase 6 – PPP Contract Management (Monitoring and Dispute Resolution): The last and the longest phase in the PPP development life cycle is the post-award contract management. Post award period commences from the date of execution of the Concession Agreement and ends with the expiry of the concession/contract period either due to efflux of time or pre-mature termination. It involves monitoring of the project implementation and outcome to ensure getting the intended outcome of the project. It also includes an active mechanism of dispute resolution for the success of the project as PPPs are generally long-term partnership and future is always fraught with uncertainties.

A contract management team is formed with the primary responsibility of monitoring and reviewing the PPP project to ensure that the performance of the private partner meets the contractual terms. As the contract management team needs to discharge its responsibilities across all stages of the contract management phase of the project, the team may have expertise required across stages.

Figure 2: Life Cycle Phases of a PPP Project[3]



[3]Detailed guidance of the above-mentioned modes of procurement as well as other modes of procurement may be seen in the 'Manual for procurement of PPPs' which is under preparation by IFS

Chapter 3

Understanding Public Private Partnerships (PPPs)

The PPP process is extremely dynamic and particulars of PPP arrangements are required to be tailored to the specific circumstances involved. Many models of PPPs exist and more are continuously being developed to suit project specific requirements and characteristics. Thus, understanding of the PPP nuances is a must for any effective appraisal. The present chapter endeavours to provide a basic background of PPPs and their unique characteristics.

PPPs vis-à-vis Traditional/Conventional Project

For any appraisal of a PPP project, it must be recognized that a PPP project is significantly different from a conventional project including:

- PPP projects are different from conventional projects in terms of mechanism of project development, implementation, and management,
- Unlike conventional projects which are public funded and viability of the project is not a success criterion, a PPP project is possible only when a robust business model with reasonable return on investment can be developed,
- Unlike conventional projects which focus primarily on asset development, the focus of a PPP project is on delivering specified infrastructure services at defined quantity, quality and levels,
- Unlike conventional projects wherein entire risk is borne by the government entity, the risk allocation between the public – private partners is at the heart of any PPP and this makes execution of a PPP much more complex than a conventional project,
- While conventional projects are construction oriented with limited life span and little or no interaction between government entity and private sector, PPPs have much longer tenure making management of the relationship between the PSA and the private party vital for its success.

If structured appropriately, PPPs can generate substantial benefits for consumers and governments. The scope of potential benefit will, however, depend on the type of project being undertaken and the exact terms of the contract governing the PPP.

Therefore, a good PPP project is one which -

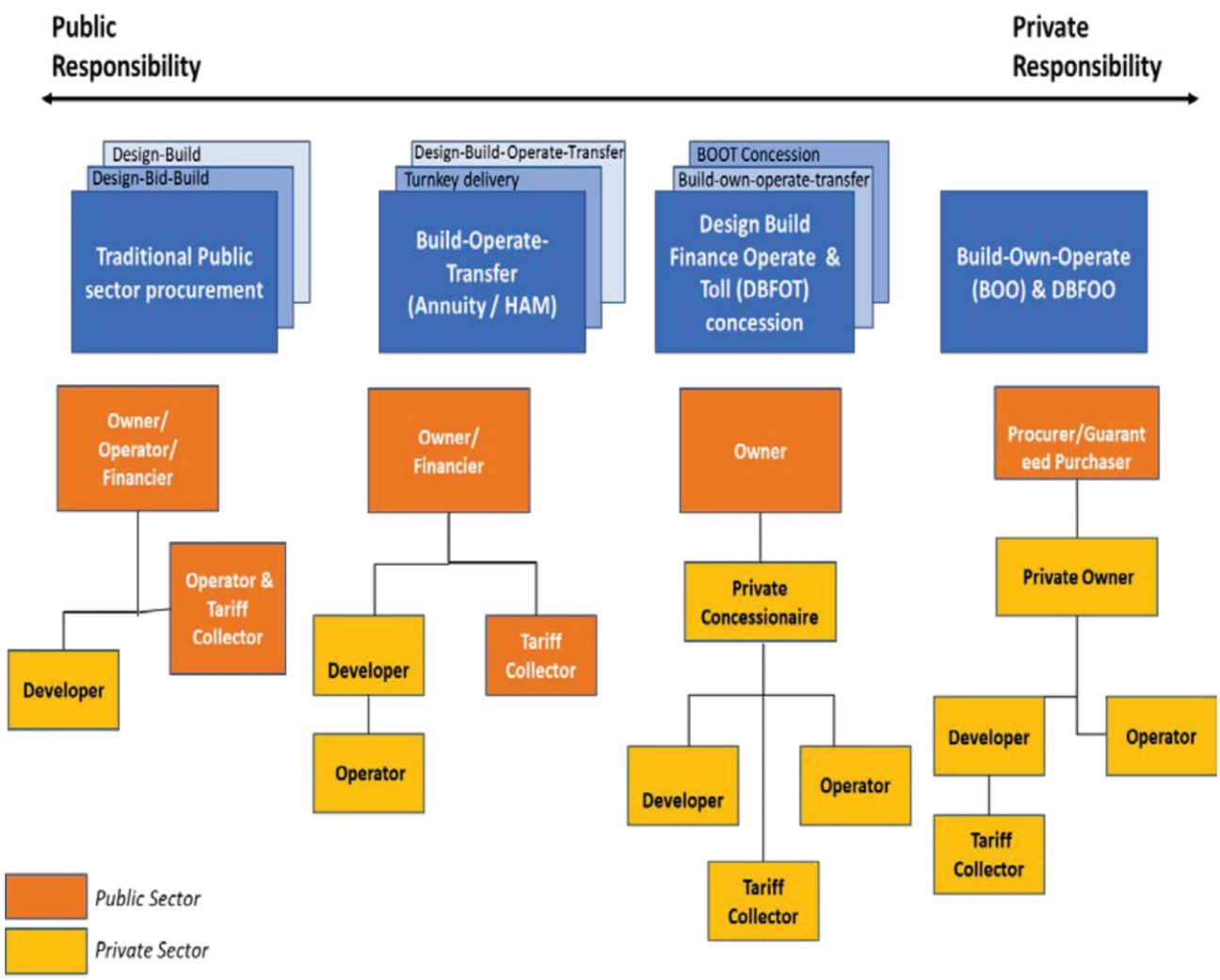
1. Ensures implementation by proper designing and structuring,
2. Has clarity in scope and unambiguously defines roles and responsibilities of parties,
3. Defines quantifiable and verifiable project output to be attained,
4. Upholds/restores the confidence of an investor,
5. Brings value to the public at large.

3.1 PPP Structures

In the substantially large number of possible and prevalent infrastructure implementation structures including PPPs, the main defining feature is the degree of private control over the assets and involvement in financing. At the same time, many of the individual components used to design and structure specific partnerships (i.e., contract terms, in-kind contributions, financing facilities, or grants) can be used with a number of different approaches. There can, therefore, be no generic or 'best' model of PPP for infra project structuring.

Below is a diagram showing various models of PPPs for undertaking an infrastructure project with allied responsibilities:

Figure 3: Various models of PPPs for undertaking an infrastructure project



It is also essential to recognize that the nomenclature used to describe the partnership process has not been standardized. There are several terms often used interchangeably – turnkey and build-operate-transfer (BOT), for example. There are also single terms that are used loosely and can be applied to situations that are fundamentally different. For example, BOT can be used to describe procurements that involve private financing, as well as those that do not. As such, it is necessary for PPP practitioners to delve beyond the terms and concepts and become familiar with the way in which the partnership process itself works.

The principal criterion for distinguishing PPP structures is the extent of risk transferred to the private party. This criterion also allows each type of PPP to be defined and related to the relevant modes of engaging private parties. While the choice of PPP structures is limitless in terms of financial and operational forms, all PPPs can be defined in relation to the roles and risks assigned to the public and private parties.

While it is not possible to define all possible types of PPPs, it is extremely important for PPP sponsors to develop a detailed understanding of the PPP structure before selecting a particular arrangement. The following sections provide a bird's eye view of the various forms of PPP relationships - models of PPPs - moving from minimal to maximal private sector involvement, based on internationally recognized nomenclature. However, unlike a 'legalistic' definition of PPP or procurement derived from the procurement manuals etc., the nomenclature of PPP models is based on conventions of the extent of risk and responsibility transfer to the private party.

The suitability and effectiveness of various PPP structures to a particular project depends on a lot of factors. Each PPP structure has its own set of strengths and weaknesses whose relevance to the project contours must be appraised in the context of the project. Thus, a particular PPP structure may be applied to a project only where suitable and clear benefits and advantages from the structure can be perceived/demonstrated. It is also possible that the applicable PPP structure may further be tweaked and adapted to the sectoral and project context to achieve the desired impacts and benefits.

3.2 Major Risks assessed for classification of PPP models

A wide spectrum of PPP models have emerged over the years. However, the underlying connotation of each PPP model is the type and extent of major risk borne by the either party. Basis the devolvement and the degree of the major risks, various PPP models can be broadly categorized. It may be understood that though there are myriad risks in PPPs (listed at Annexure - III), the classification of PPP models is suggested here basis varying degrees of the following major risks identified as the '***Four Cardinal Risks***':

- **Ownership Risk** - risks associated with the Ownership of asset;
- **Finance Risk** - risks associated with the ability of the project to provide reasonable return on its investment (equity and debt). This covers both, ability to raise inexpensive project finance and earn revenues sufficient service debt and provide return on equity;
- **Design/Construction Risk** - risk associated with the design meeting the KPIs and risk of time and cost overrun during construction phase;
- **Operation Risk** - risk associated with the operation and maintenance of the asset during the concession period so that KPIs are met.

The other risks are an offshoot/variation of these basic Cardinal Risks. Basis the above '***Four Cardinal Risks***' the PPP models can be classified into the following Four broad categories in order of increasing involvement and assumption of risks by the private sector vis-à-vis the PSA.

3.3 Prevalent PPP models[4]

A wide spectrum of PPP structures have emerged over the years. However, broadly, they are but a variant of the following distinct models. These distinct PPP models are structured basis their relative characteristics with respect to the respective Cardinal Risks being assumed by either the PSA or the private sector. These broad PPP models are:

- **Limited Private Participation** - Traditionally, governments have relied on public procurement to develop their infrastructure systems. Designated government agencies are vested with responsibility for developing certain types of infrastructure. These agencies typically elaborate plans prioritizing needs and then arrange the financing, design, and construction of individual projects. Once a project is completed, it is then operated and maintained by the agency.

  Under this traditional public procurement model, there is still scope for the government agencies to utilize the services of the private sector for well-defined tasks adopting limited responsibility. Three approaches for outsourcing public functions to the private sector are described below. These mechanisms present opportunities to engage the private sector in varying degrees in the maintenance, operation and management of infrastructure improvements. This may be undertaken in the following types of structures:-

  - **Service Contract** - Public agencies can enter into service contracts with private sector companies for the completion of specific tasks. Service contracts are well suited to operational requirements and may often focus on the procurement, operation and maintenance of new equipment. These tasks could include areas such as toll collection, the installation, maintenance and reading of meters in the water sector, waste collection or the provision and maintenance of vehicles or other technical systems.

    Service contracts are generally awarded on a competitive basis and extend for short periods of time of a few months up to a few years. They allow public agencies to benefit from the particular technical expertise of the private sector, manage staffing issues, and achieve potential cost savings. Nonetheless, with service contracts management and investment responsibilities remain strictly with the public sector. While they afford certain benefits, service contracts cannot address underlying management or cost issues affecting poorly run organizations.

  - **Operation and Management Contracts** - Public operating agencies utilize management contracts to transfer responsibility for asset operation and management to the private sector. These comprehensive agreements involve both service and management aspects and are often useful in encouraging enhanced efficiencies and technological sophistication. Operation and Management contracts tend to be short term, but often extend for longer periods than service agreements. Contractors can be paid either on a fixed fee basis or on an incentive basis where they receive premiums for meeting specified service levels or performance targets.

    Operation and Management contracts may be used as a means to transfer responsibilities for a specific plant, facility or service provided by an infrastructure owner. They may have a more broad reaching scope involving the management of a series of facilities. Nonetheless, responsibility for investment decisions remains with the public authority. While operation and management contracts should be expected to improve service quality, they cannot be expected to improve service coverage or encourage tariff reform.

  - **Leasing** - Leases provide a means for private firms to purchase the income streams generated by publicly owned assets in exchange for an upfront payment or fixed lease payment or revenue share and the obligation to operate and maintain the assets. The

difference between an affermage and a lease is just technical. Under a lease, the operator retains revenue collected from the asset and makes lease fee payment to the contracting authority while under an affermage, the operator shares revenue from asset with the PSA. Lease transactions are different from operations and management contracts in that they transfer commercial risk to the private sector partner, as the lessee's ability to derive a profit is linked with its ability to reduce operating costs, while still meeting designated service levels. Leases are similar to operations and management contracts in that the responsibility for capital improvements and network expansion remains with the public sector owner. However, in certain cases the lessor may be responsible for specified types of repairs and rehabilitation.

