

Public-Private Partnership Screening Tool

User Guide

March 2018

Contents

1. Introduction	6
1.1 Key Features	6
1.2 Data Sources for the PST	8
1.3 Guidance Material	8
1.4 Structure of the User Guide	8
2. Overview	10
2.1 Input Sheets	10
2.2 Output Sheets	12
2.3 Customization Sheets	12
3. Operating the PST	15
3.1 Steps for Filling the Basic Project Data Sheet	16
3.2 Steps for Filling the Parameter Sheets	18
3.3 Examples: Selecting the Right Responses to the Questions	20
3.4 Reading the Dashboard	23
3.5 Reading the Detailed Output Sheet	24
4. Customizing the Tool	26
4.1 Level 1 and Level 2 Customization	26
4.2 Level 3 and Level 4 Customization	27
4.3 Level 5, Level 6, and Level 7 Customization	29
4.4 Level 8 and Level 9 Customization	30
4.5 Things to Remember While Customizing the PST	32
5. Scoring Methodology	33
5.1 Populating Questions, Assigning Question Weights, and Scoring	33
5.2 Redistribution of Weights and Score Allocation	33
5.3 Score Constraining	34
5.4 Assigning the Complexity Score for Risk Factors	36
5.5 Score Constraining for Specific Parameters	39
5.6 Arriving at the Total Project Score	39
6. Annex	40
6.1 Data Tables	40
6.2 Notes to Users	42
6.3 Explanatory Notes	44
6.4 Explanatory Notes: Parameters	49
6.5 Notes for Customization	64

Figures

Figure 1: PPP Project Screening Tool Features	7
Figure 2: User-Driven Input Sheets	10
Figure 3: Output Sheets	12
Figure 4: Customization Sheets	12
Figure 5: Levels of Customization	16
Figure 6: Filling the Basic Project Data Sheet	17
Figure 7: Layout of a Parameter Sheet	19
Figure 8: Reading the Dashboard	23
Figure 9: Color Coding	24
Figure 10: Reading the Detailed Output Sheet	25
Figure 11: Level 1 and Level 2 Customization	26
Figure 12: Level 3 and Level 4 Customization	27
Figure 13: Altering Parameter Weight: Part 1	28
Figure 14: Altering Parameter Weight: Part 2	29
Figure 15: Level 5 and Level 6 Customization	29
Figure 16: Level 7 Customization	30
Figure 17: Level 8 and Level 9 Customization	31
Figure 18: Level 8 Customization	31
Figure 19: Level 9 Customization	32
Figure 20: Scoring Methodology	33
Figure 21: Example of Default Weight	34
Figure 22: Weight Redistribution When Skip Is Selected as the Response	34
Figure 23: Weight Redistribution When N/A Is Selected as the Response	34
Figure 24: Computing the Land Acquisition Complexity Score	37
Figure 25: Computing the Economic Feasibility Complexity Score	37
Figure 26: Computing the Financial Prefeasibility Complexity Score	38
Figure 27: Computing the Forex Risk Complexity Score	38
Figure 28: Calculating the Fiscal Affordability Complexity Score	38
Figure 29: Calculating the Environmental Sustainability Score	39

Abbreviations

ACEC: American Council of Engineering Companies	ISI: Institute for Sustainable Infrastructure
CapEx: Capital expenditure	ISO: International Organization for Standardization
CO ₂ : Carbon dioxide	MTEF: Medium-Term Expenditure Framework
DB: Design-build	N/A: Not applicable
DBC: Deal breaker condition	NPV: Net present value
DBF: Design-build-finance	O&M: Operations and maintenance
DBFOM: Designa-build-finance-operate-maintain	PF2: Private Finance 2
DSCR: Debt service coverage ratio	PFI: Public finance initiative
EIRR: Economic internal rate of return	PFS: Preliminary feasibility study
EPC: Engineering procurement and construction	PPP: Public-private partnership
ERR: Economic rate of return	PSB: Public sector benchmark
Forex: Foreign exchnage	PST: PPP screening tool
GDP: Gross domestic product	VFM: Value for money
GHG: Greenhouse gas	VGf: Viability Gap Financing
IRR: Internal rate of return	

Acknowledgments

1. Introduction

Lack of fiscal space and the quest for better efficiency in projects and programs have led to increasing interest in public-private partnerships (PPPs) globally. PPPs are more complex than similar publicly procured projects, and require upfront project development expenses that could be significant. The struggle for public entities has been to understand as much about a project as possible before taking a decision to undertake expensive detailed feasibility studies, project structuring, and procurement, which brings to the fore the need for good upstream project selection techniques and methodologies.

Review of early-stage PPP screening practices indicates that a mix of drivers determine PPP project success rates, often making it difficult for policy makers and practitioners to understand and successfully implement project selection. Complete reliance on quantitative techniques has not worked well, with the result that, in the past few years, countries have been opting to combine these with qualitative aspects. Often, screening methodologies have been created based on a country's policy drivers and areas of focus. While there are many features that countries may consider suitable for screening projects, there are also common features followed by countries for screening projects.

The review of the PPP screening tools followed by countries in various jurisdictions¹ and other works, like the World Bank Group-OECD PPP Project Checklist, Public Investment Management, and Infrastructure Prioritization Frameworks, has led to the creation of the PPP screening tool (PST). The World Bank Group Infrastructure, Public-Private Partnerships and Guarantees, in partnership with the Global Infrastructure Hub, has developed the PST.

The PST is a generic Microsoft Excel-based tool and technical guidance that can be customized by countries for early screening of PPP projects. The PST is a reasonably robust early screening mechanism to help developing countries (which currently do not use any methodology or use more unstructured or highly subjective assessments) determine whether a particular project is suitable for potential procurement through a PPP route. The PST can also be used as a decision-making tool or a checklist at any stage of the project development process prior to initiation of procurement, to ensure the soundness of the project.

1.1 Key Features

The PST is an Excel-based tool for screening projects to determine their potential suitability for PPP procurement (figure 1). The PST evaluates a project on six parameters viz. strategic suitability, preliminary feasibility, risk assessment, PPP suitability, fiscal affordability, and institutional capacity. The PST contains structured questions detailing each of the parameters. The user can record responses to questions based on high-level/ prefeasibility-level studies or an outline business case prepared for the project. The questions in the PST are linked to decision trees that adapt to the project based on the inputs provided in the Project Data sheets. The PST also assesses the project on some parameters by combining qualitative and quantitative outcomes of the project studies. Based on the responses to the questions in the seven input sheets, the PST delivers outputs in the form of scores for each parameter, identifies deficiencies in the project, suggests areas for improving the project, and provides overall conclusions on the suitability of the project for PPP.

The following are some of the key features of the PST:

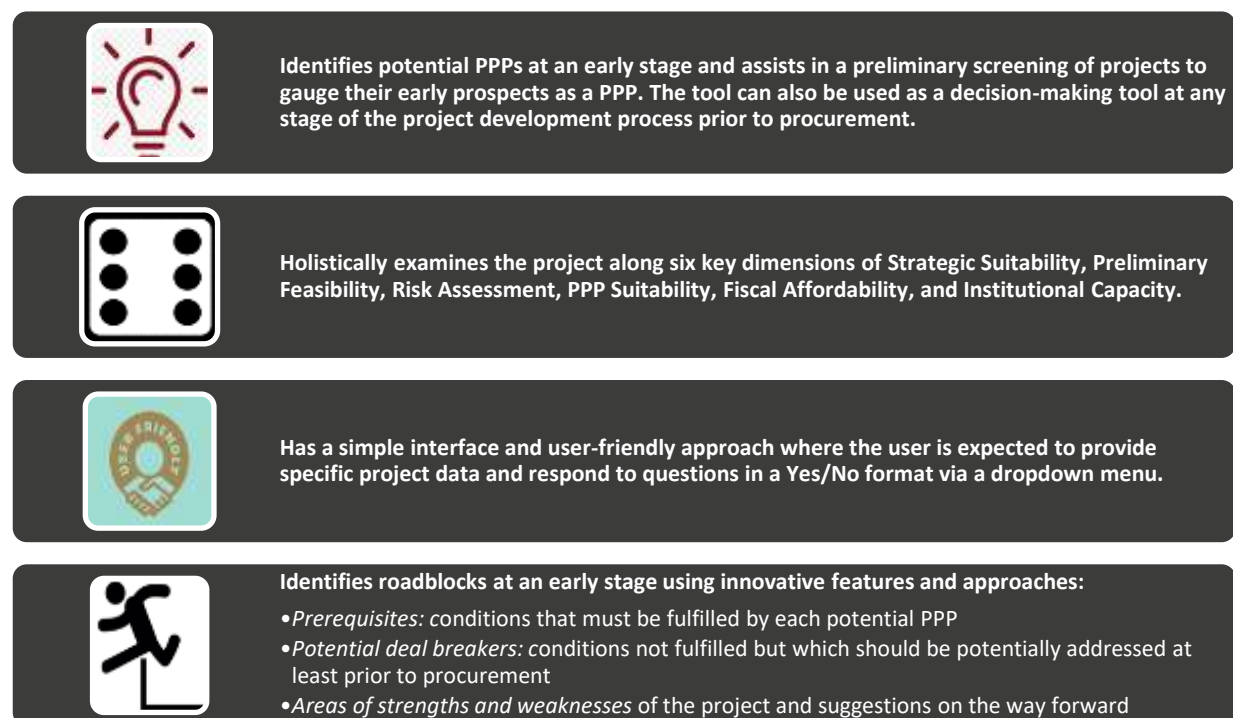
- **Pre-calibrated tool.** The PST is pre-calibrated Excel-based tool that can be operated easily by users. The User Guide provides easy-to-understand guidance on operating the tool. Technical

¹ Process, methodologies, and tools from several jurisdictions/ organizations have been separately compiled as case studies by the World Bank in the course of work leading to the development of the tool.

guidance is provided for those interested in the detailed algorithm, including all the formulas used for the tool.

- **Structured in question & answer format.** The user provides responses to simple questions on the basis of available project-related information. Every response is scored with a weight that determines the overall project score.
- **Qualitative and quantitative assessment.** The tool uses a combination of qualitative and quantitative inputs to evaluate projects for their potential to be implemented as PPPs. Ideally, the tool should be applied after a prefeasibility study has been conducted. However, it can also be used at the concept stage for very early screening or at the feasibility stage as a decision-making tool to ensure that the project is ready to go to tender.
- **Flexibility to customize.** The PST can be customized for country-specific requirements.
- **Strengthened project preparation.** The PST ensures that all major preparatory activities and actions needed for a successful PPP are evaluated and issues highlighted to strengthen the project preparatory process.
- **Improved quality and success rate of PPPs.** The PST can improve the quality and success rate of projects.

Figure 1: PPP Project Screening Tool Features



Although it is loaded with features, the PST does not do the following:

1. The PST is not a substitute for a full feasibility analysis.

The PST is beneficial for the early stages of project screening, since the user has only a limited amount of information available. A favorable score indicated by the tool should be followed up with detailed studies.

2. The PST does not prioritize projects.

The PST can help in ascertaining whether a project can proceed to the next stage; however, it should not be used to compare or prioritize projects.

3. **The PST does not compute economic or financial viability or Value for Money (VfM).**

The tool cannot be used for calculating the economic or financial viability of the project. These assessments will be carried out separately and feed into the tool for the purpose of assessing the suitability of the project as a potential PPP.

4. **The PST does not verify the information provided by the user.**

The tool cannot substantiate, verify, or validate the information provided by the user. The accuracy of the analysis will depend on the accuracy of user inputs.

1.2 Data Sources for the PST

The user will need to access the following sources of information for filling in responses in the PST:

- Project high-level/ preliminary feasibility study reports, outline business case, or project concept notes
- Project sector practices and institutional information
- PPP policy/ laws and regulations of the country
- Information with respect to similar projects implemented in the past in the country or region
- Information on banking and lending practices
- Economywide information on key macro-economic variables.

1.3 Guidance Material

The PST is supported by three documents in the form of step-by-step guidance for using the tool. These documents provide substantive explanations for each of the parameters, the rationale behind their use, as well as mechanical guidance on the use of the tool:

- **Quick User Guide.** Provides a quick overview of the PST and enables its immediate use.
- **User Guide.** A detailed guide that provides step-by-step instructions on the use of the PST. This document also delves into the working mechanics of the PST and guides the user to customize the PST based on country-specific requirements.
- **Technical User Guide.** A design guide that describes the formula coding structure and operating mechanics of the PST. This document enables a user skilled in Excel to undertake substantial modifications to the PST.

1.4 Structure of the User Guide

This User Guide is organized in six sections:

1. **Section 1: Introduction:** discusses the objective and context of the tool and describes its broad features, and defines the contents and structure of the User Guide.
2. **Section 2: Overview:** introduces the features of the input sheets, output sheets, and customization sheets.
3. **Section 3: Operating the Tool:** provides guidance on operating the tool.
4. **Section 4: Customizing the Tool:** provides guidance on customizing the PST based on user-specific priorities.
5. **Section 5: Scoring Methodology:** provides the details of the scoring methodology.