Under the right conditions, private party entering into lease agreements might also make targeted capital investment in order to develop infrastructure facility, improve operating efficiencies and profit levels. However, responsibility for planning and financing overall investment and expansion programs remains with the public sector owner. Lease agreements can be expected to extend for a period of five to fifteen years. They are suitable for brownfield infrastructure systems that generate independent revenue streams.

The pros and cons of the limited Private Participation models are as follows:

Pros:

- Can be implemented in a short time,
- Less complex and easy to implement
- Significant private investment possible with development agreement,
- Generally accepted model for asset monetization.

Cons:

- In the absence of a development agreement, there is little incentive for attracting private investment,
- Not applicable for Greenfield projects and hence, generally used for existing brownfield infrastructure assets,
- Considerable regulatory oversight required to ensure that envisaged outcomes accrue.

- **Integrated Project Development and Operation Opportunities** - The private participation in the traditional procurement process involves instances where limited responsibilities are passed to private companies. This limits the potential benefits that the public sector can derive from its partnership with the private sector. Whereas integrated partnerships involve transferring responsibility for the design, construction, and operation of a single asset or group of assets to a private sector partner. This project delivery approach is known by a number of different names, including “turnkey” procurement and the “build-operate-transfer” (BOT) system. From design through operation, BOT contracts can extend for periods of up to 15-30 years. In India generally, it has taken two modes: BoT Annuity and BoT HAM.

  The advantage of the BOT approach is that it combines responsibility of – design, construction, and maintenance – functions under one single entity. This allows the partners to take advantage of a number of efficiencies. First of all, the project design can be tailored to the

construction equipment and materials that will be used. In addition, the contractor is also required to establish a long-term maintenance program up front, together with estimates of the associated costs. The contractor's detailed knowledge of the project design and the materials utilized allows it to develop a tailored maintenance plan over the project life that anticipates and addresses needs as they occur, thereby reducing the risk that issues will go unnoticed or unattended and then deteriorate into much more costly problems.

The benefits of this "life cycle costing" are particularly important as infrastructure owners may spend more money maintaining the systems than on development. In addition, the life-cycle approach removes important maintenance issues from the vagaries affecting many public maintenance budgets, with owners often not knowing how much funding will be available to them from year to year. In such cases they are often forced to spend what money they do have on the most pressing maintenance needs rather than adopting a more rational and cost-effective preventive approach.

While the potential exists to reap substantial rewards by utilizing the integrated BOT approach, project sponsors must take great care to specify all standards to which they want their facilities designed, constructed, and maintained - unless needs are identified up front as overall project specifications, they will not generally be met. It should also be noted that an integrated BOT approach alone does not relieve public sector owners of the burden of financing the related infrastructure improvements.

The pros and cons of the integrated Project Development and Operation Opportunities models are as follows:

Pros:

- Private sector bears a significant share of the risks,
- High level of private investment,
- Potential for efficiency gains and innovation is high.
- Attractive to private investors in an untested or developing PPP market.

Cons:

- Complex to implement and administer,
- Government has direct financial liability.
- Project structuring and bidding may require long time,
- May require close regulatory oversight,
- Contingent liabilities on government in the medium and long term.

- **Partnership Project Development and Investment Opportunities** - The structures described above provide opportunities for the private sector to perform tasks that would otherwise be undertaken by the public sector. However, PPP arrangements can also involve private sector financing for projects that would otherwise be fully financed by the public authority.

  These types of PPP arrangements are particularly attractive for the public authority as they afford all the implementation and operation and maintenance efficiencies described above, together with the private investment. Access to additional sources of capital allows public authority to implement important projects sooner by avoiding the need to wait for future

government budget cycles for funding. These agreements enable a private investment partner to finance, construct, and operate revenue generating infrastructure improvement in exchange for the right to collect the associated revenues for a specified period of time.

Such partnership can be structured for the construction of a new asset or for the modernization, upgrade, or expansion of an existing facility (OMDA model, i.e, lease with developmental rights). Concessions often extend for a period of 30 years, or even longer. Under this approach the ownership of all assets, both existing and new, remains with the public sector (DBFOT Model). It is private party's responsibility to ensure that the assets are properly used and maintained during the concession period and that they are returned in good condition when it is over. However, in certain cases the ownership of the assets may be retained with the private party (DBFOO model).

Such projects are generally awarded based on different criteria like:

- The end price offered to users (user fee or tariff)
- The level of financial support required from the government (VGF)
- Upfront or recurring revenue sharing with the government (premium)
- Payment by the government for providing infrastructure facilities and services (availability payment, fixed charges, etc.)

The pros and cons of the Partnership Project Development and Investment Opportunities models are as follows:

Pros

- Private sector bears larger share of the risks.
- Highest level of private investment.
- Potential for efficiency gains and innovation is very high.
- No or limited direct financial liability of the government.

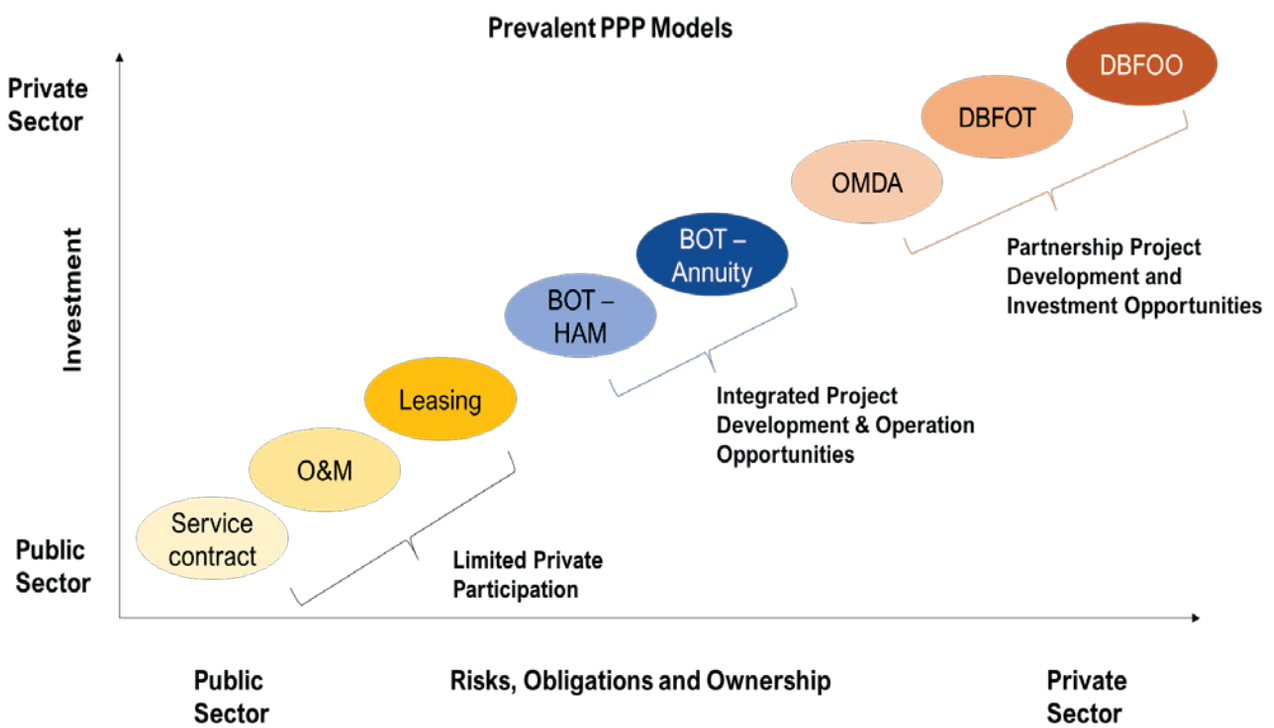
Cons:

- Highly complex to implement and administer.
- Project structuring and bidding may require long time.
- Difficult to implement in an untested PPP market
- May require close regulatory oversight.
- Contingent liabilities on the government in the medium and long term.

The diagram and table given below show various structure of PPP partnership process with allied responsibilities.

Type	Sub Type	Main Activity	Ownership Risk	Design/ Construction risk	Finance risk	Operation risk	Indicative Concession period (years)
Limited Private Participation	Service Contract	Performing specific work assigned	Public	Public	Public	Private	Few months to few years
	O&M Contracts	Operation and Maintenance	Public	Public	Public	Private	3 to 5
	Lease	Operation and Maintenance	Public	Public	Shared	Private	5-15

Type	Sub Type	Main Activity	Ownership Risk	Design/ Construction risk	Finance risk	Operation risk	Indicative Concession period (years)
Integrated Project Development and Operation Opportunities	BOT-Annuity	Build, Operate and Transfer	Public	Private	Public	Private	15-20
	BOT-HAM		Public	Private	Public	Private	15-20
Partnership Project Development and Investment Opportunities	OMDA	O&M plus Development/ Expansion	Public	Shared	Shared	Private	30-50
	DBFOT	Design, Build, Finance Operate and Transfer	Public	Private	Private	Private	30-45
	DBFOO	Design, Build, Finance Operate and Own	Private	Private	Private	Private	30-45



Thus, there is, therefore, no generic 'one size fits all' or 'best' PPP model, nor does this Guide seek to make recommendations as to the suitability of PPP model for a particular project type or sector.

[4]Project implementation mode selection is further explained in detail in the Reference Guide for Framework on Project Implementation Mode Selection, which is under preparation by IFS.

Chapter 4

Appraisal of PPP Projects

4.1. What is Appraisal?

Project appraisal is the evaluation of the project proposal in an organized and structured manner aimed at enhancing the overall ability of the project to succeed and remain feasible during the concession period, and at the same time ensuring optimum risk allocation. The appraisal of the project forms the basis for the decision to undertake the project.

4.2. Why PPP Projects require Appraisal?

Due to the high infrastructure investment requirement, infrastructure development will necessitate inflow of private investment in addition to the public investment, thereby increasing the need for more PPP projects. PPP projects need appraisal as any other major public investment project. However, PPP projects are complex in nature. The high initial investments, transfer of public assets to the private sector partner for a concession period, the need to balance the divergent interests needs and risks of the stakeholders, etc. make designing and managing a PPP arrangement difficult.

Given the high level of unpredictability involved in PPPs, PSAs need to focus on balancing and offseting different kinds of risks inherent in the project, along with promoting ways for financial viability of the project. Thus, it is important that the risk is allocated to the party which is best suited to handle it at the lowest cost.

Implementing a project as a PPP only makes sense if the project itself is sound. Further, PPP projects run for a long duration, with capital tied up as debt from banks/financial institutions/multilateral agencies. Not highlighting and correcting risk allocation at the initial stages could cause projects to fail - making capital and efforts go down the drain. Also, increasing failure of PPP projects tends to dampen private sectors' confidence and thus hamper private investments in infrastructure sectors. Thus, developing capacity for end-to-end assessment and appraisal of PPP projects becomes paramount to ensure success of PPPs.

In PPP projects, there is a need for due diligence and systematic rigorous appraisal as these projects typically involve:

i. Transfer of public assets, including land (e.g., an existing road or airport facility);

ii. Delegation of governmental authority to collect and appropriate user charges that are levied by force of law and must therefore be 'reasonable';

iii. Provision of services to users in a monopoly or semi-monopoly situation, which imposes a special obligation on the government to ensure adequate service quality; and,

iv. Sharing of risks and contingent liabilities by the government, e.g., when claims are made under the respective agreements or when the Central Government has to provide a backup guarantee for non-performance by the entity granting the concession. Even where

an explicit guarantee is not included there is a danger that non-performance on part of the State Governments could attract claims under bilateral investment promotion agreements.

v. Disputes arising out of project terms which could lead to significant payouts by the government.

Source: PPPAC Guidelines, Department of Economic Affairs

Appraising a project involves seeking answers to a fundamental set of questions about the project:

- Is it sensible, from an economic perspective, to implement the project?
- Is it practical to procure the project as a PPP? How much will it cost?
- Is it affordable from the government's perspective?
- Is there adequate market interest and capability to deliver this project and can they be overcome in a cost-effective manner?

The Appraisal Phase serves to filter out projects that do not meet the feasibility criteria, keeping them from being launched as PPPs and avoiding an expensive waste of resources or a failure to deliver the service.

4.3. Principles of PPP Project Appraisal

Typically, the Appraisal Phase serves to identify probable issues in the projects which may lead to failure of the project during its lifetime. Thus, appraisal phase filters out projects, ensuring that quality projects are launched as PPPs and thus avoiding an expensive waste of resources or a failure to deliver the service.