6. **Section 6: Annex:** includes a detailed explanation of the project evaluation parameters, data tables, and so forth.

2. Overview

The PST comprises the following three sets of sheets, along with general notes for users and specific explanatory notes.

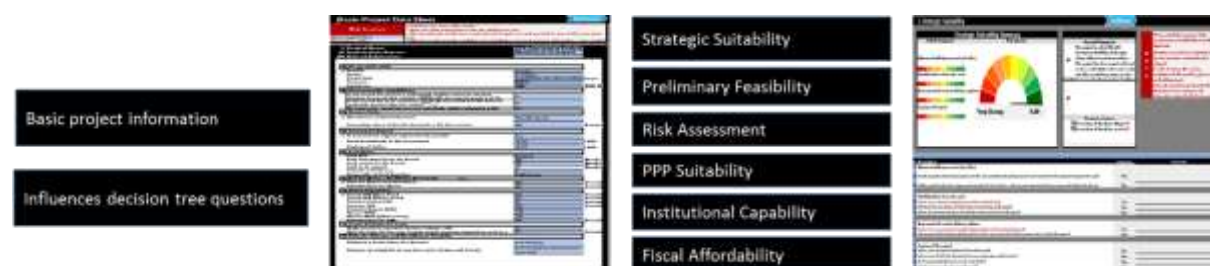
1. **Input sheets.** The user is expected to provide data and responses in these sheets. The PST uses the responses from these sheets to populate questions in the parameter sheets.
2. **Output sheets.** Post completion of project analysis, the summary of results is displayed in these sheets.
3. **Customization sheets.** These sheets offer the flexibility of customizing the model and should be used (only if required) before evaluating a project using the user-driven input sheets. The central unit/ PPP unit in each country can prepare the customization sheets based on their policy priorities if these are different from the default version. There is also the option to lock these prior to use.

The following subsections delineate the composition, interface, and working of these sheets.

2.1 Input Sheets

The Input sheets form the base for the evaluation of the project. The Input sheets include the Basic Project Data sheet and the six parameter sheets, as shown in figure 2.

Figure 2: User-Driven Input Sheets



1. Basic Project Data Sheet

This sheet seeks basic information about the project from the user. The input fields in this sheet are linked to decision trees that adapt the questions in the parameter sheets to the project. The sheet collects information on nine major aspects of the project. Explanatory notes are provided for each of these, including the terms used in the sheet itself. A consolidated set of explanatory notes in the PST is attached; vide annex section 6.3 of this User Guide for easy reference.

- A. **Project profile.** Basic information about the project in terms of location, sector, project type, project currency, and project size. All this information should be answered on the basis of the preliminary feasibility study conducted for the project and the user's knowledge of the project.
- B. **Prerequisite conditions.** These are conditions that relate to strategic suitability, economic prefeasibility, and legal prefeasibility, and need to be fulfilled to proceed with the assessment. Providing a negative response to any of the prerequisite conditions would immediately trigger a warning and drag down the overall project score to zero. The user will need address the issue before taking up the project through the PPP screening process. However, the user would be able to proceed with the evaluation of the project and see the parameter scores on the respective parameter sheets. The objective is to give an indication to the user on the strengths

and weaknesses of the project, and to identify the other areas of concern that could be addressed at an early stage.

- C. **Revenue profile.** Seeks information on the main source of revenues for the project—user charges, availability payments, or a combination of user and availability payments (i.e., hybrid payments).
- D. **Government support.** Checks for the applicability of government support for the project and evaluates the impact on fiscal affordability by analyzing direct fiscal commitments and contingent liabilities created by the project.
- E. **Land status.** Seeks information on the land required for the project, status of availability of land, amount of land to be procured, number of potential landowners for the balance of land to be procured, and agency responsible for procuring land.
- F. **Value for money (VFM)—quantitative assessment.** Results of the VFM assessment of the project are to be provided in this section.
- G. **Return expectations.** The return expectations from the project in terms of its internal rate of return (IRR), debt service coverage ratio (DSCR), and economic rate of return (ERR), along with their respective stress and threshold numbers, will need to be provided in this section.
- H. **Foreign exchange risk profile.** This section checks for the applicability of foreign exchange risk in the project. It also requires information on the depreciation of national currency with respect to the benchmark currency.
- I. **Climate change and resilience profile.** This section checks for the potential impact of the completed project on climate change and the project’s resilience to adapt to long-term climate changes and hazards.

2. Parameter Sheets

The PST evaluates the project on six parameters. The parameter sheets consist of questions that are generated on the basis of information provided by the user in the Basic Project Data sheet. The parameters are broken down into thematic sub-parameters with questions for each sub-parameter. The user needs to provide responses to the questions from a dropdown menu. The user can choose one response, such as Yes, No, Uncertain, Skip, or N/A.

The parameter sheets are organized in two sections. The top section displays the results of the responses provided on a real-time basis for the sub-parameter and parameter through thermal bars, verdict on the parameter based on the parameter score, and identified sub-parameters to address. The second section comprises questions for the user’s response based on the project studies undertaken so far. The parameter sheets are comprised of:

- I. **Strategic suitability:** assesses the suitability of the project in terms of the country’s national agenda, service need, service delivery options, and scoping.
- II. **Preliminary feasibility:** analyzes the technical, environmental, social, economic, financial, and legal prefeasibility of the project.
- III. **Risk assessment:** assesses the major risks applicable to the project. This includes land acquisition risk, financing risk, design and construction risk, operations and maintenance risk, market and demand risk, off-taker risk, foreign exchange risk, and environmental and social risk.
- IV. **PPP suitability:** assesses the value for money and market appetite for the project.
- V. **Government fiscal affordability:** assesses the fiscal affordability of the project based on the extent and nature of fiscal support and its quantification.
- VI. **Government institutional capability:** assesses the institutional capacity, preparedness, and project execution capability of the contracting agency of the project.

Explanatory notes that can be accessed by clicking on a specific sub-parameter provide guidance on the questions.

2.2 Output Sheets

Two output sheets display the outcome of the PST screening exercise, as shown in figure 3 **Error! Reference source not found.** The output includes scores for the overall project, parameter, and sub-parameter. These sheets consolidate verdicts, identified areas, sub-parameters to address, and user comments on the six evaluation parameters to provide an overall assessment on the project.

Figure 3: Output Sheets



- **Dashboard**

The Dashboard is the project analysis summary sheet. It comprises the overall project score with a verdict and comment. It also has a summary of the prerequisites and potential deal breakers with color-coded responses. A parameter snapshot displays the evaluation of the project on the six parameters, its verdict, and its customized comment.

- **Detailed Output sheet**

This sheet aggregates all the responses and inputs provided by the user in the PST for detailed assessment and maintaining records, including any comments entered by the user to substantiate or qualify the answers.

2.3 Customization Sheets

The tool is pre-calibrated based on international best practice and can be used as is. However, given that there could be country-specific priorities and requirements, the tool includes features to customize the tool. The tool can be customized by making changes in designated areas in the Admin sheet and Data Analysis sheet. Figure 4 gives an overview of the customization sheets in the PST. Normally, these sheets are hidden and locked, as they form the core of the operating mechanics of the tool, and alteration to restricted cells in these sheets could potentially damage the operations of the tool. The user needs to unhide and unlock these sheets to customize the PST. It is advisable to keep these sheets hidden and locked after customization by the user.

Figure 4: Customization Sheets



The user can customize the PST at nine levels.

Use the Admin sheet for:

- **Level 1 customization: Choosing the prerequisites**

Prerequisites are conditions that should necessarily be met by each project to proceed with the analysis. A negative response to any of the prerequisite conditions in the Basic Project Data sheet will trigger a warning and bring down the overall project score to zero. The user is advised to resolve this issue before evaluating the project.

- **Level 2 customization: Choosing the deal breaker conditions (DBC)**

Potential DBCs are a set of conditions that should be fulfilled by a project at the prefeasibility stage; or if not fulfilled, then these should necessarily be fulfilled before the completion of the detailed feasibility study stage. Responding to DBC questions with Negative or Uncertain beyond a threshold would result in the overall project score being restricted and the final verdict falling in the range between Very Weak to Materially Deficient, depending on the total number of deal breakers marked Negative/Uncertain.

- **Level 3 customization: Altering parameter weights**

The scores of the PST screening exercise depend on the weights provided to the parameters, sub-parameters, and questions in the PST. The user can modify the parameter weights pre-calibrated by the PST with the help of scroll bars provided in the Admin sheet.

- **Level 4 customization: Adjusting sub-parameter weights**

The user can modify the sub-parameter weights pre-calibrated by the PST, with the help of scroll bars provided in the Admin sheet.

- **Level 5 customization: Altering threshold limits specified for overarching score constraints**

The user can alter the default threshold level for overarching score constraints that are triggered when Negative, Skip, or Uncertain responses are selected at the sub-parameter level. This can be done by modifying the default threshold levels and the forced score constraints.

- **Level 6 customization: Altering the default threshold constraining the overall project score**

The user can also alter the threshold beyond which the overall project score would be constrained if an excessively higher number of potential DBCs are marked negative. The user can also modify the maximum forced project score when potential DBCs beyond the threshold are triggered.

- **Level 7 customization: Altering the default threshold and score constraint for specific parameters**

The user can alter the default threshold for constraining the score for specific parameters that have a weak score in one or more sub-parameters. The user can also modify the forced score that would be applicable when the score falls at the threshold.

Use the Data Analysis Sheet for:

- **Level 8 customization: Altering complexity proportion weights**

Some of the sub-parameters have a quantitative element to them, as qualitative responses alone are not enough to gauge them. These sub-parameters have a combined weighted qualitative and quantitative score computed. Sub-parameters related to financial feasibility, economic rate of return, land acquisition, fiscal affordability, forex risk, climate change, and resilience profile have complexity proportion weights. The PST assigns default weights for these sub-parameters, which the user has the flexibility to modify.

The default complexity proportion weights used in the PST are given in section D in the annex.

- **Level 9 customization: Alter weights at the individual question level**

The user can modify the pre-calibrated weights at the individual question level in the data analysis sheet. The PST comes preloaded with default weights assigned to every question. Depending on the user inputs in the Basic Project Data sheet, if a certain question is found to be not relevant/applicable, then the PST automatically redistributes the default weight of that question proportionately among the other applicable questions within the sub-parameter.

Note: Altering Level 1 to Level 9 weights is optional. In the event the user does not input any complexity weight, the PST will continue to use the default weights assigned by the PST.

3. Operating the PST

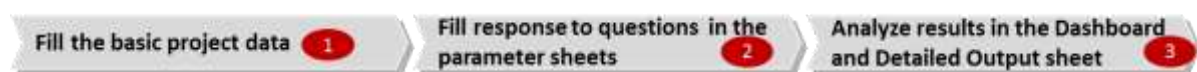
The design of the tool presumes that a fair level of work has already been done, including but not limited to high-level/ prefeasibility level studies—technical, economic, financial, legal, and environmental feasibility; site checks; fiscal and budget checks; political economy considerations; articulation of need for the project; market sounding; preliminary risk analysis; qualitative VFM check; and so on. Prior to applying the PST to a project, the user will need to study project-related documentation and conduct interviews with the contracting agency and other stakeholders to obtain complete understanding of the project.

The user will need access to a wide range of project-related information that may not be available to a single person. The user could form an expert group/ committee of appropriate persons to undertake the PST screening exercise. The expert group could include senior officials from the contracting agency, PPP unit, technical experts, finance ministry risk management unit experts, economists, consultant team, and so forth.

As a first step, the user could perform a pilot run on the PST by inputting project-related information in the Basic Project Data sheet and printing all the questions from the Detailed Output sheet. He/ she could use this question sheet for discussions on project-related aspects with the expert group or stakeholders of the project, and aim to obtain responses for all the questions.

After obtaining all the responses, the user could run the PST and undertake the project screening exercise. The user has two options for using the tool.

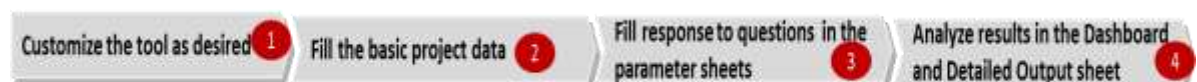
Option 1: Use the PST with default settings



The PST is pre-calibrated and the user can use it as is without customization. The steps to be followed in this case are as follows:

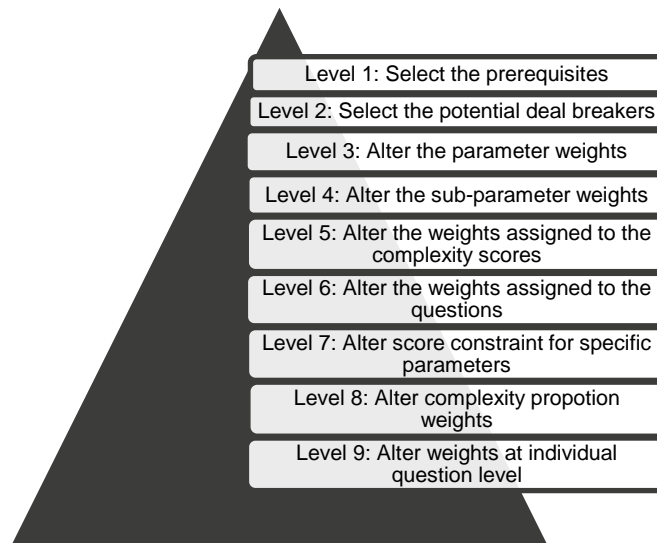
1. The first step is to provide project-related information in the Basic Project Data sheet.
2. The next step is to provide responses to the questions in the parameter sheets. Each parameter sheet consists of various sub-parameters and the user must select responses to the questions under each sub-parameter from a dropdown menu.
3. Once the above two steps are completed, the PST processes the responses, displays the score, comments on the strengths and weaknesses of the project in the Dashboard, and provides a summary of user responses in the Detailed Output sheet.

Option 2: Customize and use the tool



The user can customize the PST to cater to country-specific priorities and requirements with the help of the customization sheets. The PST can be customized at nine levels, as shown in figure 5.

Figure 5: Levels of Customization



The process for customization of the PST is described in the next section of the User Guide. After customizing the PST, the steps to be followed are as outlined in option 1.

3.1 Steps for Filling the Basic Project Data Sheet

The Basic Project Data sheet consists of project-related information pertaining to the project profile, prerequisite conditions, revenue profile, government support, land status, VFM quantitative assessment, return expectations, forex profile, climate change, and resilience profile. The inputs on this sheet trigger decision trees that adapt the questions in the parameter sheets to the project. The user shall provide inputs in the **blue-shaded cells** in the Basic Project Data sheet (figure 6).

Steps for filling the Basic Project Data sheet:

- A. Project profile
 1. Mention the project location.
 2. Input the sector type.
 3. Use the dialog box to select from Construction/ Construction, Operations and Maintenance/ Operations and Maintenance.
 4. Choose between USD/Euro/ Local currency from the dialog box.
 5. Indicate the estimated cost of the project.

Figure 6: Filling the Basic Project Data Sheet

I Project Name:		
II Implementing Government Agency:		
III Date of Submission:		
A) Project Profile		
1 Location		
2 Sector		
3 Project type	Construction, Operations and Maintenance	
4 Currency	USD Mn	
5 Project size		USD Mn
B) Prerequisite Conditions		
1 Is the project derived from a national plan or other medium-to-long-term strategic document that establishes the development priorities at the highest levels of the government?	Yes	
2 Is the project likely to be economically sound and have direct benefits that are significantly greater than the costs?	Yes	
3 Do sector laws, regulations or policies allow private sector participation in the project?	Yes	
C) Revenue Profile		
1 Main Source of Project Revenues	Hybrid Payments	
2 Percentage share of Availability Payments in the total revenue	50%	Percent
D) Government Support		
1 Is Government support required for the project?	Yes	

B. Prerequisite conditions

6. Select Yes/No responses from the dropdown menu for each of the questions displayed under this section.

Note: The pre-calibrated set of questions chosen as prerequisites in the Admin sheet appear here. For details on customization for removing or adding prerequisite questions, please refer to section 4 of the User Guide.

C. Revenue profile

7. From the dropdown menu, choose whether the source of revenue for the project is User charges/Availability payments/Hybrid payments.
8. If the main source of revenue is indicated as hybrid payments, then an additional step is required to be followed. Here the user should input the percentage share of availability payment to the total revenue from the project.

D. Government Profile

9. Government support: select Yes/No response from the dropdown menu, depending on the requirement of government support expected for the project.
10. Input the percentage of direct commitments by the government as a percentage of gross domestic product (GDP).
11. Input the percentage of contingent liabilities as percentage of GDP.

E. Land status

12. Choose from the land units in hectares/acres from the dropdown the menu.
13. Input the total land required for the project.
14. Input the total area that is available.
15. Land to be acquired is computed automatically and hence the user does not need to provide an input here.
16. Input the potential landowners expected for the project.
17. From the dropdown menu, select with whom the responsibility for the balance land acquisition lies.

F. Value for money–quantitative assessment

18. Input the value for money in percentage terms.
19. Input the threshold value for money in percentage terms.

G. Return expectations

20. Input the base case project IRR in percentage terms.
21. Input the stress case project IRR in percentage terms.
22. Input the threshold project IRR in percentage terms.
23. Input the economic IRR in percentage terms.
24. Input the threshold economic IRR in percentage terms.
25. Input the threshold minimum DSCR.
26. Input the minimum DSCR.
27. Input the minimum DSCR (stress case).

H. Foreign exchange risk profile

28. From the dropdown menu, select if the project is expected to be exposed to foreign exchange risk.
29. Input the five-year average national currency depreciation vis-à-vis the benchmark currency.²

I. Climate Change

30. Provide inputs related to expected reduction in greenhouse gas emissions once the project is completed, from the dropdown menu, which comprises the following options: 1) Net Carbon Negative, 2) Carbon Neutral, 3) Potential Reduction Possible, 4) None of the above, and 5) Not used.

J. Resilience Profile

31. Provide inputs related to the project's expected resilience and adaptability to long-term climate changes and hazards, from the dropdown menu, which comprises the following options: 1) Project has potential for recovery from previous adverse effects, 2) Highly resilient and adaptive project, 3) Moderately resilient to climate changes and hazards, 4) None of the above, and 5) Not used.

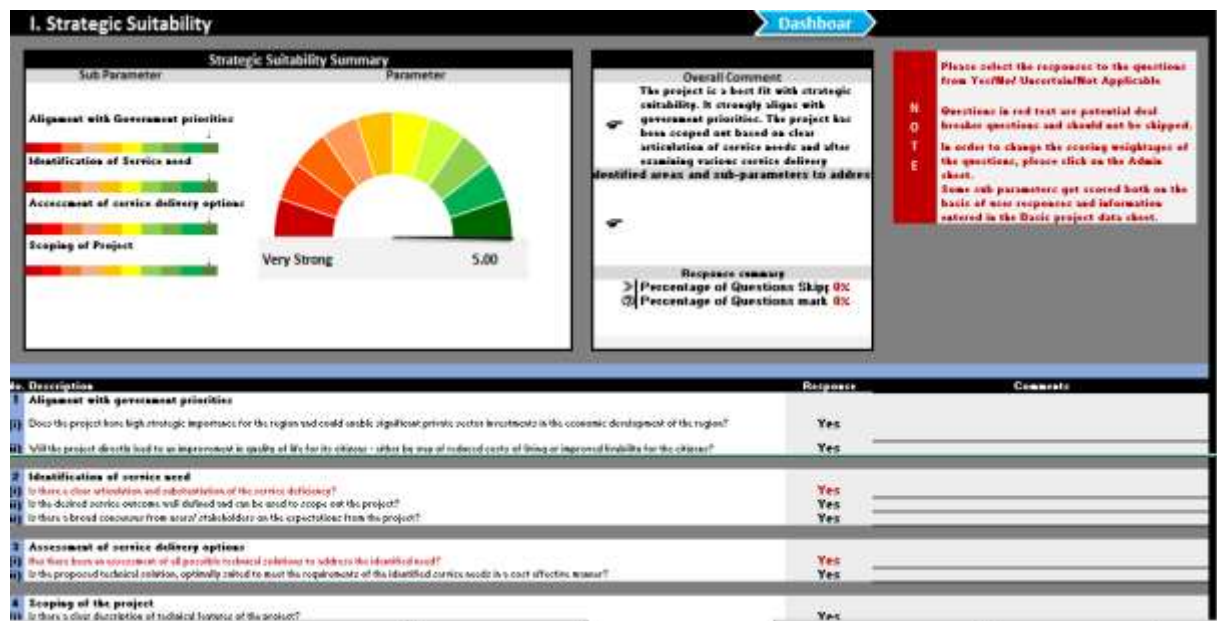
For guidance on providing inputs on the Basic Project Data sheet, please refer to the explanatory notes attached in the annex. Explanatory Notes are also included in the tool.

3.2 Steps for Filling the Parameter Sheets

The user needs to become familiar with the layout of the parameter sheets before filling in the responses to the questions. The top section of the parameter sheets provides real-time responses on the parameter scores, and the user must fill in responses in the user response sections of the sheet. The parameter sheets are organized as shown in figure 7.

² The benchmark currency is assumed to be the currency in which financing for the project is expected to be done.

Figure 7: Layout of a Parameter Sheet



Contents of the Parameter Sheet

1. Top section.
2. Thermal bar: displays the sub-parameter scores.
3. Speedometer: displays the overall parameter score.
4. Dashboard: hyperlink takes the user to the Dashboard.
5. Overall comment box: highlights issues that need to be addressed, shows questions skipped/marked uncertain.
6. Note: contains important information for filling in the sheet.
7. User response sections.
8. Questionnaire: displays the questions to which the user needs to respond.
9. Hyperlinks to explanatory notes: explanation notes for understanding the sub-parameters can be found by clicking on the hyperlink provided on the sub-parameter headings.
10. Responses dropdown menu: the user can choose the appropriate response from the dropdown menu by clicking on it.
11. Comments column: any specific comments pertaining to the questions can be noted here by the user.

The user will respond to the questions in the parameter sheets only after filling in project-level details in the Basic Data sheet. The steps are the following:

1. Serially answer the questions from the top of the sheet to cover all questions.
2. Choose the most appropriate responses to questions from the dropdown menu of options. The user will need to provide a response to all the questions. The options available to the user are the following:

Response	Meaning
Yes	User agrees with the question
No	User disagrees with the question
Uncertain	Data and analysis may be available for this question; however, the response is neither a definite No nor a definite Yes
Skip	Implies that the question applies to the project, but there is insufficient information to make an informed response
N/A	Implies that the question does not apply to the project

3. Look for any warning messages in the top section of the parameter sheet.
4. Questions in red font are potential deal breaker questions. Skipping any of the deal breaker questions, marking them as uncertain, or responding to them in negative triggers a warning.
5. Optional: the user may add notes or comments on the question in the comments box next to the user response dropdown menu. It is highly desirable that users add brief substantiating information for each response.

The user must follow steps 1 to 5 for all the parameter sheets:

1. Strategic Suitability
2. Preliminary Feasibility
3. Risk Assessment
4. PPP Suitability
5. Fiscal Affordability
6. Institutional Capacity.

3.3 Examples: Selecting the Right Responses to the Questions

Two examples are provided to guide the user in responding to the questions in the PST. The user shall carefully read the question and provide a response; answering “Yes” is considered a positive answer for most of the questions in the PST. However, there are some questions where answering “No” is considered a positive response. The user shall provide responses strictly as per the response methodology, that is, answer “Yes” if the user agrees with the question, and answer “No” if the user disagrees with the question, and so on. The algorithm in the PST normalizes the response and will score it appropriately in the context of the question.

Example 1. Have similar PPP projects been financially closed in the country or region?

This question is from the sub-parameter **Financing Risk** in the **Risk Assessment** sheet.

To get clarity on the question, the user may refer to the explanatory note by clicking on the hyperlink on the sub-parameter in the PST.

Explanatory Note: Financing Risk

Financing Risk refers to the risk that sufficient finance will not be available for the project at reasonable cost (for example, due to changes in market conditions or credit availability), resulting in delays in a project's financial closure. This will involve an assessment of financial closure of similar projects in the country or region, financiers who may be interested in PPPs, and appraisal of other potential factors that may delay or impact raising finances for the project in a timely manner.

Based on the above explanation, the user may select his/ her response as follows:

Have similar PPP projects been financially closed in the country or region?

Response	Basis for selecting the response
Yes	If similar projects in the country/ region have been financially closed successfully.
No	If similar projects have not been financially closed in the country/ region.
Uncertain	If the user has mixed information regarding financial closure of similar projects and is unable to answer the question as a definite "Yes" or definite "No."
Skip	The user does not have any information on financial closure of similar projects, and is unable to provide any response.
N/A	If the project does not require financing from the PPP partner; or the project is the first of its kind in the country/ region and there are no precedents to respond on this question.

Example 2. Will the project have any significant negative impact on any natural resources or protected land?

This question is from the sub-parameter **Environmental Sustainability** in the **Preliminary Feasibility** sheet. This question is also a DBC; hence, a negative response will trigger a warning on the Dashboard.

To get clarity on the question, the user may refer to the explanatory note by clicking on the hyperlink on the sub-parameter in the PST.

Explanatory Note: Environmental Sustainability

At this stage, a preliminary analysis of environmental aspects will include an understanding of the project's impact on key environmental aspects, environmental scoping, outlining environmental management work plans for downstream activities, and other related works that would feed into a comprehensive Environmental Impact Assessment that would be undertaken at the detailed engineering and design stage. For example, in the case of World Bank safeguard policies, one or more of the following policies may be triggered in a PPP project:

- (i) Environmental assessment (OP/BP 4.01)
- (ii) Natural habitats (OP/BP 4.04)
- (iii) Pest management (OP 4.09)
- (iv) Physical cultural resources (OP 4.11)
- (v) Involuntary resettlement (OP/BP 4.12)
- (vi) Indigenous people (OP 4.10)

(vii) Safety of dams (OP/BP 4.37).