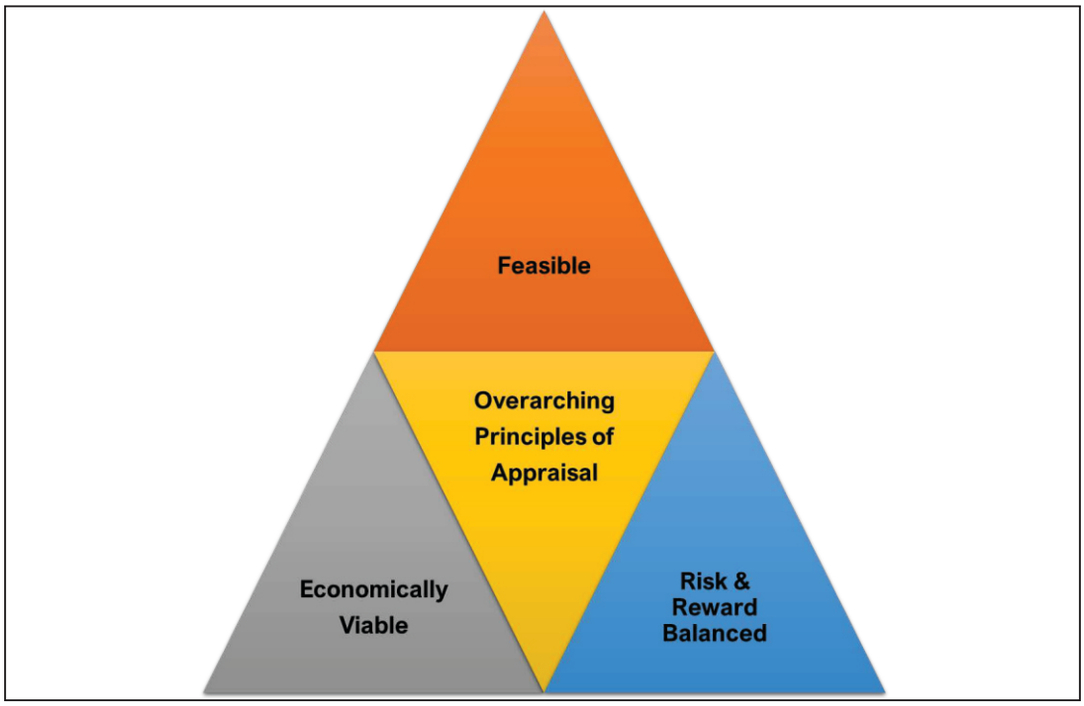
THREE Overarching Principles for PPP Project Appraisal:

- the PPP project should be Feasible;

- the PPP project should be Economically Viable;

- the PPP project should be Risk & Rewards Balanced.

Figure 5: Overarching Principles of Project Appraisal



The three overarching principles form the basis of the approach to project appraisal. Project Appraisal is a Science, as it works to get an estimated output for a structured input. However, it is also an Art as the PPP project appraisal authority over time develops the wherewithal to effectively appraise the pain points of the projects and suggest remedial measures.

This Reference Guide seeks to bring together this Art & Science of PPP project appraisal in the form of an easy to implement guide for the Project Appraisal Authorities. Towards this end, the three Principles of PPP project appraisal are explained further in the following paras.

- Assessing the feasibility of the project concept - The first and foremost principle of project appraisal is to understand whether the underlying project makes sense, irrespective of the procurement model and whether the underlying project is feasible to be undertaken on the PPP mode. The feasibility of a PPP project has to be seen from multiple standpoints like strategic, technical, financial, environmental and social, institutional/project management and legal. Following feasibility assessments are undertaken by the PSA during project structuring. The appraising agencies need to understand the nuances of these feasibility assessments so as to appraise them as part of the appraisal process.

    - **Strategic feasibility**: Whether the project fits in with government's development and sector strategies, policy, priorities, and sector and infrastructure plans?
    - **Technical feasibility**: Whether the project is technically feasible without unreasonable technical risks and the technology is easily available in the market?
    - **Legal feasibility:** Are there any legal barriers to the project preventing the government to enter into a PPP contract?
    - **Environmental and social sustainability**: Does the project comply with national environmental and planning standards on managing environmental and social risks?
    - **Project management:** Whether the PSA has the authority, capacity, and fiscal resources to prepare and tender the project, and to manage the contract during its term?

- Assessing the economic viability of the project - This principle involves the assessment of whether the PPP project is a good public investment decision based on an economic analysis. This involves assessment of Commercial Viability, Economic Viability and Fiscal Viability of the project. The importance of economic desirability also lies in the fact the if a project is commercially unviable, but economically desirable, then such a project can be made commercially viable by providing various external support like giving additional revenue sources or VGF, etc. The nuances of Commercial Viability, Economic Viability and Fiscal Viability of the project are discussed below:

    - **Commercial viability** - whether the project is attractive to sponsors and lenders with reasonable financial returns. This is subsequently confirmed by the tender process.

    - **Economic appraisal** - whether the project is cost-benefit justified, and represents the least-cost approach to delivering the expected benefits?

    - **Fiscal viability** – whether the project's overall revenue requirements are within the capacity of users and the public authority to pay for the infrastructure?

- Assessing risk & rewards balance - This principle involves the evaluation of project bid documents to ensure whether the PPP project provides a balanced structure for sharing risk and reward for both the public and private partners. The guiding cardinal principle is that risk may be allocated to the party that is best suited to handle it. The appraising agencies need to understand the nuances of balancing risk and rewards so as to appraise them as part of the appraisal process. Since, the bidding documents (RFP and the DCA) primarily lay down the terms of allocation of the risks and rewards between the parties and form the foundation of the bidding process; these must be appraised carefully, clearly and thoughtfully. The risk and reward balance is achieved by having:

    - **Clear terms and conditions -** It is critically important that these terms are clear and well understood. This gives bidders clarity on the requirements of the project and satisfies them that the public partner is credible and well organized.

    - **Identification of relevant KPIs and Risks** - All this will make both the parties – public as well as private to better prepared to devote resources to the bid. It will also reduce the likelihood of failure and litigation in implementing the project.

It is evident that a proper appraisal of PPP project involves assessment of overall project feasibility and viability; risks mitigation and balancing; and balancing of rights and obligations of the stakeholders involved in the PPP project. Thus, a Reference Guide for PPP project appraisal is essential and important for supplementing and supporting the project appraising authorities for undertaking a systematic and robust appraisal of PPP projects.

4.4. When to Appraise?

PPP projects demand a very sound preparation if they are to deliver timely, effective, and cost-efficient infrastructure. A significant part of this preparation is done in the Appraisal Phase. Appraising a PPP project means conducting a series of feasibility exercises that inform a decision to approve, cancel, or revisit the project before the bidding and subsequent signing of contract.

The Appraisal Phase of the PPP Project begins after the project is clearly identified as a PPP and defined in terms of the scope of the proposed contract and the draft contract or the Request for Proposals is prepared. It may end with the recommendation of the Appraisal committee to procure

the project through a PPP or to reject the project as such. It is one of the most important decisions the government makes during the PPP process because it commits the government to a process that requires a high level of resources, both internal and external, to the final structure of the contract. In addition, it indicates to the relevant stakeholders the government's intention to take the project for bidding.

A project must be clearly defined before it can be appraised. Project definition includes the description of the physical facilities that will be constructed, the technology to be used, the outputs to be provided, and the identification of the end-users. This definition may be sufficiently broad to apply to a project delivered as a PPP. This will impact estimation of capital, operating, and maintenance costs, as well as any revenue expected to be generated, over the life of the project. The PPP contract may focus on output and refrain from specifying the technologies, inputs, and processes to be used which may be the responsibility of the private operator. However, some technological definition may still be needed for initial cost assessment.

To meet this diverse set of objectives of PPP Project Appraisal, the government may engage an experienced project team from the beginning of the Appraisal Phase. As explained in the Reference Guide for Setting up State PPP Units, this team can be composed of government specialists but, often, also includes transaction advisers and/or industry experts. Whatever the composition of the project team, it is of utmost importance that the expertise required for PPP Project Appraisal are in place and committed during the Appraisal Phase.

4.2. Who to Appraise?[5]

Since PPP projects are complex in nature and involve multi-sectoral issues, the following key principles should be kept in mind while finalizing the organizational structure of the PPP Project Appraisal Authority to be set up for project appraisal:

- It may be a multi-departmental body involving representation from different ministries/departments; Typically, a PPP Appraisal Committee may have (principal) secretaries from the following:
  - Administrative Department (sponsoring the project)
  - Finance Department
  - Department of Law
  - Planning Department
  - Any other department as required
  - Co-opted members or experts
- It may be headed by a departmental secretary in which the PPP unit is located;
- It may be supported by a PPP Unit having appropriate expertise in handling PPP projects. Such PPP unit shall serve as the secretariat of such PPP appraisal authority;
- For sake of efficiency and effectiveness, depending on the size/total project cost of the projects, there may be more than one appraisal authority. The threshold may be decided as per requirement and vision of the state.
- Post appraisal and recommendation by the Appraisal authority, there may not be any requirement for any further appraisal by any other authority.

[5]Structure of Appraisal Body and the appraisal mechanism followed at Central and State levels is explained in detail in Annexure VI and VII

Chapter 5

How to Appraise - Mechanism of Appraisal

PPP projects require careful structuring and even closer scrutiny. Due diligence in deciding project terms and conditions along with standardization and discipline, consistency with processes in other sectors and consideration of best practices are quite crucial for the success of the PPP project.

Basis the Three Overarching Principles of Appraisal and the deliberations in the previous chapters, key questions to be considered, objectives to be achieved and expected outcomes to be assessed for appraisal of PPP projects are detailed in following paras. However, it is to be carefully noted and understood that these questions are only indicative in nature. Further, the questions may be read and understood in congregation and context of the stated objectives and outcomes. In no way may these questions be considered all-encompassing as the project contours would necessitate application of mind for framing appropriate queries. The sole purpose of these guiding questions is to aid the project appraisers in undertaking a structured appraisal of the project. These suggestive questions can in no way be deemed to guarantee success of the project.

5.1 Feasibility Assessment

The PSA may understand the basic requirements that the project under consideration must meet, the administrative processes involved, and accordingly assess the existing capacity in the PSA to develop and implement the project. Such an understanding is required to prepare detailed terms of reference for the work to be undertaken and a timeframe for its execution. Generally, the following need to be clearly understood:

- The objectives that the proposed project has to achieve;
- The legal and regulatory environment and government policy on PPPs;
- Capacity in the PSA to implement the project;

These are discussed in the following sections.

i) Appraisal of Strategic feasibility

Appraisal of Strategic feasibility is carried out to firmly establish the rationale behind the project, its strategic importance for the Centre/State/region and benefits expected out of the project. The objective of this assessment is to ensure long term commitment of the Government to the project.

Objectives:

Rationale, justification, strategic importance, and economic benefits of the project for undertaking the project and ensuring long term commitment of the Government to the project.

Question	Comments/Clarifications
What is the rationale or justification for the project?	To understand the requirement of infrastructure services to be provided by the project including desired outcome of the project.
Is the project part of a flagship scheme/ programme/ policy of the Government?	To understand if the project aligns with the vision and schemes of the Government.
Is it fulfilling any strategic need?	To understand if the project aligns with the strategic needs of the sector/ government.
Whether undertaking the project in PPP mode will bring private investment or private efficiency or both?	To understand the intended objectives of taking up the project in PPP mode.

Expected outcome:

The expected outcomes/objectives of the proposed project should be in sync with Government's long-term agenda, vision, strategies, sectoral need and economic requirements.

ii) Appraisal of Technical feasibility

Appraisal of the technical feasibility determines what all technological solutions exist for implementing the project and out of these which is the most feasible technological solution. Subsequent steps in the project development process such as planning, documentation, risk minimization, etc. depend on the outcomes of technical feasibility.

Objectives:

To ensure that:

- Technology to implement the project is available commercial at reasonable cost.
- There is no mismatch between the technology/design option selected and the actual requirement of the project.
- An over ambitious/unpractical or lax implementation schedule is not put in place.

Question	Comments/Clarifications
Whether the engineering/ design requirement has been hard-coded/specified in the project or left to the Concessionaire?	To understand whether the technology option has been decided by the PSA or left to the Concessionaire. If the design/ technology is pre-specified by the PSA, then the rationale behind it?
Is the technology solution identified proprietary or an open source?	To understand the key reasons for selection of proprietary technology (if any) as proprietary technology causes dependence on a single source which may lead to monopolistic situation in future. To understand if the project outcome justifies the technology costs and dependence.

Question	Comments/Clarifications
Whether the technology meeting the desired KPIs/project specifications is readily available in the market?	To understand rationale for selecting a technology option which is not readily available in the market at a reasonable price. Alternatively, in case of non-availability, what are other technology options being considered and whether they meet the desired outcome.
Whether there is a mis-match between the technology selected and the actual requirement of the project?	This aims to evaluate if the expected outcome from the project may justify the cost of the technology used. The technology may be selected keeping practical realties in mind. Technology specifications may not result in additional costs with no additional benefit to the project.

Expected outcome:

The technology solutions identified are readily available in the market and are non-proprietary to the extent possible. The technology selected should result in cost optimization and should match the requirements of the project.

iii) Appraisal of Legal feasibility

Appraisal of the legal feasibility assesses that all the activities that form part of the entire PPP process are permissible within the applicable legal and regulatory framework of the country/state. This is necessary to not only avoid any future litigations/disputes but also build investor/private sector confidence in the project.

Objectives:

The objective is to ensure that the PSA is on sound footing regarding legal connotations pertaining to the project. It is also to ensure that the proposed project is under the administrative and territorial jurisdiction of the PSA. The procurement process is being undertaken under the existing legal framework.

Question	Comments/Clarifications
Whether the project is within the administrative and te rritorial jurisdiction of the PSA?	For smooth implementation of the project, it is important that the PSA is not taking up projects fully or partially falling outside its administrative and territorial jurisdiction.
Whether the project is legally permissible?	To ensure that project and bid process itself are legally permitted and legally tenable.
Is land readily available for the project?	To ensure that the land acquisition requirements (if any) are identified beforehand, and the Concession Agreement has relevant Clauses for it.

Question	Comments/Clarifications
Whether the PSA has the authority to lease/sub-lease Land? Or give license or sub license to the concessionaire?	If the nature of the project requires lease/sub-lease of land; licensing or sub -licensing, then the PSA may have the authority to do so. If the PSA is not such authority, then the appropriate authority has been identified.
Who is the authority to fix user charges/tariff?	To understand who is the authority to regulate the user charges and how it will be fixed?

Expected outcome:

The project and the bidding process should be clear from all legal angles and ambiguity which may lead to litigation and delay in the project implementation leading to time and cost overruns making the project unviable.

iv) Appraisal of Environmental and social sustainability

Appraisal of the environmental and social sustainability checks for any environmental and social impact that the project may have and how to minimalize its negative effects. The 'environmental impact assessment' is a key document for examining environmental risks. Similarly, social impact analysis (or social feasibility assessment) is an important part of the general appraisal of PPP projects, since infrastructure initiatives may cause adverse impact on communities surrounding the project implementation sites.

Objectives:

The objective is to identify the key environmental and social impacts of a project beforehand. Solutions/strategies to mitigate the adverse impact are formulated and all associated costs are incorporated. The concession agreement should clearly provide for the responsibility of maintenance of requisite environmental standards.

Question	Comments/Clarifications
Whether EIA study has been conducted?	To ensure that impact on environment and society arising out of the project activities are clearly identified beforehand.
Whether mitigations strategies/solutions have been identified? Also, if costs of such mitigation measures have been incorporated and who will bear the same?	Once the adverse impacts are identified, mitigation strategies/solutions must be formulated to address these, and any associated costs are incorporated in the TPC.
Has the land requirement been identified? **Whether land is available with the PSA or to be procured/acquired?** **Who will bear the land cost?**	Land acquisition requirements are identified beforehand, and the Concession Agreement has relevant Clauses specified ensuring its allocation and associated costs, if any. Generally, in PPP, Land cost is not part of the PPP and to be provided at a nominal cost.
Is there any rehabilitation and resettlement (R&R) requirement? If yes, what is the cost and plan for R&R? **Who is bearing the cost of R&R, if any?**	To identify all R&R requirements beforehand, and the Concession Agreement may provide for its allocation. Usually, R&R is taken care of by the P SA itself.

Expected outcomes:

To ensure that the proposed project, its design, and technology caters to/meets all environmental requirements and fulfills societal aspirations. The project does not get stuck due to any environmental or social impact/concerns which may result in time and cost overruns.

v) Appraisal of Project management feasibility

Appraisal of the Project management feasibility is carried out to assess whether the PSA has the capacity and fiscal resources to structure and tender the project and to manage the contract during its term/concession period. For a PPP project to be successful, the private sector will need counterparts in the public sector who are knowledgeable and competent co-managers of contracts.

Objectives:

To ensure that the project life is not compromised due to lack of experience/ capacity and financial resources available with the PSA.

Question	Comments/Clarifications
Whether the PSA has the capacity to structure, tender, oversee and manage the project during the project lifecycle?	To understand if the PSA has the capacity and staff to structure the project and carry out the tendering process. If not, then has a TA been hired for the work? Who is bearing the cost of TA?
If the PSA does not have in-housecapacity, then whether a TA has been hired?	
Whether the PSA has the financial resources to tender, oversee and manage the project?	To evaluate if the PSA has the financial capacity or not? If not, then how the capacity and funds are being arranged?
Is there a capacity for in-house Project Monitoring Unit (PMU)? If not, will monitoring be outsourced?	To understand if PSA has capability to monitor the project or if experts are being hired to monitor the project.
Whether the PSA has the capacity and resources to meet itstermination obligations of the project? If not then is there any counter guarantee by the State or State intermediary?	To safeguard the investment of the Concessionaire and to ensure that private party gets faith in getting the payment in case of termination.
Whether PSA has a remediation mechanism available to handle dispute or appropriate dispute resolution mechanism is mentioned in the DCA?	To mitigate disputes in the Concession Agreement and to ensure smooth run of the project.

Expected outcome:

To ensure that the PSA is either having in-house or outsourced capacity for project structuring, bid process, award of bids, signing of concession, declaration of appointed date and post award contract management including availability of finances for carrying out these activities are arranged.

5.2 Economic Viability

vi) Appraisal of Commercial Viability

Objectives:

Commercial viability of the project is crucial to attract private investments and it will determine project biddability and bankability as well as long-term success. To ensure if the revenues earned from the project are adequate to cover capital costs and operations and maintenance costs.

Appraisal of the commercial viability is necessary to determine whether the project has stable revenue streams to generate reasonable returns. While the return may not be a super profit, it may also not be too meagre so as to cause disinterest for the private sector.

Objectives:

Commercial viability of the project is crucial to attract private investments and it will determine project biddability and bankability as well as long-term success. To ensure if the revenues earned from the project are adequate to cover capital costs and operations and maintenance costs.

Question	Comments/Clarifications
What is the break -up of Total Project Cost (TPC)?	To ensure that TPC is calculated c orrectly and includes all major components of costs such as interest during construction, financing cost, contingencies costs (if any). It also helps in deciding the technical and financial capacity and Bid/Performance security with reference to the TPC.
Whether phasing of capex considers inflation calculations?	Since capex is phased over the construction period, it may be indexed to consider inflation.
Whether the project has clear identifiable revenue streams?	Revenues accruing from the project may be clearly identified and defined in the concession agreement. The party to whom the revenue will accrue may also be defined.
Will the project have pre-determined user charges/tariffs?	To understand if the user charges or tariffs to be collected by the con cessionaire are pre -determined by the authority with the escalation rate and specified in the concession agreement.
Who will fix the tariff/user charges? Whether escalation rate has been specified?	To understand that in absence of pre-determined user charges or tariffs, who will fix the tariff/user charge? From time to time, will it be decided by the PSA or by regulator or left to the concessionaire.
What is the debt-equity ratio used in the financial model? **If it is different from the standard 70.30, what are the reasons?**	For financial modeling, generally , it is taken as 70:30. However, depending on project structuring, a different ratio may also be acceptable. Ultimately, it is left to the private partner to decide the project financing.
What is the basis of the rate of interest used?	For example, whether SBI MCLR rate has been used or any other rate?

Question	Comments/Clarifications
Is the Project IRR (PIRR) greater than WACC?	The PIRR may be greater than the WACC in order to cover the cost of capital.
Is the Equity IRR >= 15%? **If not then whether a lower EIRR is justified for the sector**	To understand the viability of the project and ensuring bidder's interest.
Whether the NPV of Project Cashflow and Equity Cashflow has been calculated at the starting point of the construction period and the rate of discounting adopted is reasonable?	Since cashflows start from the beginning of the construction period, it is important to calculate the NPV from the starting point. Ideally, the NPV for Project Cashflow and Equity Cashflow may be ca lculated using WACC as the discount rate.
Whether economic life, depreciated life of the asset and concession period is same or different?	To understand whether the economic life of the asset is co-terminus with the concession period or will there be a need of mid-term major upgradation. In case of mid-term major upgradation, the costs and responsibility may clearly be identified and fixed.

Expected outcome:

It is important to ensure adequate return on investment for the private partner. It is important to ensure that the PIRR/EIRR of the project is good enough to attract private participation in the context of risk of the project. In case it is not upto the desired level, support provisions can be made to enhance it. A lower PIRR/EIRR could result in lower bid response/less private sector interest. PIRR/EIRR lower than WACC will result into negative NPV of project cash flows and will make the project unviable.

vii) Economic Appraisal

An infrastructure project is not only providing infra services and direct benefits for that sector but it is also promoting and pushing various other economic activities. Many a times, the infrastructure projects investment doesn't bring the sector specific benefits commensurate with the investment. Therefore, the economic appraisal tries to see whether the project is cost-benefit justified, and represents the least-cost approach to delivering the expected benefits? The economic appraisal evaluates the project's effect in terms of overall economic gain that investment is bringing.

Objectives:

The objective is to ensure that infra and PPP projects are cost-benefit justified by delivering overall economic benefits vis a vis the costs. In case a project is commercially unviable but provides substantial economic benefits in the form of services, employment, time savings, reduction in accidents, positive impact on environment, economic development, social development, enhancing ease of living, ease of doing business, etc. The project should maximize returns to the economy and justify the use of scarce resources like capital, management and labor, material inputs, utilities, etc. Economic appraisal is more required if the project itself is commercially unviable.

Question	Comments/Clarifications
What is the economic IRR?	To assess if the project is economically desirable even if commercially unviable.
In case of project being commercially unviable but economically viable then whether viability of the project can be enhanced by various support mechanism like VGF, non-farebox revenues, minimum revenue guarantee, revenue shortfall loan, etc.?	If project is commercially unviable but economically viable, commercia viability of the project may be enhanced by providing additional support.
Does the project need funding assistance from the Government?	Generally, VGF may be the last sweetener after exhausting other possible supports?
Whether Value for Money (VFM) Analysis has been carried out?	VFM analysis is intended to analyze whether it is better to undertake an infrastructure project under the PPP mode than traditional public procurement (*Detailed description of VFM is provided in Annexure V*)
Whether Public Sector Comparator analysis has been carried out?	The PSC is a tool to evaluate VFM. It estimates the hypothetical risk-adjusted cost if a project were to be financed, implemented, and operated by the public sector with the cost of the project if financed, implemented, and operated by private sector (*Detailed description of VFM is provided in Annexure V*)

Expected outcome:

It may be noted that every project may not require the calculation of EIRR. If the project is commercially viable without requirement for grant/financial support, then economic appraisal may not be required.

The economic analysis strengthens the case for taking up the infrastructure project itself and ensure that the decision to take up a project aligns with the broader economic development objectives. Even if such a project is not commercially viable, then government could look at options to make it viable.

viii) Appraisal of Fiscal viability

Appraisal of the Fiscal viability broadly assesses the ability of a project to generate sufficient cash flows to financially sustain the project over the concession period and meet all the debt obligations in time.

Objective:

The objective is to ensure liquidity of the project during its lifetime and sanctity of financial modelling. It helps track the cash flow and make informed and strategic decisions regarding paying off debt. To ensure that the operating cash flow can cover the annual interest and principal obligations. To have this clarity, all the probable revenues and costs of the project should be analyzed and estimated.

Question	Comments/Clarifications
Whether financial model including Cash flow Statement, Balance Sheet and Profit & Loss Account h ave been prepared for the entire concession period?	This question is posed to understand the financial assumptions, ensure all investments, costs, revenue sources, as well as analytical parameters such as cost of loans, cost of equity, taxes, depreciation, IRR, NPV are accurately derived.
Is the DSCR greater than 1? **Has a provision for Debt Service Reserve Account (DSRA) has been made.**	If DSCR is less than 1, then the debt obligations may not be met and debt servicing will be done in time. The DSRA is a safety valve/measure that gives the borrower time to deal with a lack of cash flow available to service debt and prevents them from defaulting.
What is the Debt Repayment Schedule?	To ensure that the concessionaire repays the debt well before the end of the concession period.

Expected outcome:

To ensure that the project is generating sufficient income to meet its debt obligations on a periodical as well as over concession period basis and there is no mismatch in the cash inflow and outflow as it may adversely impact project viability and may lead to bankruptcy of the concessionaire.