In addition, national or international standards on labor and occupational health and safety may be applicable.

These studies are an initial analysis of positive and negative impacts of the project during construction and operations, as applicable. Any potential negative impact on the environment, especially with natural resources like water bodies or protected land like forests, and impacts on air and unmanageable emissions will need to be identified early on. Delays with respect to obtaining forest, environmental, and wildlife clearances and so forth from the respective departments should be considered, as these may lead to significant delays during the implementation stage.

Environmental prefeasibility is particularly critical in the case of the development of power plants based on conventional fuels, setting up ports to handle hazardous or chemical cargo, or industrial parks.

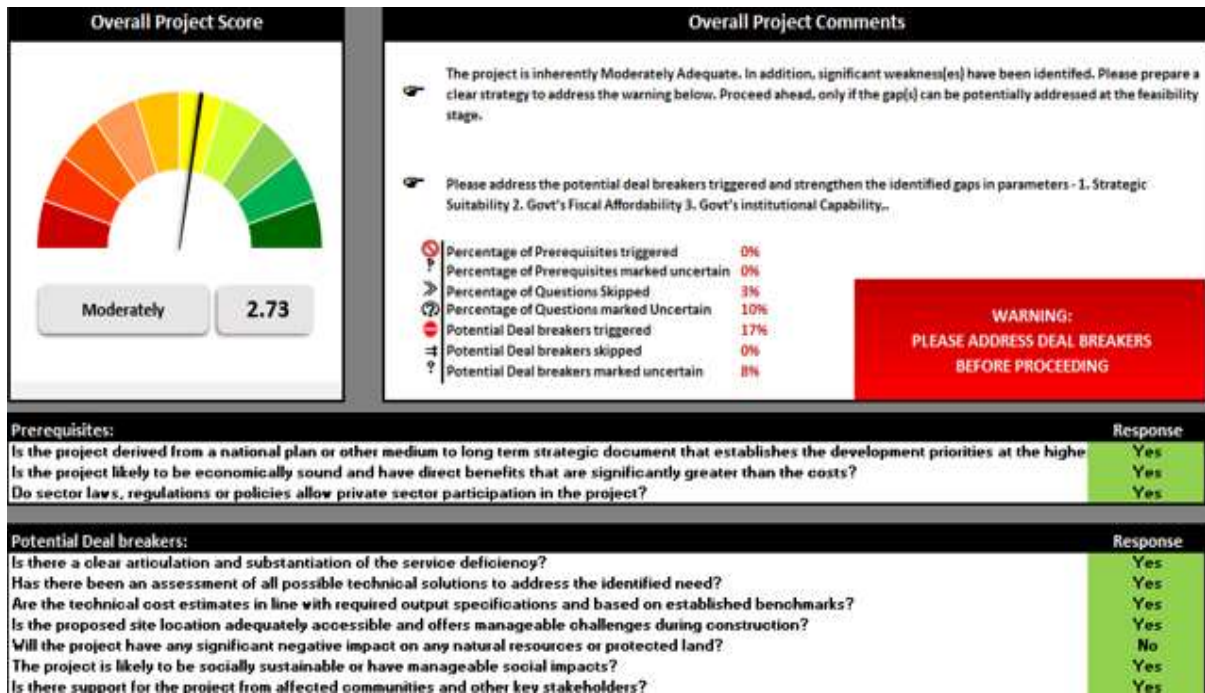
The user would select responses to such questions as follows:

Will the project have any significant negative impact on any natural resources or protected land?

Response	Basis for selecting the response
Yes	If the project is likely to have a significant negative impact on the environment based on initial environmental impact assessment and it may lead to significant delays during the implementation stage.
No	If the project does not have any significant negative impact on the environment based on initial environmental impact assessment and no delays are expected during the implementation stage. Please note that answering "No" is a positive response to this question.
Uncertain	If the user has information on the environmental impact but is unable to answer the question with a definite "Yes" or "No," as the information is inadequate or he/ she is not able to reach a conclusion on significant negative impact and delays during the implementation stage.
Skip	If no initial environmental impact assessment has been conducted for the project and/ or there is very low understanding on the negative impact on the environment.
N/A	If existing government notifications do not require environmental impact assessments to be conducted on the project. For example, approved development plan roads in urban areas do not require environmental approvals, as the development plan approval process includes environmental impact assessments at the city level. Another example is housing or township projects below a threshold size in urban areas that are exempted from environmental approvals.

3.4 Reading the Dashboard

Figure 8: Reading the Dashboard



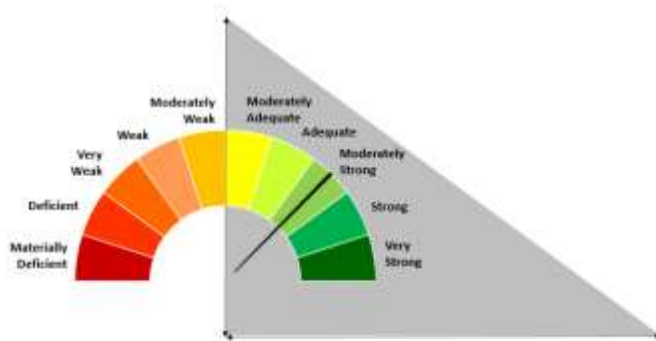
The Dashboard displays the results of the screening exercise in summary format (figure 8). The user can analyze the results of the screening exercise on the Dashboard.

The information on the Dashboard is organized as follows:

1. Speedometer: shows the overall project score.
2. Parameter-wise snapshot: thermal bars show the parameter-wise score.
3. Overall project comment: comment related to the overall suitability of the project for PPP is displayed here.
4. Questions skipped/uncertain and N/A are displayed here.
5. Parameter comment: this section shows parameter comments.
6. Areas to strengthen: highlights the specific sub-parameters that need to be strengthened.

The PST displays the results of the screening exercise with three scores on the Dashboard—overall project score, parameter scores, and sub-parameter scores. The scores are in numerical form with color-coded thermal bars for the parameters and an overall project score with a color-coded speedometer for the project as a whole. For sub-parameters only overall scores are displayed on the Dashboard, with a more detailed display of sub-parameters on the parameter page.

Figure 9: Color Coding



The interpretation of the overall scores is as follows:

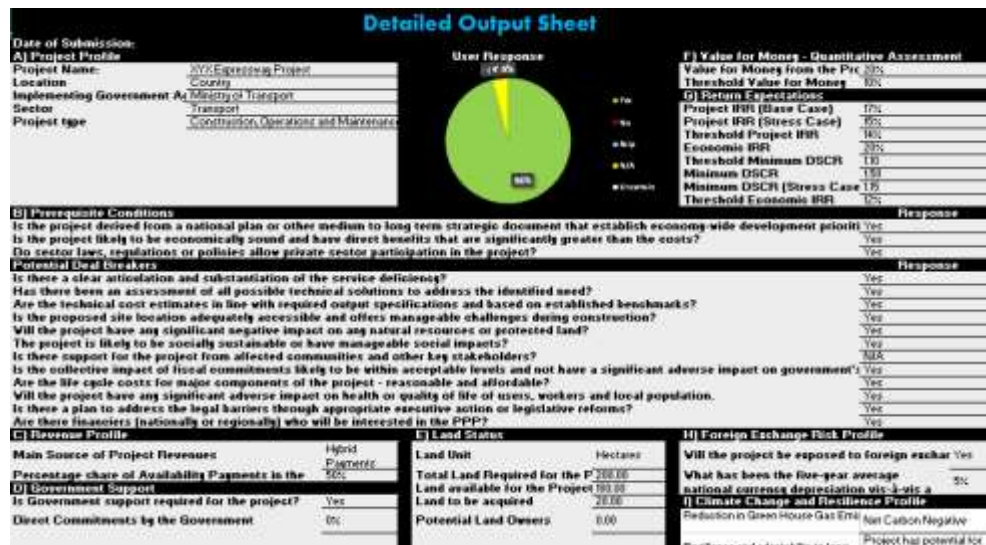
1. The color coding indicates the strength of the project, with red indicating the lowest score possible and dark green indicating the highest score possible (figure 9).
2. Projects can be considered to have passed the evaluation for suitability for PPP if they:
 - Fall between Moderately Adequate to Very Strong
 - Have met all prerequisites
 - Have fulfilled all or most of the potential deal breaker conditions.

Although the PST will give an indication on the basis of the limited information available through the prefeasibility studies, it is encouraged that the user backs up the result generated by the PST with adequate detailed feasibility studies before taking a decision about doing the project as a PPP. While giving responses, it is assumed the user provides honest and the most accurate responses possible. The user should give particular importance to the areas of concern highlighted by the PST, and should take suitable steps to address the issues that can become potential roadblocks at subsequent stages in the PPP lifecycle. Further, scores generated by the PST should not be used for comparison or prioritization of projects. Thus, the PST should not be solely relied upon for decision making, and should only be used as a supplementary aid that guides toward decision making.

3.5 Reading the Detailed Output Sheet

The Detailed Output sheet displays the complete set of details of the screening exercise and compiles the inputs provided by the user on one sheet, as can be seen in figure 10. The Detailed Output sheet read along with the dashboard provides decision makers comprehensive information about the strengths and weaknesses of a project.

Figure 10: Reading the Detailed Output Sheet



The Detailed Output sheet contains the following:

1. Consolidated summary of basic project information, responses to all questions on the parameter sheets, and any comments entered by the user
2. Responses to prerequisite conditions and potential DBCs
3. Percentage of questions marked as Yes/ No/ Skipped/ Uncertain/ N/A, indicating the quality of responses.

4. Customizing the Tool

The PST is a pre-calibrated tool that aids PPP practitioners in determining whether a project is suitable for procurement through the PPP route by using the tool on an as-is basis. This section can be skipped if the user intends to use the model with the default settings. However, if the user needs to customize the PST for country-specific priorities and requirements, he/ she can undertake a customization exercise at nine levels. Customization of cell references and procedure is described in the customization sheets of the PST. Only the yellow-colored cells in the Admin and data analysis sheets can be modified for customization.

4.1 Level 1 and Level 2 Customization

Level 1 and Level 2 customization can be carried out in the Admin sheet by choosing the prerequisites and potential deal breakers (figure 11).

- **Prerequisites** are essential conditions that need to be satisfied for proceeding on the project through the PPP procurement route.
- **Potential deal breakers** are the next set of conditions that should be fulfilled by a project at the prefeasibility stage or, if not fulfilled yet, then these should necessarily be fulfilled at the time of completion of the detailed feasibility stage.

Figure 11: Level 1 and Level 2 Customization

Sr. No.	Prerequisite	Applicable
1	Is the project derived from a national plan or other medium to long term strategic document that establish economy-wide development objectives at the highest levels of the government?	<input checked="" type="checkbox"/>
2	Is the project likely to be economically sound and have direct benefits that are significantly greater than the costs?	<input checked="" type="checkbox"/>
3	Do sector laws, regulations or policies allow private sector participation in the project?	<input checked="" type="checkbox"/>
Sr. No.	Potential Deal Breaker	Applicable
1	Is there a clear articulation and substantiation of the service deficiency?	<input checked="" type="checkbox"/>
2	Has there been an assessment of all possible technical solutions to address the identified need?	<input checked="" type="checkbox"/>
3	Are the technical cost estimates in line with required output specifications and based on established benchmarks?	<input checked="" type="checkbox"/>
4	Is the proposed site location adequately accessible and offers manageable challenges during construction?	<input checked="" type="checkbox"/>
5	The project will not have a negative impact on any natural resources or protected land.	<input checked="" type="checkbox"/>
6	The project is likely to be socially sustainable or have manageable social impacts?	<input checked="" type="checkbox"/>
7	Is there support for the project from affected communities and other key stakeholders?	<input checked="" type="checkbox"/>
8	Is the collective impact of fiscal commitments likely to be within acceptable levels and not have a significant adverse impact on government's future budgets or fiscal space?	<input checked="" type="checkbox"/>

Steps to be followed for Level 1 customization: Choosing the prerequisite

This can be done following the procedure described below:

Step 1. Unhide the administrator sheet

- Right click on the sheets tab.
- Select the unhide option.
- From the list of sheets, select Admin sheet.

Step 2. Uncheck the check box for the prerequisite

By checking/ unchecking the check boxes within the yellow-colored cells, the user can determine which question should/ should not appear as a prerequisite.

Steps to be followed for Level 2 customization: Choosing potential deal breaker conditions

This can be accomplished using the following procedure:

Step 1. Unhide the administrator sheet

- Right click on the sheets tab.
- Select the unhide option.
- From the list of sheets, select Admin sheet.

Step 2: Uncheck the check box for the potential deal breaker

By checking/unchecking the check boxes within the yellow-shaded cells, the user can determine which question should/ should not appear as a potential deal breaker.

4.2 Level 3 and Level 4 Customization

The Admin sheet is also used for making Level 5 and Level 6 changes by altering the predefined weights considered for the parameters and sub-parameters (figure 12).