5.3 Risk & Reward Balanced

Bid process documents including Request for Proposal and Draft Concession Agreement (DCA) needs appraisal to ensure:

- Clear demarcation of roles and responsibilities of both the parties;
- Unambiguity in bid parameter and bid evaluation criteria;
- Clearly spelt out revenue sources and revenue sharing mechanism (if any);
- Clearly defined Conditions Precedent clauses to define all significant points that need to be dealt with prior to declaration of Appointed Date;
- Conditions for ensuring timely approvals and clearances;
- Quantifiable Key Performance Indicators and Realistic Penalty structure;
- Clearly defined events of default and termination payments;
- Mutually agreed upon timelines and payment mechanism;
- A robust mechanism for dispute resolution;
- Well defined liability and indemnity clauses to provide for management of risk of losses.

ix) Appraisal of RFQ/RFP

Appraisal of the RFQ/RFP seeks to ensure a well-structured RFP which provides bidders with clarity on the requirements of the project and satisfies them that the public partner is credible and well organized. It also reduces the likelihood of delays to the bidding process because of subsequent changes to the RFP.

Objective:

The objective is to achieve standardization and discipline in the bid process. It is to encourage use of Model RFP for standardization of bidding terms. All risks elements are identified, and appropriate clauses are incorporated to balance the risk. To ensure there is a balance between widening bidder universe and serious bidders having wherewithal to execute the project

Question	Comments/Clarifications
Whether there is a Model RFP or RFQ for the sector and the same is being used for this project?	To encourage standardization and discipline. This would increase biddability of the projects by boosting investor confidence regarding application of time-tested terms and conditions of the bid.
Is short-listing to be done in single stage or two stages?	To ensure that the PSA understands the rationale behind using a single-stage or two-stage bidding process.
Whether the technical capacity criteria and financial capacity criteria are restrictive to limit participation and competition?	To ensure that the technical and financial capacity criteria are prescribed keeping in mind the requirements of the project. The criteria are of nature to ensure greater participation and at the same time ensure involvement of serious players.
Whether any O&M specifications/ qualifications are provided?	If the project has O&M requirements, then the specifications/qualifications/criteria for the O&M player may be clearly provided in the RFP. Whether such O&M condition must be met at the time of bidding or procured later needs to be specified.
Whether such O&M obligations are necessarily required in -house or can be procured from market by means of contract by the bidders?	
Whether the bid process is to be carried out on an online procurement portal or in a ph ysical mode? If online procurement portal is available, then rationale for selecting of physical mode of bid process (if proposed) may be informed.	The idea is to encourage online procurement methodology as it ensures transparency and wider project publicity. However, for cogent reasons, the authority may go in for an offline procurement methodology.
Whether there is a clear unambiguous bid parameter?	To ensure that the selected bid parameter takes into account the project contours without unnecessarily burdening the PSA or private partner with additional compliances. *Based on various PPP models examined by us, a detailed list has been provided in Annexure I*
Whether the Bid Security is as per the applicable government guidelines?	To ensure that the bidder is not burdened with higher bid security demand.
Have all other conditions, specifications and project agreements been frozen prior to inviting financial bids? **If no, please furnish the details with justification thereof**	To ensure clarity of project re quirements to the bidder and save the projects from going through multiple amendments in the RFP.

Question	Comments/Clarifications
Whether the mode of project implementation is in sync with the Project Implementation Mode Selection Framework? **State reasons for any deviation.**	To ensure that the optimal project implementation mode is selected.
Whether provisions for tie bid breaker are included?	To ensure that standard clauses/provisions for PPP Concessions have been used· The bid process/documents comply with certain standards and discipline.
Whether Change in consortium permissible between bid submission and appointed date?	
Whether change in ownership is permitted? What are the specific conditions?	
Whether standard clauses of Model RFP regarding conflict of interest are followed?	

Expected outcome:

To ensure that the bid process/documents comply with certain standard terms and discipline. This will Increasing the biddability of the project by boosting investor confidence regarding application of time-tested terms and conditions of the bid.

It is important that the technical and financial capacity criteria are prescribed keeping in mind the requirements of the project and encourage competition. All conditions, specifications, risk elements and project agreements have been identified prior to inviting financial bids.

x) Appraisal of Draft Concession Agreement

Appraisal of the DCA seeks to ensure clarity on the obligations, liabilities, risks, rewards and conditions of all parties involved in the project and lays the foundation for the contract management process throughout the life of the PPP.

Objective:

The objective is to ensure that the concession agreement is risk and reward balanced. All possible risks arising from the projects have been identified. The party best equipped to handle the risk is allocated it. Model Concession Agreements, wherever available, should be followed to ensure standardization in articles and clauses.

To ensure that the project's vision lucidly translates into project's scope of work and Clauses of the Concession Agreement are in agreement with the overall envisaged project outcomes and also in tandem with the standard clause of the Model bid documents and deviations are not without cogent reasons.

Question	Comments/Clarifications
Is the Concession Agreement based on a duly approved MCA?	To ensure sector-specific MCAs are used . This boosts investor confidence and fast tracks project execution.
Have any deviations from MCA been proposed? **If yes, please provide reasons for deviations**	To ensure that deviations are not without cogent reasons.
Whether the scope of work is in line with the objective of the project?	To ensure that the scope of work is aligned with the proposed project outcomes. Any mismatch would lead to non-fulfilment of the KPIs/expected outcomes and/or disputes at a later stage.
Given the project contours, who is better equipped to handle construction risks and to whom the construction risks are assigned?	The idea is to assign the mentioned risk to the party best suitable to handle it. To ensure that each party has clarity on the risk assigned and must incorporate the associated cost in the financial model. Please refer to Annexure II f or details on Type of Risk and Preferred Allocation.
Given the project contours, who is better equipped to handle operations risks and to whom the operations risks are assigned?	
Given the project contours, who is better equipped to handle financial risks and to whom the financial risks are assigned?	
Whether the nature of the project is as such which warrants de-scoping? **If so, whether appropriate provision has been built in the concession agreement?**	In case some part of the project is non-achievable or there are issues/delays in getting land/clearances for the same, then the concession agreement may provide for appropriate clauses to allow for descoping. This will ensure that the entire project does not get into litigation or is delayed due to issue pertaining to some part of the project.
Whether stakeholder consultations have been conducted to understand the market feedback?	The achievement of scope of work depends upon understanding of the scope of work by the stakeholders and the market feedback regarding its achievability. Thus, feedback from stakeholders/market may be incorporated in the project to ensure its smooth implementation and identify in advance any risk elements and adopt mitigation measures/solutions from experience in the past, if any.
Whether standard clauses for Change in scope, Change in Law, Force Majeure, Representations & Warranties, audit & certification, laws and courts for jurisdiction, substitution rights, insurance, escrow account etc., are included in the Concession Agreement? **Any deviations need to be explained.**	To ensure that all standard clauses/provisions for PPP Concessions have been included in the concession agreement to ensure clarity on roles and responsibilities, payment mechanisms and terms and conditions of the PPP agreement such that any disputes and time delays could be avoided.
Whether Conditions Precedent (CPs) are clearly laid down? Whether timelines have been stated for fulfilment of CPs?	It is important that the conditions to be met before the commenc ement of the construction work on the project in the form of CP for each party is clearly defined in the document, timeline for meeting the CP

Question	Comments/Clarifications
	is specified and penalty/appropriate charges for non-fulfilment is specified. Since meeting all CPs result in timely commencement of construction work on the project, it is important that these conditions are unambiguous and are binding on both parties.
Whether performance security is as per the latest government notification?	To ensure that the bidder is not burden ed with higher performance security without cogent reasons.
Whether obligations of the Concessionaire and PSA are clearly defined?	To ensure that e ach party has clarity on the obligations that it must arrange for and procure, at its own cost and risk.
Whether all requirements for permits and rights related to the project site have been clearly laid down?	To ensure timely commencement and completion of construction works.
Whether a provision has been made for timely transfer of rights/permits to the Concessionaire?	To ensure that all rights and permits to be obtained by the PSA are transferred/provided to the Concessionaire within the stipulated timeline to avoid time and cost overruns.
Whether duties and functions of the Independent Engineer have been clearly stated in the document?	To ensure timely monitoring and supervision of the project.
Whether clauses for monitoring of construction, operation and maintenance have been clearly stated?	To ensure that the Operational Plan and Performance Standards are set out in the agreement.
Whether there are provisions for handover of project site to the PSA at the end of concession period?	To ensure that the project is transferred back to the PSA at the end of the concession period on “as is where is basis” in accordance with the terms agreed by the two parties.
Whether tariff determination mechanism is clearly defined? Is there any regulator for determining tariff?	The mechanism for determination of tariff may be clearly defined in the concession agreement. The tariff determining body and the terms/rate of escalation (if required) may be known to both the parties before signing the concession agreement.
Whether key performance indicators (KPIs) for the Concessionaire have been defined?	To ensure that the Conces sionaire/private party meets the performance standards and is penalized/incentivized in case of shortfall/higher achievement.
Whether termination clauses and events of default have been clearly defined?	To ensure that adequate safeguards are in place to protect the financial interest of each party in the agreement. The intent of the termination clause is to reassure either party of the security of their investment .
Whether adequate provision has been made for compensation for breach in the agreement?	
Whether adequate provision has been made for liability of defects after termination?	
Whether a dispute resolution process/mechanism has been defined/laid down in the concession agreement?	To ensure that the project runs smoothly without unresolved disputes and achieve the purpose.

Expected outcome:

To ensure that the DCA is standardized with clarity on issues related to risks. All standard clauses/provisions for PPP Concessions have been included in the concession agreement to ensure clarity on roles and responsibilities, payment mechanisms and terms and conditions of the PPP agreement such that any disputes and time delays could be avoided. MCAs are adopted for ensuring standardization in clauses and terms. All this would boost investor confidence and fast track project execution. It is also to ensure that any deviation from the same is not without cogent reasons.

5.4 Post Appraisal Process

Based on the appraisal of the PPP project, a decision must be made by the Appraisal Committee whether to recommend the project proposal to the competent authority for approval as good to go to the market or make suggestions/recommendations to be incorporated/justification to be provided before going for bidding, or the project needs major re-designing/re-thinking. This decision must be taken by the Appraisal Committee and conveyed to the PSA. Basis the recommendations of the Appraisal Committee; the PSA needs to seek approval of the competent authority for going ahead with the project.

Annexure 1:

Bid Parameter and Concession Period used in some of the PPP Models

Project	PPP Model	Bid Parameter	Concession Period (years)
Roads	Hybrid-Annuity-Model (HAM)	Bid Project Cost	18
	Toll-Operate-Transfer (TOT)	Initial Estimated Concession Value	20
	Build-Operate-Transfer (Annuity)	Amount of Annuity	15-20
	BOT (Toll)	Grant/Premium	15-20
Airports	Operation, Management and Development Agreement (OMDA)	User fee per passenger	50
Ports	DBFOT	Revenue share/Royalty	30 – Single phase 45 – full phase
Multi-Model Logistics Park	DBFOT	Minimum guaranteed revenue share	45
Tourism	DBFOT	Annual Concession Fee/Lowest Grant (capex+ operational)/Premium	30-45
Foodgrain Storage Silos	DBFOO	Annual Fixed Storage Charges	31.5
Medical College & Hospital	DBFOT	Grant/Premium	33+33
Ropeway	HAM	Bid project cost	17-30
Public Transport Metro	DBFOT	Premium/Grant	30
Public Transport City Bus	Gross Cost Contract /Net Cost Contract Model	Net Cost Contract- Revenue Sharing/Annual Concession Fee Gross Cost Contract- Per KM Running cost	8-10
Multi-level Car Parking	DBFOT	Revenue Sharing/Annual Concession Fee/Grant/Premium	20-30
Renewable energy	DBFOO	Lowest Tariff	20-25

Annexure 2:

Type of Risks in PPP Contracts

Type of Risks and Its Preferred Allocation

Risk Type	Sensitivity to project success	Period of the concession during which the risk may precipitate	Preferred Risk Allocation
A. Pre-operative Task Risks			
Delays in land acquisition	High	0-5 years	Public Sector
External linkages	Low	0-5 years	Public Sector
Financing risks	Medium	0-5 years	Private Sector
Preliminary Approvals	High	0-5 years	Public Sector
B. Construction Phase Risks			
Design Risk	Medium	0-5 years	Private Sector
Construction Risk	Medium	0-5 years	Private Sector
Subsequent Approvals	Low	0-5 years	Shared
C. Operations Phase Risk			
Technology Risk	Low	Throughout	Private Sector
Operation & Maintenance Risk	Medium	Throughput	Private Sector
D. Handover Risk Events			
Handover Risk/ Terminal Value Risk	Medium	Penultimate 3 years	Private Sector
E. Other Risks			
Change in Law	Low	Throughout	Public Sector
Force Majeure	High	Throughout	Shared
Payout to Concessionaire for Concessionaire Event of Default	Medium	Throughout	Private Sector
Pavout to Concessionaire for PSA 's Event of Default	Medium	Throughout	Public Sector

Annexure 3:

Risk Matrix for a PPP project

Category of risk	Description and likely effect	Mitigation measures by Partner to who the risk is allocated	Preferred Allocation
Development risk	Insufficient preparatory tasks and project planning leading to delays in procurement and financial close	- Good feasibility study (that includes comprehensive analysis of risks, possible effects and how to address them as well as de-risking to the extent possible) - Institutional due diligence - Competent transaction advisor	PSA
Sponsor risk	Insufficient Financial capacity to fulfill its financial commitment to the Project	- Credit references and rating - Minimum level of equity stake - Bank guarantee and undertaking - Bid bond from banker(s) - Track record - Financial statement analysis - Ensure adequacy of finance under loan facilities - Use of non-financial evaluation criteria and due diligence on private parties	PSA
Cost overrun risk	During the design and/or construction phase, the actual project costs exceed the estimated cost	- Fixed price and fixed time EPC contract - Review by lender's engineer - Contingency provisions; standby debt facilities/additional equity commitments (commitments are needed upfront) - Equity stake of EPC contractor	Concessionaire
Time overrun risk	Takes longer time to complete the project	- Ensuring minimum technical competence and experience of Concessionaire or its EPC contractor and subcontractors - Retainage, completion bond - Penalty regime	Concessionaire
Input supply risk	Raw materials and inputs not supplied in time or of less in quantity or of low quality, price escalation of inputs	- Establish clear unambiguous KPIs - Contractual framework (provisions for liquidated damages) - Secured supply source - Relief may be considered if failure or shortage not attributable to any private party	Concessionaire

Category of risk	Description and likely effect	Mitigation measures by Partner to who the risk is allocated	Preferred Allocation
Operating risk	Factors negatively impacting operations and available capacity such as, unreliable/untested technology; increased cost of operation, lower capacity; nature and cost of O&M; inefficient operation	- Proven technology, technology transfer - Clear output specification - Independent/lender's engineer report - Guarantee by technology provider, EPC contractor - O&M contract - Sinking fund, maintenance reserve - Maintenance bond - Contractual framework (penalty regime) - Substitution right	Concessionaire
Demand/revenue risk	Insufficient demand and/or revenue (due to low demand, leakage, competing facilities, capacity, price setting, augmentation)	- Realistic demand studies, sensitivity analysis - Regular monitoring - Contractual framework for specific relief (alteration in concession period/revenue shortfall loan, etc.) - Automatic linked Price indexation - Long term offtake contracts	Shared
Change in tax rates	Changes in tax law or policy that have negative effect on the private party, its assets, or the project	- Sensitivity analysis to test the robustness of financial return - Compensation clause if such effects are discriminatory/unforeseeable	Concessionaire for foreseeable and non-discriminatory changes, otherwise PSA
Force Majeure Natural events	Flood, Earthquake, cyclone etc; closure of operation and negative effects on assets and project	- Robustness of cash flow - Provisions of reserves - Contractual provisions to with stand effect of such periods - Relief for short term close down	Shared
Force majeure Political events	Change in law, expropriation, revocation of licences, permits etc, civil disturbance, war, non-default termination of contract	- Insurance political risks - Contractual framework - Provision of Compensation	PSA
Dispute between parties	Non-compliance of contract provisions, or difference in interpretation of provisions	- Establishment of Contract management framework and formalization of management responsibilities - Well defined dispute resolution mechanism spelt out in contract - Appropriate regulatory mechanism - Termination of contract	Shared

Notes: The table merely shows some examples of the common risk and their typical mitigation measures that may be considered. It does not provide any exhaustive list of risks, their nature or mitigation measures. Many mitigation measures shown in the third column may also apply to other risks identified in the second column

Although the general principles of allocating risk is that the party who is in the best position to manage may assume the risk applies to all situations, the party in the best position to manage a particular risk may vary from one situation to another. Many risks are project and situation specific.

A relief event is an incident that temporarily prevents the private company's SPV from completion or operation of the project. The private company is not penalized but also does not receive any compensation.

Some risk may remain unallocated to any specific party. These residual risks would have to be implicitly assumed by the Concessionaire and the lenders.

Annexure 4:

Financial Model - Key Concepts

Important parameters to examine in the financial model are:

a. The operating ratio which determines if the project revenues are sufficient to meet its day-to-day operations.

Operating ratio shows the operational efficiency of the project and may be expressed through:

a) EBITDA Margin (Earnings before interest, taxes, depreciation, and amortization as percentage of revenues).

b) Net profit margins (Profit after Tax as percentage of revenues).

b. The Debt Service Coverage Ratio (DSCR) indicates the project's capacity to repay the debt (principal & interest) incurred for the project, from its operating surpluses. Ideally, it may be more than one.DSCR for the project = PAT + Depreciation + Interest/ [Interest+ Principal repayment]

DSCR for the project = PAT + Depreciation + Interest/ [Interest+ Principal repayment]

c. The Net Present Value (NPV) of project/equity.

The Net Present Value (NPV) of project/equity.The Net Present Value (NPV) method of project appraisal is the discounted cash flow technique for computing multiyear cash flows. The cash flows, both inflows and outflows, are discounted to the present value using an appropriate rate of discount. NPV may never be negative. The higher the NPV, the more profitable a project is.

The cashflows discounted may be at the project or equity shareholder level. Hence NPV needs to be derived separately for project and equity.

The calculation of NPV is based on the formula presented below:

NPV = Cash flow / (1 + i)^t - initial investment

Wherein;

i = discount rate and t = number of time periods

D. The Internal Rate of Return (IRR) of the project/equity.

The Project Internal Rate of Return (IRR) is the discount rate that equates the present values of future cash inflows from the project with the present value of cash outflows due to initial investment and/or future phased investment in the project. For calculation purposes, IRR is the discount rate that produces a zero net present value. A higher IRR reflects more profitable projects.

The cashflows discounted may be at the project level or equity share holder level.

The formula for the same is captured below:

$$0 = \mathrm{NPV} = \sum_{t=1}^{T} \frac{C_t}{(1+IRR)^t} - C_0$$

Wherein;

C_t = Net cash inflow during the period t

C_0 = Total initial investment cost

IRR = Internal Rate of Return

t = number of time periods

e. The Weighted Average Cost of Capital (WACC), it is the minimum return a project must earn on an existing asset base to satisfy its creditors, owners, and other providers of capital. PPP projects raise capital from numerous sources and each of them have different cost attached to them. WACC represents the weighted average cost for each component of the capital structure.

WACC = Weight of Equity in Capital structure × Cost of Equity + Weight of Debt in Capital structure × (1- tax rate) × Cost of Debt

In an ideal scenario, the weight of debt and equity may be in the ratio of 70:30

Cost of equity - the return a firm theoretically pays to its equity investors

Cost of debt - the effective interest rate that a company pays on its debts

Project financial Internal Rate of Return (PFIRR) >= Weighted Average Cost of Capital (WACC)

Net Present Value (NPV)= positive value, when WACC is used as a discount rate

Annexure 5:

Value for Money Analysis[6]

Value for Money Analysis is conducted to ascertain whether the project being developed through the particular PPP framework/model offers value to the PSA and ultimately to the public. For PPPs to offer value for money (VFM) to the PSA, the often-higher costs of private financing must be more than offset by the greater efficiencies offered by private sector in construction and operation of asset and the reductions in risks borne by the public sector over the life cycle of the project. This means there must be effective risk transfer to the private sector.

Careful and appropriate risk allocation between the public and private partners is a critical focus of PPP design to achieve value for money. If private partners do not bear the risks that are under their control, their incentives for efficiency will be lower and PPP benefits may be reduced. The requirement for effective risk transfer and the ability to harness private sector efficiencies means PPPs are best suited to projects for which:

- It is possible to clearly specify the requirements in terms of service outputs – the idea is to capture as much of the private sector efficiencies as possible by allowing scope for bidders to introduce efficiencies through innovations proposed in their bids.
- The project requirements can be specified clearly in unambiguous terms to enable monitoring of performance against measurable standards and enforcement of penalties where standards are not met.
- The requirements of the PSA are likely to remain stable throughout the life of the PPP – the aim is to avoid disputes at a later date due to frequent changes in project scope or requirements.

Optimum allocation of risk would be reflected in the **Quantitative Analysis of VfM** wherein the risk adjusted cost of delivering the project through the PPP mode as compared to the risk adjusted cost of delivering the same project through the traditional public procurement mode/EPC mode is ascertained.

This would be done via:

i. Estimating Public Sector Comparator (PSC)

To understand the costs of a traditional public-sector approach, Public Sector Comparator (PSC) is used to compare and understand the value proposition of projects. The Government of Western Australia, Department of Treasury, defines PSC as: "The PSC is an estimate of the net present cost to Government if it was to deliver the project under a more traditional procurement method, for example design and construct".

The PSC is developed in accordance with the required output specification, the proposed risk allocation and is based on the most efficient form and means of Government delivery of its obligations.

[6]For carrying out VFM, please use the toolkit developed by DEA available on pppinindia website - https://www.pppinindia.gov.in/toolkit

Raw PSC

The raw PSC is referred as Whole of Life Cycle Cost which is estimated as net present value of projected cash flow from the project over its useful life. The Raw PSC provides a base costing under the public procurement method where the underlying asset or service is owned by the public sector. This includes all capital and operating costs, both direct and indirect, associated with construction, finance, maintenance, and delivery of the service (or underlying asset) over the same period as the term under the proposed PPP mode of project and to a defined performance standard as required under the output specification. Expected cash flows for the Raw PSC need to be forecast over the life of the project. The raw PSC may not include any valuation of risks to which Government remains exposed. In many cases, the public procurement method may involve an element of design and construction outsourcing or other forms of private contractor management. The raw PSC may not include any such third-party revenues.

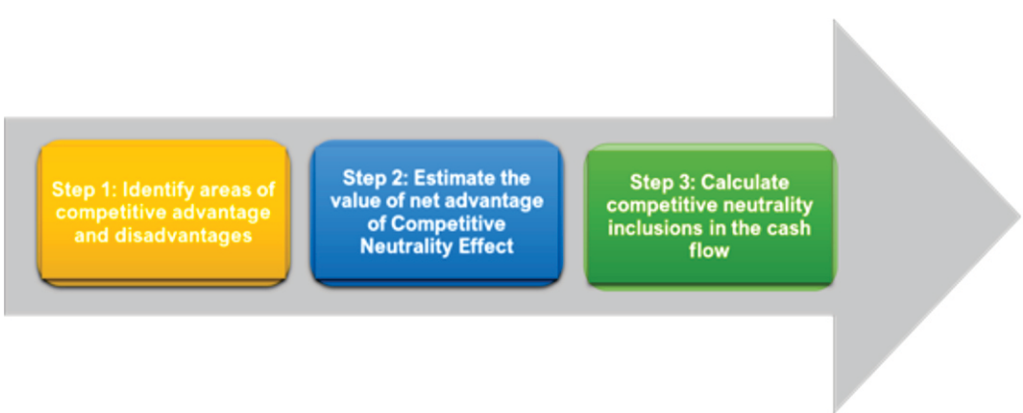
Competitive neutrality

Competitive Neutrality removes the net competitive advantages that would accrue to a government business by virtue of its public sector ownership. The purpose of including this component is to allow a like-with-like value assessment between a PSC and private bids.

Government-owned entities are engaged in many significant business activities and as a result there are distortions in resource allocation. Competitive advantages from public sector ownership typically include taxes that are not levied on public entities. Similarly, the competitive disadvantage for public sector ownership is in terms of increased scrutiny and reporting requirements.

Competitive neutrality inclusions in the PSC are made on a cash flow basis and the cost of capital is not included in the Competitive neutrality component of the PSC numerator but is reflected in the discount rate used to calculate the Net Present Value (NPV). Non-cash adjustments such as depreciation would not form part of Competitive neutrality.