Figure 12: Level 3 and Level 4 Customization

Administrator Sheet: Detailed Project Selection Tool										Dash
No.	Parameter	Sub Parameter	<input checked="" type="checkbox"/> Reset Parameter Weights	Parameter Weight	Input (%)	Sub-Parameter Weight	Sub Parameter Score	Weighted Sub Parameter	Overall Score	
I	Strategic Suitability		<input checked="" type="checkbox"/>	10%	25	25%	5.00	1.25	5.00	
	1 Alignment with government priorities				25	25%	5.00	1.25		
	2 Identification of service need				25	25%	5.00	1.25		
	3 Assessment of service delivery options				25	25%	5.00	1.25		
	4 Scoping of the project				25	25%	5.00	1.25		
II	Preliminary Feasibility		<input checked="" type="checkbox"/>	30%	20	100.00%	5.00	1.00	4.58	
	1 Technical Prefeasibility				10	20%	5.00	0.50		
	2 Environmental Sustainability				10	10%	5.00	0.50		
	3 Social Sustainability				10	10%	4.50	0.45		
	4 Economic Prefeasibility				30	30%	3.77	1.13		
	5 Financial Prefeasibility				20	20%	5.00	1.00		
III	Risk Assessment		<input checked="" type="checkbox"/>	20%	15	100%	5.00	0.63	5.00	
	1 Risk of delay in land acquisition				15	13%	5.00	0.63		
	2 Financing Risk				15	13%	5.00	0.63		
	3 Design and Construction Risk				15	13%	5.00	0.63		
	4 Operations and Maintenance Risk				10	13%	5.00	0.63		
	5 Market Risk and Demand Risk				10	13%	5.00	0.63		
	6 Off Taker Risk				10	13%	5.00	0.63		
	7 Foreign Exchange Risk				10	13%	5.00	0.63		
	8 Environmental and Social Risk				10	13%	5.00	0.63		
IV	PPP Suitability		<input checked="" type="checkbox"/>	10%	5	100%	5.00	3.00	5.00	
	1 Value for Money				29	60%	5.00	2.00		
	2 Market appetite									
V	Govt's Fiscal Affordability		<input checked="" type="checkbox"/>	20%	5	100%	5.00	2.00	4.20	
	1 Extent and Nature of Government Fiscal Support				41	40%	3.66	2.20		
	2 Quantification of Fiscal Support									

Steps to be followed for Level 3 customization: Altering parameter weights

- **Step 1. Unhide the administrator sheet**
 - Right click on the sheets tab.
 - Select the unhide option.
 - From the list of sheets, select Admin sheet.
- **Step 2. Uncheck the reset parameter weights button**

The reset parameter weights check box ensures that the default set of parameter weights is applicable on the tool. Unchecking the yellow box in cell E3 allows modifications to parameter weights.

- **Step 3. Adjust parameter weights**

Parameter weights can be modified by adjusting the scroll bar in column E for each parameter row.

- **Step 4. View the applicable parameter weight**

Following modification using the scroll bar, the new applicable weight can be viewed in column F of the Admin sheet for each parameter.

Steps to be followed for Level 4 customization: Altering sub-parameter weights

To modify sub-parameter weights, the user shall follow the procedure described below:

- **Step 1. Unhide the administrator sheet**
 - Right click on the sheets tab.
 - Select the unhide option.
 - From the list of sheets, select Admin sheet.
- **Step 2. Uncheck the reset button for only the specific sub-parameter where the change is being made**

The reset weights button for each sub-parameter ensures that the default set of sub-parameter weights is applicable. Uncheck the reset box to allow modifications to sub-parameter weights.

- **Step 3. Adjust sub-parameter weights**

Unlike parameter weights, which can range from 0% to 100%, sub-parameter weights can only be altered from a minimum of 5% to a maximum of 80% or the residual weight for that sub-parameter. Weights can be inputted directly in column G of the sheet or using the scroll bar in column H to achieve the desired result.

- **Step 4. View the applicable sub-parameter weight**

Following the modification using the scroll bar, the applicable weight can be viewed in column F of the Admin sheet for each sub-parameter.

The PST is pre-calibrated in such a way that the total weight of the sub-parameter always adds up to 100%. No sub-parameter would accept a weight of more than 80% or lower than 5% at any point. The upper limit of the weights of sub-parameters is also dependent on the number of sub-parameters within the parameter. As the user inputs/uses the slider to change the weight of a sub-parameter, the weights of the balance sub-parameters will be adjusted in such a way that the total sub-parameter weight of 100% is maintained at all times.

Figure 13: Altering Parameter Weight: Part 1

No.	Parameter	Sub Parameter	<input checked="" type="checkbox"/> Reset Parameter Weights	Parameter Weight	Input (%)	Sub-Parameter Weight
I	Strategic Suitability		<input type="checkbox"/>	10%	<input type="checkbox"/> Reset	
		1 Alignment with government priorities			5	5%
		2 Identification of service need			80	80%
		3 Assessment of service delivery options			46	10%
		4 Scoping of the project			25	5%
II	Preliminary Feasibility		<input type="checkbox"/>	30%	<input type="checkbox"/> Reset	100.00%

As can be seen in figure 13, the user cannot decrease the weight lower than 5% for sub-parameter 1 and cannot increase the weight to more than 80% for sub-parameter 2. With the existing combination of weights, the overall sub-parameter weight is 100%.

As can be seen in figure 14, if the user, say, wants to increase the weight for sub-parameter 3 to 20%, he/she will first have to reduce the weight of another sub-parameter to by 10%. This will automatically result in a weight of 20% for sub-parameter 3.

Figure 14: Altering Parameter Weight: Part 2

No.	Parameter	Sub Parameter	<input checked="" type="checkbox"/> Reset Parameter Weights	Parameter Weight	Input (%)	Sub-Parameter Weight
I	Strategic Suitability		<input type="checkbox"/> Reset	10%		
		1 Alignment with government priorities			5	5%
		2 Identification of service need			70	70%
		3 Assessment of service delivery options			46	20%
		4 Scoping of the project			25	5%
II	Preliminary Feasibility		<input type="checkbox"/> Reset	30%		100.00%

For more information on altering this, please refer to the Technical User Guide.

4.3 Level 5, Level 6, and Level 7 Customization

The Admin sheet can be used for Level 5 and Level 6 changes, allowing modification of default threshold limits applicable for forced score constraints and potential deal breakers, respectively (figure 15). Level 7 customization involves constraining the overall parameter score of specific parameters that have a weak score in one or more sub-parameters.

Figure 15: Level 5 and Level 6 Customization

Overarching Score Constraints for Sub-Parameter Responses in case of majority of No, Uncertain and/or Skipped Responses			
	>=	<=	Forced Score
If the % of [Negative, Uncertain and/or Skipped] responses for a sub parameter are between	60.1%	75%	2
If the % of [Negative, Uncertain and/or Skipped] responses for a sub parameter are between	75.10%	90%	1.5
If the % of [Negative, Uncertain and/or Skipped] responses for a sub parameter are between	90.10%	100%	1
Score Constraints for Potential Deal Breakers triggered			
	>=		Forced Score
If the % of Potential Deal Breakers triggered (negative scores) is above	25%		2.0

Steps to be followed for Level 5 customization: Altering threshold limits specified for overarching score constraints

The modification can be done as follows:

- **Step 1. Unhide the administrator sheet**
 - Right click on the sheets tab.
 - Select the unhide option.
 - From the list of sheets, select Admin sheet.
- **Step 2. Changing the default values**
 - Input the desired lower limit required to be set in cell L59.
 - Input the desired upper limit in the cell range M59:M61.
 - Input the desired forced score by inserting values in the yellow-colored cells N59:N61.

Steps to be followed for Level 6 customization: Altering the default threshold constraining the overall project score

The user can alter the threshold beyond which, if an excessively higher number of potential DBCs are marked negative, the overall project score would be constrained. Further, the user can modify the maximum forced project score when potential DBCs beyond the threshold are triggered.

The modification can be done as follows:

- **Step 1. Unhide the administrator sheet**
 - Right click on the sheets tab.

- Select the unhide option.
- From the list of sheets, select Admin sheet.
- **Step 2. Changing the default values**
 - Input the desired threshold value in cell L64.
 - Input the desired forced score in yellow-colored cell N64.

Figure 16: Level 7 Customization

Score Constraints for select Parameters in case of weak score of one or more of their Sub Parameters		<= Forced Score	
Applicable only for parameters - Risk Assessment, PPP Suitability and Fiscal Affordability	Any one sub parameter's score is	2.0	2.5
Applicable only for parameters - Risk Assessment, PPP Suitability and Fiscal Affordability	Any one sub parameter's score is	1.5	2.0
Applicable only for the parameter - Risk Assessment	Any two or more sub parameters have scores	2.0	2.0
Applicable only for the parameter - Risk Assessment	Any two or more sub parameters have scores	1.5	1.5

Steps to be followed for Level 7 customization: Altering the default threshold and score constraint for specific parameters

The user can change both the threshold level at which the score constraint should be applicable as well as the forced score applicable upon breach of the threshold (figure 16).

The modification can be done as follows:

- **Step 1. Unhide the administrator sheet**
 - Right click on the sheets tab.
 - Select the unhide option.
 - From the list of sheets, select Admin sheet.
- **Step 2. Changing the default values**
 - Input the desired threshold range in cells L68:L71.
 - Input the desired forced scores in yellow-colored cells N68:N71.

4.4 Level 8 and Level 9 Customization

Level 8 and Level 9 customization involves changing the default weights pre-calibrated by the PST for the complexity scores and the individual question weights within the sub-parameter.

The data analysis sheet is used for Level 8 and Level 9 customization (figure 17).

Figure 17: Level 8 and Level 9 Customization

I. Strategic Suitability	Sub Parameter	Question	Weight	Total Weight	No.	Complexity Score	Complexity Score	Question Weight
1	Alignment with government priorities	Is the project derived from a national plan or other medium to long term strategic document that establish economy-wide development priorities at the highest levels of the government?	33%	100%	I	Financial Feasibility Complexity Score	70%	30%
	Alignment with government priorities	Does the project have high strategic importance for the region and could enable significant private sector investments in the economic development of the region?	33%		II	ERR Complexity Score	50%	50%
	Alignment with government priorities	Will the project directly lead to an improvement in quality of life for its citizens – either by way of reduced costs of living or improved livability for the citizens?	33%		III	Land Acquisition Complexity Score	50%	50%
4	Identification of service need	Is there a clear articulation and substantiation of the service deficiency?	50%	100%	IV	Fiscal Affordability Complexity Score	67%	33%
	Identification of service need	Is the desired service outcome well defined and can be used to scope out the project?	25%		V	Forex Risk Complexity Score	50%	50%
	Identification of service need	Is there a broad consensus from users/ stakeholders on the expectations from the project?	25%		VI	Environmental Sustainability Complexity Score	50%	50%
7	Assessment of service delivery options	Has there been an assessment of all possible technical solutions to address the identified need?	70%	100%				
	Assessment of service delivery options	Is the proposed technical solution, optimally suited to meet the requirements of the identified service needs in a cost effective manner?	30%					
9	Scoping of the project	Is there a clear description of technical features of the project?	25%	100%				
	Scoping of the project	Is the user base identified for the project in terms users, geography, growth	25%					

Steps to be followed for Level 8 Customization: Modifying complexity scores

Step 1. Unhide the data analysis sheet

- Right click on the sheets tab.
- Select the unhide option.
- From the list of sheets, select Data Analysis sheet.

Step 2. Input the complexity weights

Input the desired weights in yellow-shaded cells J11:J16.

The user can determine the split between the weights for the total complexity score and question weights by making changes in the yellow-colored cells in column J. The weights in column K will automatically be adjusted to reflect the balance weight. The user should take care that the total of column J and column K for the individual complexity score weights should always add up to 100% (figure 18).

Figure 18: Level 8 Customization

B) Modify Complexity Score Weights			
No.	Complexity Score	Complexity Score Weight	Question Weight
I)	Financial Feasibility Complexity Score	70%	30%
II)	ERR Complexity Score	50%	50%
III)	Land Acquisition Complexity Score	50%	50%
IV)	Fiscal Affordability Complexity Score	67%	33%
V)	Forex Risk Complexity Score	50%	50%
VI)	Environmental Sustainability Complexity Score	50%	50%

Steps to be followed for Level 9 customization: Alter question weights

- **Step 1. Unhide the data analysis sheet**
 - Right click on the sheets tab.
 - Select the unhide option.
 - From the list of sheets, select data analysis sheet.
- **Step 2. Input the question weight**

The question weights can be altered by directly entering the required value in the yellow-shaded percentage cell corresponding to the question in D11:D143.

Figure 19: Level 9 Customization

A) Modify Question Weights>>>				
Strategic Suitability	Parameter	Question	Weight	Total Weight
1	Alignment	Is the project derived from a national plan or other medium to long term strategic document that establish economy-wide development priorities at the highest levels of the government?	33%	137%
2	Alignment	Does the project have high strategic importance for the region and could enable significant private sector investments in the economic development of the region?	70%	
3	Alignment	Will the project directly lead to an improvement in quality of life for its citizens - either by way of reduced costs of living or improved livability for the citizens?	33%	
4	Identificatio	Is there a clear articulation and substantiation of the service deficiency?	50%	100%
5	Identificatio	Is the desired service outcome well defined and can be used to scope out the project?	25%	
6	Identificatio	Is there a broad consensus from users/ stakeholders on the expectations from the project?	25%	
7	Assessmen	Has there been an assessment of all possible technical solutions to address the identified need?	70%	100%
8	Assessmen	Is the proposed technical solution, optimally suited to meet the requirements of the identified service needs in a cost effective manner?	30%	
9	Scoping of	Is there a clear description of technical features of the project?	25%	
10	Scoping of	Is the user base identified for the project in terms users, geography, growth trends etc.?	25%	100%
11	Scoping of	Are the project outputs defined, measurable and verifiable?	25%	
12	Scoping of	Does the scoping cover the entire term of the project?	25%	

The total of the sub-parameter weight is displayed in column E. In the event the sub-parameter weight is greater or less than 100%, the total weight cell displayed in column E will be highlighted in red, as can be seen in figure 19. Care should be taken to ensure that the default weights set always add up to 100.

4.5 Things to Remember While Customizing the PST

The PST provides the user with the flexibility of customizing it for country-specific requirements. However, customizing the PST may have its own issues and challenges.

Customization must be undertaken only in yellow-shaded cells and with utmost care. The PST in exceptional circumstances and under stress conditions may give erratic results. The following are some limitations the user needs to be aware of while customizing the PST:

- Care needs to be taken while choosing prerequisites and potential deal breakers, as negative responses to these questions could potentially give a materially deficient score for the project.
- All customizations will need to be carefully evaluated for erratic results by running the PST multiple times to observe any inconsistency in operations.
- The user should ensure that the sum of the parameter weights always equals 100% in the administrator and data analysis sheets.
- The individual sub-parameter weights should not be less than 5% and cannot exceed 80%.
- Following modifications to the PST, the user must examine the Dashboard for any warnings and address them immediately.

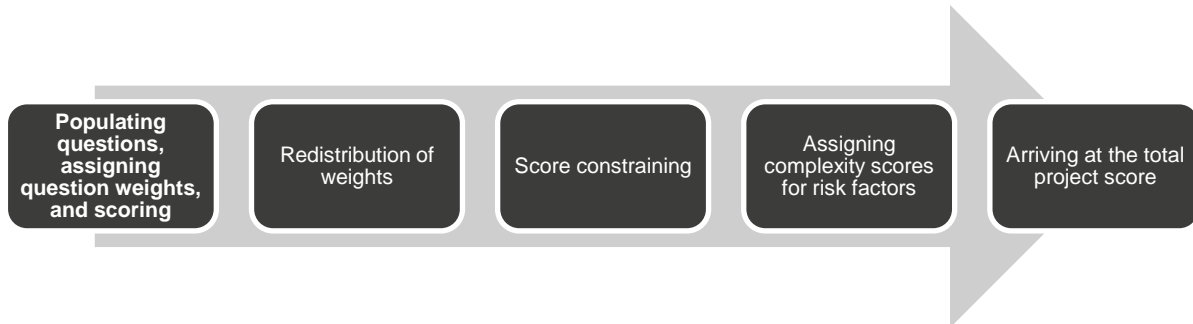
Warnings displayed on the Dashboard

- WARNING: PLEASE CHECK PREREQUISITES
- WARNING: PLEASE ADDRESS DEAL BREAKERS BEFORE PROCEEDING

5. Scoring Methodology

The scoring modality of the PST flows through five stages, as shown in figure 20.

Figure 20: Scoring Methodology



5.1 Populating Questions, Assigning Question Weights, and Scoring

1. The responses provided by the user in the Basic Project Data sheet impact the questions in the parameter sheets due to decision trees embedded in the algorithm. That is, questions in the parameter sheets are populated based on the responses provided in the Basic Project Data sheet.
2. All questions in the parameter sheets are assigned predefined weights by the PST.
3. The user is required to respond to the questions in the parameter sheets by responding to the options in the dropdown menu. The options available, score assigned to each option, and when each should be used are described in the following table.

Answer options
Yes: assigned a score of 1. This indicates that the user agrees with the question statement.
No: assigned a score of 0. This indicates that the user disagrees with the question statement.
Uncertain: is assigned a score of 0.5. Data and analysis may be available for this; however, the response is neither a definite No nor a definite Yes.
Skip: no score is assigned to Skip answers. “Skip” implies that the question applies to the project, but there is insufficient information to provide an informed response.
N/A: assigned a score of 0. N/A implies that the question does not apply to the project.

5.2 Redistribution of Weights and Score Allocation

1. The PST thereafter checks for the user responses that are marked Skipped and N/A (figure 21).
2. The weights for questions skipped are not redistributed, as can be seen in figure 22.
3. Weights for questions that are selected N/A are redistributed within the sub-parameter, as shown in figure 23.

Figure 21: Example of Default Weight

Example of default question weight when Skip or N/A is

Question	Question Weights Applicable
Identification of service need	
Is there a clear articulation and substantiation of the service deficiency?	50%
Is the desired service outcome well defined and can be used to scope out the project?	25%
Is there a broad consensus from users/ stakeholders on the expectations from the project?	25%

- **Result: overall sub-parameter weight at 100%.**
- **Action: neither Skip nor N/A selected as a response by user.**

Figure 22: Weight Redistribution When Skip Is Selected as the Response

Example of default question weight when Skip

Question	Question Weights Applicable
Identification of service need	
Is there a clear articulation and substantiation of the service deficiency?	50%
Is the desired service outcome well defined and can be used to scope out the project?	0%
Is there a broad consensus from users/ stakeholders on the expectations from the project?	25%

- **Action: Skip is selected as the response by the user.**
- **Result: the overall sub-parameter score is reduced to 75%. This means the weight does not get redistributed.**

Figure 23: Weight Redistribution When N/A Is Selected as the Response

Example of default question weight when N/A

Question	Question Weights Applicable
Identification of service need	
Is there a clear articulation and substantiation of the service deficiency?	67%
Is the desired service outcome well defined and can be used to scope out the project?	0%
Is there a broad consensus from users/ stakeholders on the expectations from the project?	33%

- **Action: the overall sub-parameter score is still 100%.**
- **Result: weight gets redistributed proportionately.**

1. The associated score for each question is multiplied by the question weights to arrive at the question-wise weighted score.
2. The question-wise weighted score is on a scale of five.

5.3 Score Constraining

Given the element of subjectivity involved in the model, it is necessary to introduce checks that would keep the score in check in extreme situations. To avoid manipulation and inefficiencies in the scoring of sub-parameters, the sub-parameter score is checked for various conditions, such as:

- Are too many questions skipped?
- Are too many questions marked uncertain?
- Is any question that has a major weight in the sub-parameter portfolio being answered in the negative?
- Is any question that has a major weight in the sub-parameter portfolio being marked as not applicable?

If any such conditions are triggered, the sub-parameter score gets constrained to a “weak” or “moderately weak” score, depending on the condition or a combination of conditions triggered.

Example of how score constraining works				
Score constraining operates at two levels.				
At the first level, basic checks are done for the number of questions in a sub-parameter marked “No,” “Uncertain,” or a combination of “Uncertain” and “Skip,” beyond a threshold of two responses. On triggering this condition, the score of the sub-parameter gets constrained to a score of 2 or 2.5, depending on the significance of the sub-parameter in the PST.				
At the second level, further checks are conducted on the nature of the responses to identify outliers in responses, to identify low levels of diligence in marking of questions, viz. marking all responses as uncertain, skipping questions, or marking negative responses. This constraining trigger operates when the aggregate number of “No,” “Uncertain,” and “Skip” exceeds 60% of the responses in a sub-parameter. In such a case, the scores can get constrained, as shown in the following table.				
Level 2 constraint		Greater than or equal to	Less than or equal to	Forced/ constrained score
If the % of [Negative, Uncertain, and/or Skipped] responses for a sub-parameter is between		60.1%	70%	2
If the % of [Negative, Uncertain, and/or Skipped] responses for a sub-parameter is between		70.1%	80%	1.5
If the % of [Negative, Uncertain, and/or Skipped] responses for a sub-parameter is between		80.10%	100%	1
The algorithm selects the minimum of the scores from the constraints for the sub-parameter.				
Example. The following is an example on score computation and constraining for the sub-parameter “Scoping of the project” in the Strategic Suitability sheet.				
Under this sub-parameter, the user has to respond to the following four questions:				
1.	Is there a clear description of technical features of the project?			
2.	Is the user base identified for the project in terms of users, geography, growth trends, and so forth?			
3.	Are the project outputs defined, measurable, and verifiable?			
4.	Does the scoping cover the entire term of the project?			
The following table is a simulation of a combination of responses and the score selected by the algorithm.				
Score combination	Computed score	Level one constraint	Level two constraint	Selected score by the

	(a)	(b)	(c)	algorithm: minimum of (a), (b), and (c)
User marks "Yes" to all four questions	5	Not triggered	Not triggered	5
User marks a "Yes" to two of the four questions, and the rest are marked "No," "Uncertain," or a combination of "Skip" and "Uncertain"	3.75	2	Not triggered	2
When user marks "Uncertain" or "Skip" for all four questions or the aggregate of "No," "Uncertain," and "Skip" exceeds 80% of the number of responses	1.75	2	1	1

5.4 Assigning the Complexity Score for Risk Factors

Some sub-parameters cannot simply be measured using qualitative Yes/ No questions. A quantitative element is necessary or at least desirable for these sub-parameters. This issue is addressed by introducing magnitude and complexity scores.

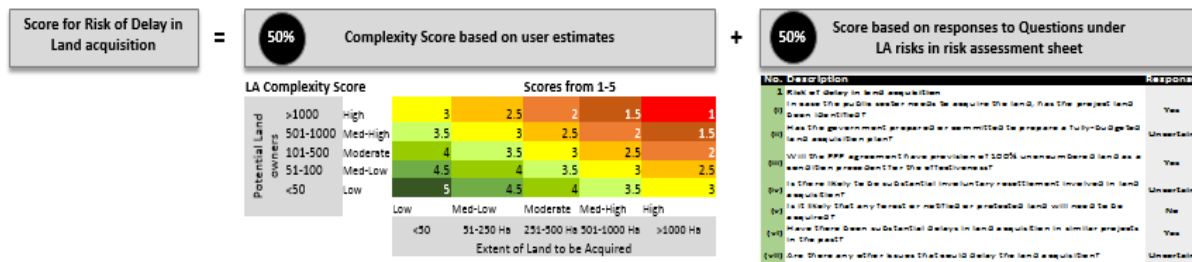
These scores are added with the question scores in a predefined ratio (complexity) to arrive at the final parameter score for each of these parameters. The following parameters have magnitude and complexity scores:

1. Land acquisition
2. Economic prefeasibility
3. Financial prefeasibility
4. Foreign exchange risk
5. Fiscal affordability
6. Climate change and resilience profile.

1. Land Acquisition

The land acquisition complexity score is dependent on the extent of land acquisition required and the number of landowners for the land to be acquired for the project. An increase in the extent of land acquisition required or an increase in the number of landowners negatively impacts the project score and therefore leads to a decreased complexity score and vice versa. The score for risk of delay in land acquisition is a weighted sum of the land complexity score so computed and the score based on the user responses in the risk assessment sheet. While calculating the score for risk of delay in land acquisition, default weights are assigned to the complexity score and the score based on user responses, respectively. This is shown in figure 24.

Figure 24: Computing the Land Acquisition Complexity Score

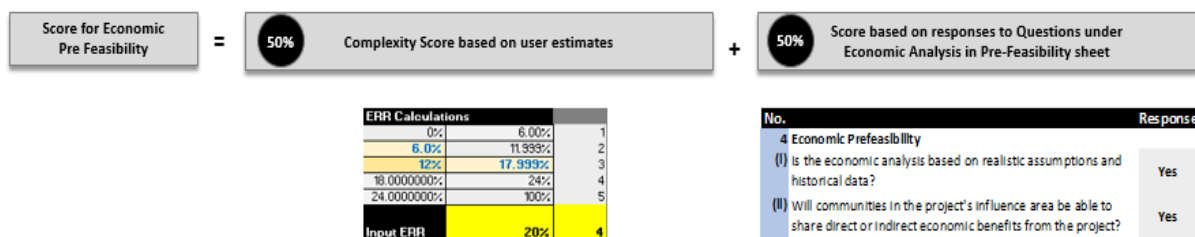


2. Economic Prefeasibility

Economic internal rate of return (EIRR)—related inputs are taken for the project in the user-driven Input sheets. The complexity score for economic prefeasibility assigns a higher score for projects with high EIRR and vice versa.

The economic prefeasibility score is the weighted average of the complexity score and the score based on the user responses to questions in the Prefeasibility sheet. This is shown in figure 25.