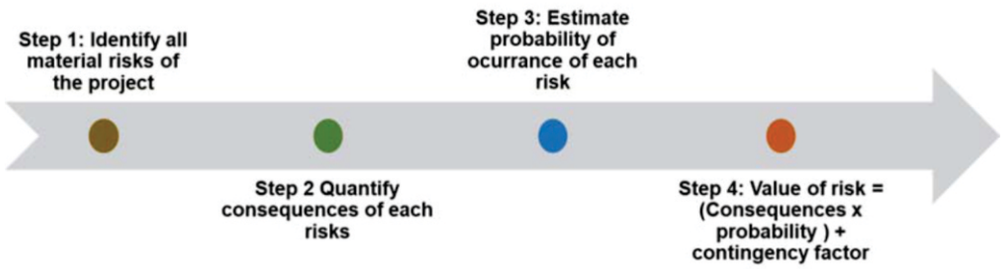
Figure 6: Steps of estimating Competitive Neutrality



Project Risks - Retained and Transferable Risks

To arrive at the PSC, the risks that are present over the life of the project need to be quantified. These include those risks that are retained and those which could be transferred to the private partner. (The value of project-specific risks is to be added to the cash flows while calculating the PSC. The risk may be quantified in terms of a regular cash-flow, or it may be reflected as a discount factor while arriving at the NPV value).

Figure 7: Steps involved in Quantifying the Risks



Based on the four factors explained above, PSC is estimated as below:

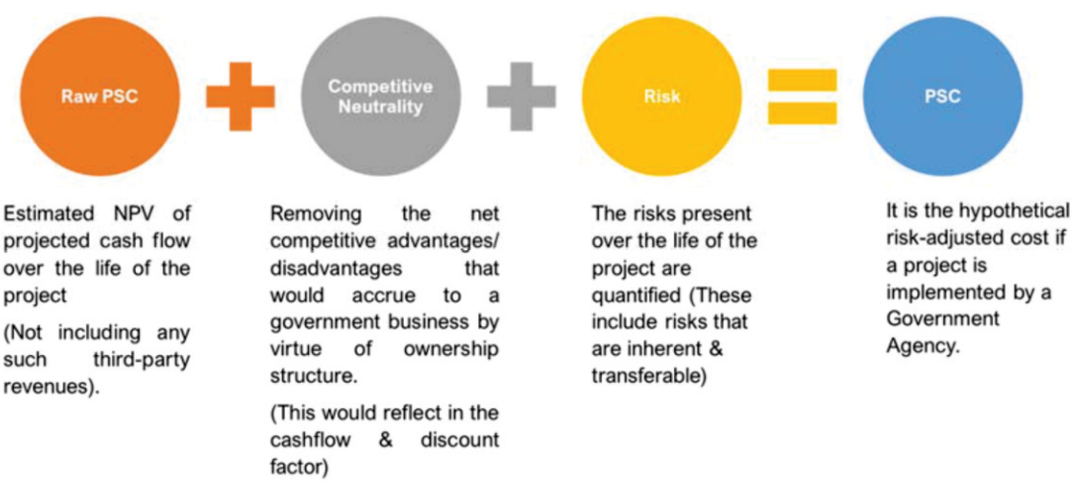
Estimated net cost of PSC = Raw PSC + Competitive neutrality inclusion + Value of transferable risks + Value of retained risks

ii. Computing the Shadow Bid

The Shadow Bid is a hypothetical private party bid which meets the same output specifications as that used for estimating PSC. It can also be referred as PPP reference bid. In case of Shadow Bid, the costing of the output specifications may be carried out from a private party's perspective. Comparing the net present cost to the public entity/public finances of a risk-adjusted PSC model with the net present cost of a risk adjusted PPP reference model enables an assessment of whether service delivery by the Government or by a private party yields the best value to the public entity.

The key steps for estimating the costs to public entity in case of PPP reference bid /Shadow bid includes:

Figure 8: Key elements in estimating PSC



ii. Comparing PSC with Shadow Bid

The Shadow Bid is a hypothetical private party bid which meets the same output specifications as that used for estimating PSC. It can also be referred as PPP reference bid. In case of Shadow Bid, the costing of the output specifications may be carried out from a private party's perspective. Comparing the net present cost to the public entity/public finances of a risk-adjusted PSC model with the net present cost of a risk adjusted PPP reference model enables an assessment of whether service delivery by the Government or by a private party yields the best value to the public entity.

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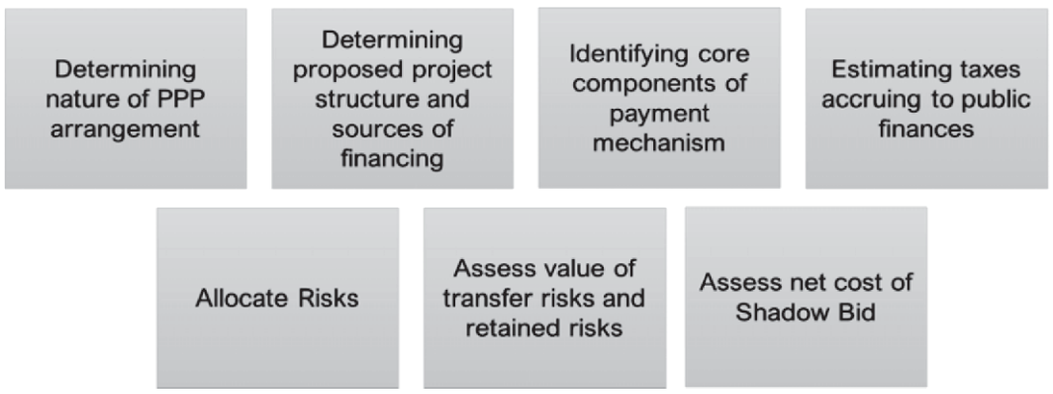


This is the hypothetical private party bid which meets the same output specifications as that used for estimating PSC. It can also be referred to as PPP reference bid.

iii. Comparing PSC with Shadow

If the **PSC> the Shadow Bid,** then the value test is positive, and the PPP is expected to provide value to the public entity.

Annexure 6:

Appraisal Structure at the Central Level

I. Appraisal Body & its Composition

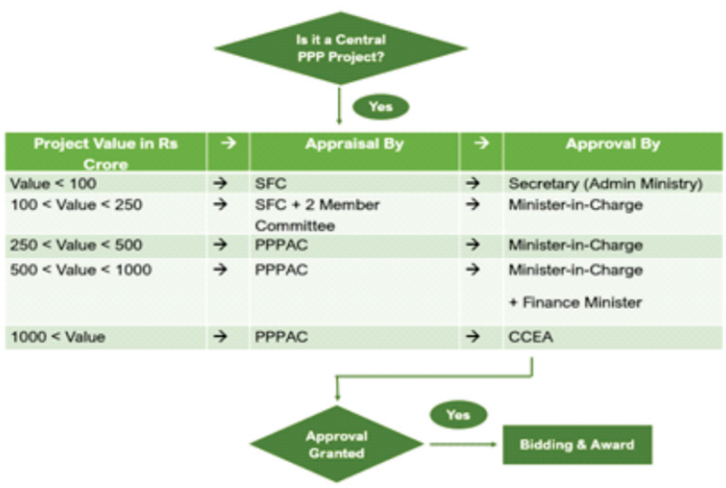
There is a streamlined appraisal and approval mechanism for Central Sector PPP projects. The Cabinet Committee on Economic Affairs (CCEA) in 2005 approved the procedure for appraisal and approval of Central Sector Public Private Partnership (PPP) projects. In 2006, GoI notified the guidelines for the same by setting up the Public Private Partnership Appraisal Committee (PPPAC) responsible for appraisal of Central sector PPP projects. This Committee is serviced by Department of Economic Affairs.

Figure 9: Composition of PPPAC

Note: The Committee may co-opt experts, as necessary.

Source: PPPAC Guidelines

Figure 10: Appraisal/Approval Structure for Central Sector PPP Projects



Project Value in Rs Crore	→	Appraisal By	→	Approval By
Value < 100	→	SFC	→	Secretary (Admin Ministry)
100 < Value < 250	→	SFC + 2 Member Committee	→	Minister-in-Charge
250 < Value < 500	→	PPPAC	→	Minister-in-Charge
500 < Value < 1000	→	PPPAC	→	Minister-in-Charge + Finance Minister
1000 < Value	→	PPPAC	→	CCEA

Note: Value mentioned in the table above indicate the capital cost of underlying asset

SFC comprises Secretary, Admin Ministry; Financial Adviser of the Ministry/Department; Joint Secretary of the Concerned Division of the Admin Ministry; Representative of the Department of Legal Affairs; Representative of NITI Aayog; Any other Ministry/Department may also be invited, if required.

Two Member Committee: Secretary, DEA and Secretary of Ministry/Department Sponsoring the project

II. Mechanism of Appraisal

Project identification

The project sponsoring Ministry identifies the project to be taken up on PPP model and undertakes **preparation of feasibility studies, project agreements** etc. with the assistance of legal, financial and technical experts as necessary.

Inter-ministerial consultations

The Ministry may, if deemed necessary, discuss the details of the project and the terms of concession agreement in an inter-ministerial consultative committee and comments, if any, may be incorporated or annexed to the proposal for consideration of the PPPAC.

'In principle' appraisal of PPPAC

While seeking 'in principle' clearance of PPPAC, the PSA submits its proposal to the PPPAC Secretariat in the format stipulated and accompanied by the pre-feasibility/feasibility report, EoI/RFQ and a term-sheet/Project Memo containing the salient features of the proposed project agreements.

PPPAC Secretariat circulates the copies of PPPAC Memo and associated documents to all concerned for appraisal. A meeting of the PPPAC is convened to consider the proposal for 'in principle' appraisal.

RFQ

Following the 'in principle' appraisal of PPPAC, the Administrative Ministry may invite expressions of interest in the form of Request for Qualification (RFQ) for by short-listing of pre-qualified bidders.

Formulation of project documents

Post the RFQ stage, the documents that would need to be prepared, inter-alia, include the RFP and the various agreements to be entered into with the concessionaire detailing the terms of the concession and the rights and obligations of the various parties. These project documents would vary depending on the sector and type of project.

Final Appraisal by PPPAC

After formulating the draft RFP and DCA , the Administrative Ministry seeks final appraisal by the PPPAC before inviting the financial bids.

Feasibility reports, RFP, concession agreement and any supporting agreements/ documents thereof, along with the PPPAC Memo, are to be submitted for appraisal of PPPAC. The proposal for seeking clearance of PPPAC is circulated by PPPAC Secretariat (which is a PPP Unit in DEA) to all members of the PPPAC. In addition to relevant appraisal by the PPPAC members, PPP Unit also appraises the project.

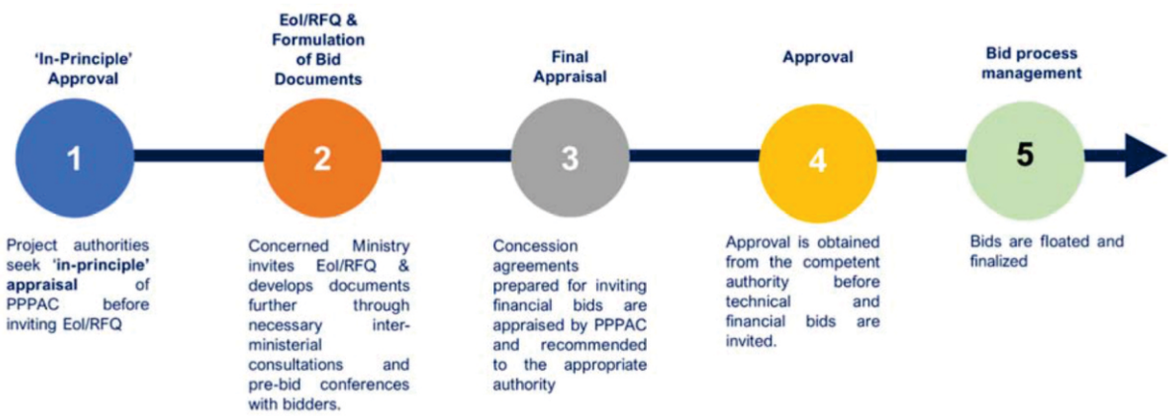
All the members of the Committee appraise the project and the PPPAC Secretariat forwards all the comments to the PSA for submitting a written response.

The PPPAC takes a view on the Appraisal Inputs of the member Ministries/Departments and the PPP Unit in DEA, along with the response from the Administrative Ministry.

Invitation of bids

Financial bids may be invited after final approval of the competent authority has been obtained.