Figure 25: Computing the Economic Feasibility Complexity Score



3. Financial Prefeasibility

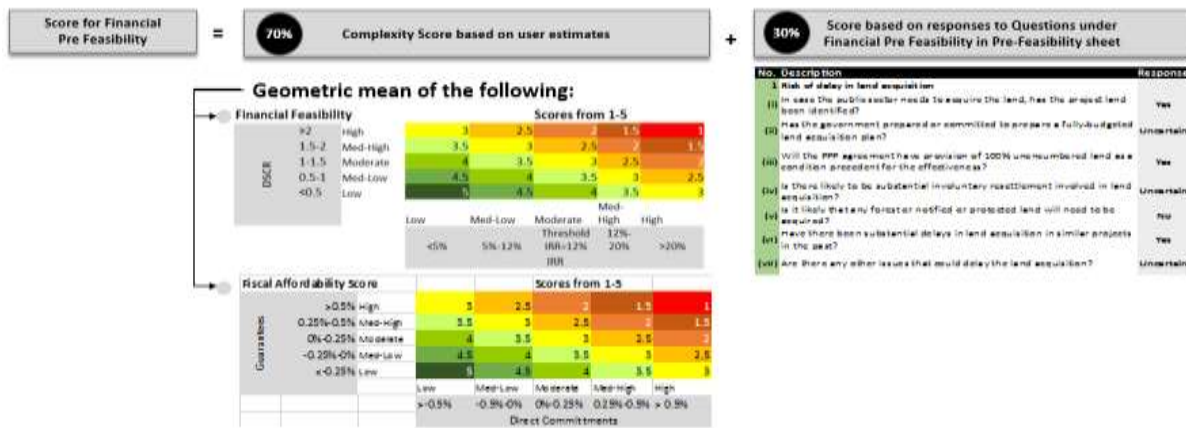
Financial prefeasibility results are taken from the user-driven Input sheets.

The financial prefeasibility complexity score uses the geometric mean of the financial prefeasibility score and the fiscal affordability score to distinguish the projects that use government funding from those that do not. Projects with a high IRR and DSCR will equate to a higher financial prefeasibility complexity score and vice versa. The higher is the percentage of direct commitments and contingent liabilities as a percentage of GDP, the lower is the fiscal affordability score and vice versa. The geometric mean highlights the relative difference in the financial prefeasibility complexity score and fiscal affordability score³; that is, projects with high relative difference in financial prefeasibility and fiscal affordability scores will have a lower average score than projects with balanced financial prefeasibility and fiscal affordability average scores.

The financial prefeasibility score is a weighted average of the complexity score so calculated and the score based on user responses to the financial prefeasibility questions. Default weights are assigned in the PST for the complexity score and the score based on the user responses. This is shown in figure 26.

³ The arithmetic mean (AM) of two numbers *a* and *b* is computed as $(a+b)/2$. The geometric mean (GM) of *a* and *b* is computed as the square root of $(a \times b)$, or the *n*th root of the product of *n* numbers. AM is always greater than GM; AM = GM only when $a=b$. GM is used when there are multiplicative differences in numbers and/ or the ranges are different. GM effectively equalizes the ranges, that is, the weight increases in each quality relative to the range.

Figure 26: Computing the Financial Prefeasibility Complexity Score

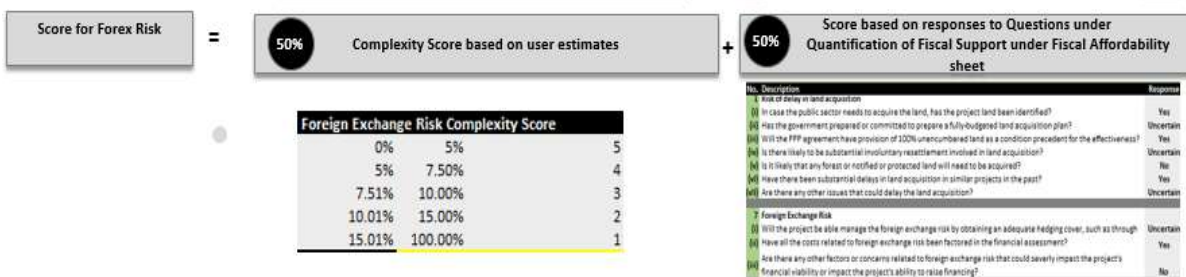


4. Foreign Exchange Risk

The complexity score for foreign exchange risk is linked to depreciation of the national currency against the benchmark currency. It assigns a score based on the foreign exchange risk matrix shown in figure 27.

The higher is the five-year average national currency depreciation vis-à-vis the benchmark currency, the lower is the foreign exchange complexity score and vice versa. The score for forex risk is the weighted average of the complexity score and the score based on user responses.

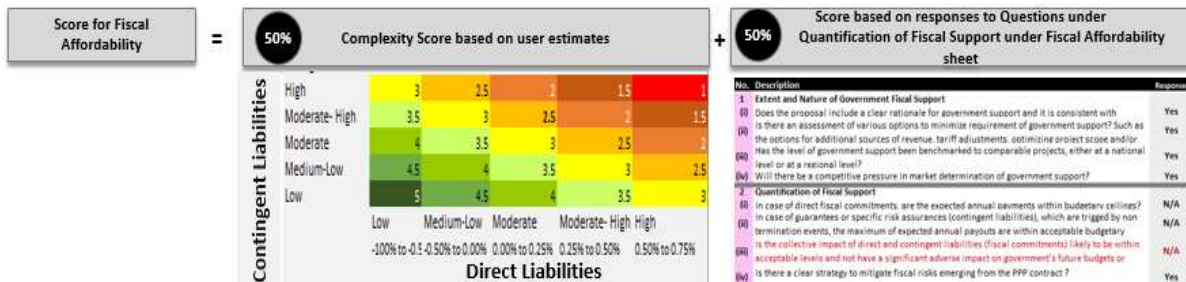
Figure 27: Computing the Forex Risk Complexity Score



5. Quantitative Fiscal Affordability

Government fiscal affordability evaluates the impact of the project on the direct and contingent liabilities of the government. An increase in any of the direct or contingent liabilities will lead to a decrease in the fiscal affordability complexity score and vice versa. The overall score for fiscal affordability is the weighted average of the complexity score so computed and the score based on user responses. This is shown in figure 28.

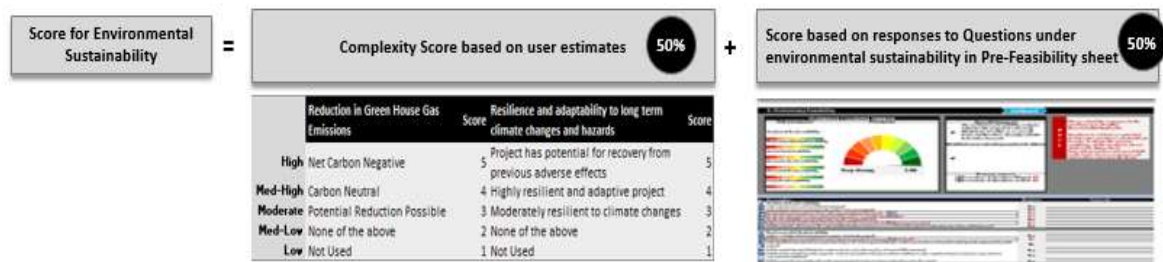
Figure 28: Calculating the Fiscal Affordability Complexity Score



6. Climate Change and Resilience

The complexity score for climate change and resilience evaluates the impact of the completed project on climate and the ability of the project to adapt to long-term climate changes and hazards. A higher score is provided to a project that sequesters more carbon than it projects (emits) and a higher score is given to projects having higher resilience and adaptability. The overall score for climate change and resilience is the weighted average of the complexity score so computed and the score based on user responses. This is shown in figure 29.

Figure 29: Calculating the Environmental Sustainability Score



5.5 Score Constraining for Specific Parameters

The sum of the sub-parameter scores gives the total score for the parameter.

In some cases, it has been observed that the low scores of some sub-parameters are overcompensated by other, high-scoring sub-parameters within the parameter, and this results in an above average/high parameter score. To prevent this, forced scoring has been applied to the following selected parameters:

1. PPP suitability
2. Fiscal affordability
3. Risk assessment.

Here a check is done to see if the score of any sub-parameter is below a certain level, in which case the overall score at the parameter level is constrained by a forced score.

5.6 Arriving at the Total Project Score

The parameter score is thereafter multiplied by parameter weights to arrive at the weighted parameter score. The sum of the weighted parameter score gives the *final score or the overall project score*. If the user provides a negative response to more than 25% of the DBCs, then the default overall project score is restricted to 2. Further, this score would be further reduced if more potential DBCs are triggered.

6. Annex

6.1 Data Tables

The following are the pre-calibrated data points in the PST.

A. List of Prerequisites

S.no	List of prerequisites
1	Is the project derived from a national plan or other medium- to long-term strategic document that establishes economywide development priorities at the highest levels of the government?
2	Is the project likely to be economically sound and have direct benefits that are significantly greater than the costs?
3	Do sector laws, regulations, or policies allow private sector participation in the project?

B. List of Deal Breaker Conditions

S.no	List of Deal Breaker Conditions
1	Is there a clear articulation and substantiation of the service deficiency?
2	Has there been an assessment of all possible technical solutions to address the identified need?
3	Are the technical cost estimates in line with required output specifications and based on established benchmarks?
4	Is the proposed site location adequately accessible and does it offer manageable challenges during construction?
5	Will the project have any significant negative impact on any natural resources or protected land?
6	Is the project likely to be socially sustainable or have manageable social impacts?
7	Is there support for the project from affected communities and other key stakeholders?
8	Is the collective impact of fiscal commitments likely to be within acceptable levels and not have a significant adverse impact on government's future budgets or fiscal space?
9	Are the lifecycle costs for major components of the project reasonable and affordable?
10	Will the project have any significant adverse impact on the health or quality of life of users, workers, and the local population?
11	Is there a plan to address the legal barriers through appropriate executive action or legislative reforms?
12	Are there financiers (nationally or regionally) who will be interested in the PPP?

C. Weights of Parameters and Sub-Parameters

No	Parameter	Sub-Parameter	Parameter Weight	Sub-Parameter Weight
I	Strategic Suitability		10%	
	1	Alignment with government priorities		25%

No	Parameter	Sub-Parameter	Parameter Weight	Sub-Parameter Weight
	2	Identification of service need		25%
	3	Assessment of service delivery options		25%
	4	Scoping of the project		25%
II	Preliminary Feasibility		30%	
	1	Technical Prefeasibility		20%
	2	Environmental Sustainability		10%
	3	Social Sustainability		10%
	4	Economic Prefeasibility		10%
	5	Financial Prefeasibility		30%
	6	Legal Prefeasibility		20%
III	Risk Assessment		20%	
	1	Risk of delay in land acquisition		13%
	2	Financing Risk		13%
	3	Design and Construction Risk		13%
	4	Operations and Maintenance Risk		13%
	5	Market Risk and Demand Risk		13%
	6	Off-Taker Risk		13%
	7	Foreign Exchange Risk		13%
	8	Environmental and Social Risk		13%
IV	PPP Suitability		10%	
	1	Value for Money		60%
	2	Market appetite		40%
V	Govt's Fiscal Affordability		20%	
	1	Extent and Nature of Government Fiscal Support		40%
	2	Quantification of Fiscal Support		60%
VI	Govt's institutional capability		10%	
	1	Institutional Capacity		33%
	2	Preparedness of the Contracting Agency for the Project		33%
	3	Project Execution Capability of the Contracting Agency		33%

D. Complexity Score Weights

No.	Complexity Score	Complexity Score Weight	Question Weight
I)	Financial Feasibility Complexity Score	70%	30%
II)	ERR Complexity Score	50%	50%
III)	Land Acquisition Complexity Score	50%	50%
IV)	Fiscal Affordability Complexity Score	67%	33%
V)	Forex Risk Complexity Score	50%	50%
VI)	Environmental Sustainability Complexity Score	50%	50%

E. Overarching Score Constraints for Sub-Parameter Responses in Case of Majority of No, Uncertain, and/or Skipped Responses

Overarching Score Constraints for Sub-Parameter Responses in Case of Majority of No, Uncertain, and/or Skipped Responses			
	>=	<=	Forced Score
If the % of [Negative, Uncertain, and/or Skipped] responses for a sub-parameter is between	60.1%	75%	2
If the % of [Negative, Uncertain, and/or Skipped] responses for a sub-parameter is between	75.10%	90%	1.5
If the % of [Negative, Uncertain, and/or Skipped] responses for a sub-parameter is between	90.10%	100%	1

F. Score Constraints for Potential Deal Breakers Triggered

Score Constraints for Potential Deal Breakers Triggered		
	>=	Forced Score
If the % of Potential Deal Breakers triggered (negative scores) is above	25%	2.0

6.2 Notes to Users

The following are the explanatory notes for ready reference by the user.

NOTES TO USERS

A Please fill in the blue highlighted cells in the Basic Project Data sheet

B Thereafter, provide responses to questions in Parameter sheets I to VI, from the dropdown menu of options.