Figure 11: PPPAC Appraisal/Approval Stages



Source: PPPAC Guidelines, DEA

Annexure 7:

Appraisal & Approval Mechanism in some of the States

Salient Features	Karnataka	Gujarat	Punjab	Odisha	Uttarakhand
Depart. under which PPP unit is setup	Infrastructure Development Ports & Inland Water Transport Department (IDP&IWT)	Gujarat Infrastructure Development Board acts as PPP unit for state govt	Punjab Infrastructure Development Board acts as PPP unit for state govt	Finance Department	Planning Department
Information dissemination	Yes	Yes	Yes	Yes**	Yes**
PPP Guidance Material	Yes	Yes	Yes	Yes**	Yes **
Providing Project specific advice	Yes	Yes	Yes	Yes	Yes
PPP funding guidance	No. placed by KSIIDC* for IDP&IWT approval	Yes	Yes	Yes	Yes
Project monitoring	No. KSIIDC is assigned for monitoring	Yes	Yes	Yes**	Yes **
Appraisal Cell	No. Its Under KSIIDC	Yes	Yes	Yes	Yes
Appraisal mechanism	PPPAC under chairman ship of chairman, KSIIDC	The Board appraises the project	The Board appraises the project	Assisted by Technical Secretariat (TS)	Appraisal at department level
Approval Mechanism	Upto 500 crores. State Level Single Window Agency (SLSWA) under the Chairmanship of the Chief Secretary to approve the projects	All Project must be approved by Organization Executive Committee under the Chairmanship of the Chief Minister	Executive Committee (EC) under the Chairmanship of the Chief Secretary	Upto 500 crores. Empowered Committee on Infrastructure (ECI) under the Chairmanship of the Chief Secretary to approve the projects	Upto 5 crores Finance PPP Committee headed by Principal Secretary/ Secretary Finance to approve the projects

Salient Features	Karnataka	Gujarat	Punjab	Odisha	Uttarakhand
	Above 500 crores Shall be recommended by SLSWA for approval to State High Level Clearance Committee (SHLCC) under the Chairmanship of the Chief Minister		After approval of EC, Board under the Chairmanship of the Chief Minister shall provide approval	Above 500 crores Shall be recommended by ECI for approval to High Level Clearance Authority (HLCA) under the Chairmanship of the Chief Minister	5 - 50 crores Expenditure Finance. Committee (E.F.C.) headed by Chief Secretary to approve the projects
					Above 50 crores Approval from EFC as well as state cabinet

**KSIIDC : Karnataka State Industrial and Infrastructure Development Corporation*
*** Assisted by Technical Secretariat (TS)*

Annexure 8:

Key Initiatives of IFS, DEA to strengthen the PPP Ecosystem on the country

Department of Economic Affairs (DEA) has laid greater thrust on improving infrastructure development in the country by encouraging private sector participation in building adequate and quality infrastructure.

Over the past decade, DEA has been actively engaged in developing the appropriate policy framework for encouraging PPPs in infrastructure development. Public Private Partnerships (PPPs) are being encouraged for execution as well as operation and maintenance of infrastructure assets. Besides, new schemes, measures and initiatives are being introduced to provide financial and technical support to the private sector wherever necessary.

Some of the key initiatives/measures undertaken/being undertaken by the Department for improving the development and implementation of PPP projects are elaborated below:

1. Empanelment of Transaction Advisers: The DEA has empaneled 12 TAs in order to create an enabling environment for stepping up private investment in Infrastructure and to cater state government's and its agencies' demand for an enabling framework to eliminate delays in appointment of transaction advisors/consultants for preparing a shelf of bankable projects. This TA panel is made available to all Central Ministries, state governments, Statutory Bodies, Public Sector Enterprises ("PSE") and other such undertakings within the purview of Ministries/ Departments of government of India and state governments intending to undertake PPP transactions.

The Panel will help to make the process of appointment of transaction advisors/consultant:

- **Effortless:** By streamlining the tendering process for the engagement of transaction advisors for PPPs.
- **Efficient:** By enabling fast access to firms that have been pre-qualified against relevant criteria.
- **Effective:** By ensuring transparency and accountability through clear definition of the processes, role and responsibilities of the agencies and the private sector, leading to preparation of bankable PPP projects.

Further, to support and guide the Central, state, and Local government level, Project Sponsoring Authorities to effectively utilize the services of the empaneled TAs in an efficient & time bound manner to save upon the time of the PSA, DEA has developed a **Manual on Transaction Advisers for PPP projects** for the use of the panel. This manual is a step-by-step guide that can be referred by the project sponsoring authorities to on-board a transaction adviser from DEA empaneled TAs for their PPP project. The notified panel of Transaction Advisers for PPPs and the manual for the use of the panel is available on the website www.dea.gov.in and www.pppinindia.gov.in .

2. VGF Grant Support: For providing financial support to PPP projects in Infrastructure which are economically justified but commercially unviable, the DEA, through the Viability Gap Funding (VGF) scheme, provides financial support in the form of grants, one time or deferred, to infrastructure projects undertaken through PPPs with a view to make them commercially viable.

Under the VGF scheme, economic sector projects are eligible for VGF up to 40% of the TPC. The VGF Scheme includes higher provisions of VGF grant for projects to be undertaken in social sectors i.e., Health, Education, Water Supply, Waste Water Treatment, Solid Waste Management, etc. Social sector projects are eligible for VGF up to 60% of the TPC. Further, for pilot/demonstration projects from health/education sectors, VGF of up to 80% of the TPC along with upto 50% of Opex for 5 years after Commercial Operation Date (CoD) are being provided.

The VGF Guidelines is available at www.pppinindia.gov.in.

3. IIPDF: The DEA has notified the India Infrastructure Project Development Fund Scheme (IIPDF Scheme) for development of quality PPP projects by providing necessary funding support to the project sponsoring authorities, both in the Central and state governments. The objective of the scheme is creating a shelf of bankable viable PPP projects for achieving the vision of modern infrastructure for the country. It supports Project Sponsoring Authority in sourcing funding to cover the PPP transaction costs, thereby reducing the impact of costs related to procurement of TAs on their budgets.

Under the IIPDF Scheme, the cost of consultants/transaction advisors of a PPP project can now be funded up to Rs. 5 Crores per project.

Funding under the IIPDF Scheme may include the expenses incurred by the Project Sponsoring Authority in respect of feasibility studies, environment impact studies, financial structuring, legal reviews and development of project documentation, including concession agreement, commercial assessment studies (including traffic studies, demand assessment, capacity to pay assessment), grading of projects etc. required for achieving Technical Close of such projects, on individual or turnkey basis, but would not include expenses incurred by the Project Sponsoring Authority on its own staff.

The IIPDF Scheme Guidelines is available at www.pppinindia.gov.in

4. Development of Model RFQ/RFP for PPP Projects: Standardized documents enable project authorities to save on the time and costs involved in structuring and awarding complex PPP projects. In addition, they afford protection to individual entities and officials against making errors. Such standard documents typically lay down the norms, principles and parameters to be followed for PPP projects and enable project authorities to adopt them with considerable ease for meeting the specific requirements of individual projects.

Also, fair and competitive selection of the private partner is of utmost importance in the entire bid process since cost and quality of service to users would depend on the performance of the private partner. In line with this objective, DEA is in process of preparing the **Model Request for Proposal (RFP)** for single stage bid process.

Once launched, the Model RFQ/RFP shall be available at www.pppinindia.gov.in

5. PPP Procurement Manual: To ensure that PPP procurements are made by following a systematic, efficient, and cost-effective procedure and to ensure fair and equitable treatment of bidders/ contractors, the DEA is in process of preparing procurement manual which aims to bring together at one place the step-by-step procedures for undertaking PPPs.

The proposed PPP Procurement Manual will provide understanding of PPP project development practices among Center/states and various Project Implementing Agencies. Procurement manual will provide detail on the steps for stages of Procurement, its types and selection mode, etc.

This manual for procurement embodies the best practices for PPP procurement and aims to provide a guiding document for PPP procurement.

Once launched, the PPP Procurement Manual shall be available at www.pppinindia.gov.in

6. Model Concession Agreements for Nascent Sectors: Model Concession Agreements form the baseline of PPP projects. It acts as a tool to spell out the desired policy, regulatory and institutional framework for a PPP project in a sector and allocate the necessary risks to the party that is best suited to manage them.

The DEA has undertaken an exercise to study the PPP landscape and make the concession agreements stronger. DEA has undertaken deep dive assessment of six sectors inter alia including Health, Education, Water, solid Waste and Sports. Draft MCAs for the solid waste management and multi sports stadium have been prepared and given to the concerned Ministries for approval as MCA.

The same are available on www.pppinindia.gov.in

7. Project Structuring Toolkits: PPP structuring Toolkit is a web-based resource that has been designed to improve the decision-making by the PSA and to improve the quality of the PPP projects. The DEA has revamped the PPP structuring toolkits for its alignment with the current regulations and guidelines and to make them relevant with the current developments/scenarios. It will help in improving project implementation and providing guidance during the lifecycle of the PPP projects. PPP Structuring toolkit would help the PSAs in identifying appropriate PPP variant, financial viability, risk allocation etc.

The toolkit covers five infrastructure sectors, namely:

- Roads
- Water and Sanitation
- Ports
- Solid Waste Management
- Urban Transport

The toolkits can be accessed on https://www.pppinindia.gov.in/ppp-toolkit

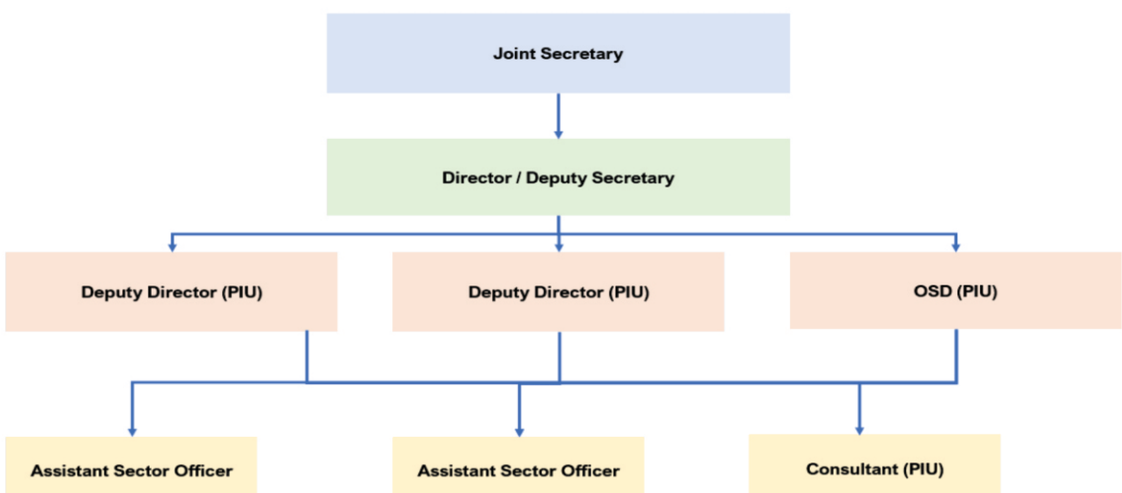
A user guide for the toolkit can be accessed at https://www.pppinindia.gov.in/toolkit/pdf/ppp_toolkit_user_guide.pdf

8. Capacity Building Initiatives: Capacity building plays a crucial role in understanding the complex PPP structuring and its nitty-gritties. Understanding this, the DEA is regularly conducting workshops, seminars, conferences for stakeholders in order to build the capacity. The DEA has engaged with Capacity Building Commission to develop a Capacity Enhancement Plan- (CEP) to address the key requirements of implementing infrastructure projects. DEA has also engaged with premier management institutes including from both public and private institutes such as such as Indian Institutes of Management (IIMs), Indian Institute of Technology (IITs), ISB, NITIE Mumbai, SPJIMR etc. Additionally, DEA has also identified professional bodies, organizations, institutes, and Centre of Excellence established under aegis of the Ministries such as IIBF, AJNIFM, ICAI, AIMA, etc. for conducting offline/online trainings and developing self-learning courses on infra-focused areas, creation of infrastructure-suitable compendium of knowledge resources across sectors, etc. The DEA

is also in process of developing a continuous learning mechanism through digital learning modules to provide the necessary flexibility and convenience in the learning process.

9. State Outreach Programmes for State PPP Cells: To identify the challenges faced by states across various aspects of infrastructure development, state Infrastructure outreach workshops are regularly organized by the DEA with state governments. These workshops are designed to include discussions and deliberations with states on measures required to enhance project structuring, creating a self of biddable and viable projects, improving project finance with additional financing options new financing instruments. Till date, three chapters of these workshops have been conducted at Mumbai, Chandigarh, and Varanasi with participation from a total of 14 states and Union Territories (Uttar Pradesh, Bihar, Madhya Pradesh, Chattisgarh, Himachal Pradesh, Uttarakhand, Punjab, Maharashtra, Gujarat, Karnataka, Andhra Pradesh, Chandigarh, Jammu & Kashmir, and Ladakh). Under the workshop, senior officials from key central infrastructure ministries like the MoWR, MoHFW, MoHUA, DEA, etc. have participated. The primary focus of these workshops is to discuss and resolve the bottlenecks being faced by states in developing and financing infrastructure projects as well as to enhance private investment in infrastructure.

Figure 12: Organizational Structure of PIU of ISD Division of IFS



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Annexure 9:

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Infrastructure Finance Secretariat
Department of Economic Affairs
Ministry of Finance
Government of India