I. Strategic Suitability

II. Preliminary Feasibility

III. Risk Assessment

IV. PPP Suitability

V. Fiscal affordability assessment

VI. Govt. institutional capability assessment

C The user shall respond to all questions in the Parameter sheets and the responses can be

1) YES: the user agrees with the question statement.

2) NO: the user disagrees with the question statement.

3) UNCERTAIN: the response to the question statement is not a definite NO and the user is unsure of it being a definite YES.

4) NOT APPLICABLE (N/A): the question statement does not apply to the project.

5) SKIP: the question statement applies to the project, but there is insufficient information to choose an informed response.

D “NO” response to any of the prerequisite conditions in the Project Data sheet will trigger a warning to the user to reexamine. The overall project score in the Dashboard will stand reduced to zero, although specific parameter scores would be available to the user to assess the project’s strengths and weaknesses in the remaining areas. It is anticipated that this will help the user in anticipating issues and preparing a strategy or a path forward to resolving them.

E Providing a “SKIP” response to several questions in a sub-parameter will result in scores getting restricted for the sub-parameter. For example, a maximum score of 2 for 60%-75% skipped responses; a maximum score of 1.5 for 75.1%-90% skipped responses; and a maximum score of 1 for 90.1%-100% skipped responses.

F Questions marked in red-colored font are potential deal breaker conditions. Responding to these questions with a negative response beyond a threshold (or tolerance percentage, for example 25%) will result in scores getting restricted to less than 2 or weak category for the entire project. The scores will get prorated down for correspondingly higher numbers of potential deal breaker conditions triggered.

G Some sub-parameters use a combination of qualitative and quantitative scoring to arrive at the final score for the sub-parameter. The quantitative scoring process for the sub-parameter gets activated when the user provides numerical information on the project in the Basic Project Data sheet. The tool will compute scores based only on the qualitative scoring process, in case the numerical information is not provided in the Basic Project Data sheet.

H The results of the screening exercise can be viewed in the Dashboard and the Detailed Output sheets.

I Explanatory notes are provided to the user in the parameter sheets. They can be accessed by clicking on the sub-parameter cells.

J For customizing the tool, the user will need to unhide the Administration and Data Analysis sheets and follow the instructions listed in the Customization sheet.

Disclaimer

The PPP screening tool (PST) is for preliminary screening of projects to determine their potential suitability for PPP procurement. The PST evaluates projects on qualitative and quantitative variables assuming a fair level of work has been done on the project, including but not limited to high-level/prefeasibility studies—technical, economic, financial, legal, and environmental analysis; site checks; fiscal and budget checks; political economy considerations; clear articulation of the need for the project; initial market checks; preliminary risk analysis; qualitative VFM check; and so on. The PST does not substantiate the accuracy of the information provided by the user nor can the PST replace a full-scale feasibility study. The tool identifies the strength of a project to be undertaken as a PPP; it does not prioritize projects. The PST provides a first level of assessment and gives an indication to the user if the project can be evaluated in greater detail. A favorable score indicated by the PST should be followed up with detailed studies. This tool can also be used as a decision tool or checklist at the feasibility stage, that is, as an aid for deciding on whether the project can be taken forward to tender.

6.3 Explanatory Notes

User-Input sheet

- Note to Users
- The questions in the parameter sheets will be adapted to the project based on the inputs provided by the user in this sheet.
 - The user shall input information in the blue-shaded cells only.
 - The functionality of the tool will be reduced if inputs are not provided to any of the user input cells.
 - The tool will not compute qualitative and quantitative scores if numerical information is not provided in this sheet.
 - The user can access the explanatory notes by clicking the thematic questions.

- A Project profile
- The user shall provide basic information on the project being evaluated by the PST.
- Please select from any of the three options on project-type in the dropdown menu:
- (i) **Construction, operation & maintenance** for design-build-finance-operate-maintain (DBFOM), DBFM, DBOM, and Public Finance Initiative (PFI) types of projects
 - (ii) **Operations & maintenance for projects** that are already constructed and need to be operated and maintained; these are long-term management contracts or service contracts
 - (iii) **Construction** for design-build (Db) or design-build-finance (DBF) types of projects that require only construction.

Project size is the capital expenditure (CapEx) incurred on the project until the commissioning of the asset. CapEx includes all engineering, procurement, and commissioning costs, plus soft costs like preliminary and

User-Input sheet

		<p>preoperative expenses, provisions toward escalations and contingencies, financing expenses, and so forth. The cost of acquiring land is considered part of capex if the land is procured by the project company. Cost of land for the project can be excluded from the capex, if land is procured by a government agency and handed over to the project company free of cost, on lease, or on a concession/ license fee for the project.</p>
B	Prerequisite conditions	<p>These are essential conditions that need to be satisfied for proceeding with the project through the PPP procurement route. “No” response to any of these conditions will trigger a warning, and the overall project score will be restricted to zero. The user will need to address the issues before taking up the project through the PPP screening process. However, the user can continue with the evaluation and assess the project at the parameter level. This will help the user identify other areas of improvement in the project.</p>
C	Revenue profile	<p>Choose any one of the three options that represent the revenue or income profile of the project during operations:</p> <ul style="list-style-type: none">(i) User charges, where project revenue is fully derived from tariffs paid by users or off-takers(ii) Availability payments, where the project revenue is fully derived from government payments linked to availability of the project facility, outputs, or capacity(iii) Hybrid payments, where project revenue is a combination of the user charges and availability payments. <p>The user shall also provide the percentage share of availability payments to the total revenues of the project if this option is selected. The percentage is computed as (total availability payment/ total revenues) x100.</p> <p>Revenue or incomes from lease rentals, recurring income from commercial land exploitation rights, advertisement rights, and so forth can be considered as part of user charges.</p> <p>Indirect government support in the form of additional land exploitation rights, transfer of real estate development rights, and so forth, which are of the nature of capital income, can be excluded in the computation of revenue or incomes.</p>
D	Government support	<p>Choose “Yes” if the project requires government support. Government support is computed in net present value (NPV) terms as a percentage of the nominal gross domestic product (GDP) of the country. The numerator and denominator are in NPV. In terms of fiscal significance, the PST considers projects with government commitments less than 0.25% of the nominal GDP as projects with moderate fiscal impact. It considers projects with government commitments of more than 0.50% of GDP as projects with high fiscal impact, which reduces the fiscal affordability score.</p> <p>Direct commitments by the government. These are payment commitments where the need for payment is known—these could include an upfront capital payment or regular payments over a specified period of the contract. Examples include upfront viability payments or viability gap financing, availability payments, output-based grant or unit payments, public funding support, and so forth.</p>

User-Input sheet

Direct commitments by government can be computed as $= (\text{NPV of government payouts} / \text{NPV of nominal GDP for the corresponding period of government payouts}) \times 100$. Example: the direct commitment as % of GDP for an upfront viability payout over three years can be computed as $= \text{NPV}(P_1, P_2, P_3) / \text{NPV}(G_1, G_2, G_3) \times 100$, where $P_1, P_2,$ and P_3 are annual payouts and $G_1, G_2,$ and G_3 are the projected nominal GDPs for the years corresponding to the payouts.

Contingent liabilities. These are obligations that arise from risk-specific assurances provided by the implementing agency or the government to assure the PPP project against certain unforeseen outcomes. Contingent liabilities arise from minimum revenue guarantees, foreign exchange guarantees, credit guarantees, inflation risk guarantees, counterparty payment guarantees, and others. The value and timing of the payment cannot be firmly ascertained but can be estimated based on risk assessment techniques.

Contingent liabilities as % of GDP can be computed as $\text{NPV}(P_1, P_2, P_3, \dots, P_n) / \text{NPV}(G_1, G_2, G_3, \dots, G_n) \times 100$, where $P_1, P_2, P_3, \dots, P_n$ are estimated risk-assessed annual payouts and $G_1, G_2, G_3, \dots, G_n$ are the projected nominal GDPs for the years corresponding to the payouts.

Uncertain response. The user will need to input 0% for direct commitments and contingent liabilities if the project requires government support and estimates have not been quantified yet. Then the tool will evaluate based on qualitative information provided by the user. Choose “No” if the project does not require government support. These are projects where revenues from user charges are the main source of income for the project.

Choose “Yes” if the project provides upside benefits to the contracting authority, and quantify the government support as a negative percentage. Negative percentage implies that the project provides revenues to the government. Examples include revenue share, concession fee, fixed annual payments, and so forth. The method for computation of benefits will be similar to the computation of direct commitments of government support, except that the upside benefits will be inputted in negative percentage values.

E Land acquisition status

Land requirement. The user will provide information on the status of land required for the project.

Is there a need for land acquisition? Select from “Yes,” “No,” or “Uncertain.” Choose No when the project does not need land. For example, it may be an operation and maintenance project or a refurbishment project that already has land. Choose Uncertain when there is a need to acquire land, but the details are not yet available. In this case, the analysis will only be based on qualitative responses of the user. Thereafter, (i) the user will need to indicate the estimate of the total area of land required for the project, (ii) the quantum of land that is presently available with the government for the project. The tool will compute the remaining land to be acquired based on a formula.

Landowners and project affected parties. An indicative estimate of potential landowners who would be affected by the land acquisition and other project affected parties needs to be provided by the user. A figure of zero or blank will be treated as “Uncertain” by the tool and thereafter the analysis would only be based on qualitative responses of the user.

User-Input sheet

Who will acquire land? Provide information on the agency responsible for acquiring land. Select “Public sector” if the government will be responsible for acquiring land; select “Private sector” if it will be the responsibility of the private partner; or select “N/A” if it is not applicable, in which case the tool will not analyze the risk of delays in land acquisition.

F Value-for-money (VFM) quantitative assessment

VFM compares the proportion of risk-adjusted cost savings between a project that is delivered by the public sector, that is, a risk-adjusted public sector benchmark (PSB), as against the project delivery via a public-private partnership (PPP).

VFM percentage = (cost of risk-adjusted PSB – cost of PPP) / cost of risk-adjusted PSB x 100

The threshold VFM percentage is the minimum expectation of the government below which the government would be neutral if the project was taken up for delivery by the public sector or the private partner. Usually, this reference VFM is taken as 10%.

Please input 0% in both cells if the user is “Uncertain” or has not quantified the VFM. Then the tool will ignore these values and deliver results based on qualitative VFM assessment.

G Return expectations

Project internal rate of return (IRR) base case. This refers to the project’s financial IRR, which represents the overall returns to all project investors. It is usually taken from the most likely or base case scenario. Project IRR (stress case): reflects the project IRR in the worst-case scenario. This is to gauge how the investor returns would be impacted if the project came under stress. Usually, stress scenarios are built by varying key assumptions related to macro-economic and major project-specific variables that could have an adverse impact on the project cost, revenues, and operating costs.

Threshold project IRR. This represents a threshold reference rate below which the project is likely to be unviable. Usually, the threshold IRR is taken to be the percentage equal to the weighted average cost of capital for the project.

Minimum debt service coverage ratio (DSCR) base case. This represents the ability of the project cash flows to service debt obligations in any given year during the tenure of the debt in the project. Usually, the base case value is placed here. The minimum DSCR (stress case) reflects the computation of minimum DSCR in the worst-case scenario. The threshold minimum DSCR is the minimum level DSCR that is expected by lenders in the base case scenario.

Economic IRR. This is the economic rate of return of the project estimated after considering all costs and benefits from the project to the society.

Threshold economic IRR. This represents a threshold reference economic IRR rate that justifies the project as economically sustainable. Usually, the threshold economic IRR considered is 12%.

Uncertain response. In case financial estimates are not available, please input 0% for IRR values and 0 for DSCR values. Similarly, input 0% for economic IRR values if preliminary estimates for economic returns are not available. The tool shall then rely on qualitative analysis to evaluate the relevant parameters.

User-Input sheet

H	Foreign exchange risk profile	<p>Choose whether the project is exposed to foreign exchange risk or not, for example, if revenues are in local currency and capital investment service obligations are in foreign currency. Input the last five-year average depreciation of the national currency vis-à-vis the benchmark foreign currency.</p> <p>Typically, the benchmark foreign currency would be the foreign currency of expected financing. Typically, these could include US dollars, euro, or British pounds. In case financing is expected in a combination of foreign currencies, then the historical estimates based on a basket of currencies could be used.</p>
I	Climate Change and Resilience Profile	<p>1. Expected reduction in greenhouse gas (GHG) emissions once the project is completed.</p> <p>Select any one of the following options.</p> <p>Net carbon negative. This is if the completed project is carbon negative (i.e., sequesters more carbon than it produces). Using a completed lifecycle carbon assessment, the project team works to design the project so that it is carbon negative through extensive use of renewable energy and carbon sinks.</p> <p>Carbon neutral. This is if the completed project is carbon neutral (does not produce any net carbon emissions, i.e., a 100% reduction). Using a completed lifecycle carbon assessment, the project team works to design the project so that it is carbon neutral through extensive use of renewable energy and carbon sinks.</p> <p>Potential reduction possible. This is if there is a potential for at least 20% GHG reduction from the original base case scenario of the project. In this instance, it can be reasonably expected that the project team will improve the project's design and thereby achieve a reduction in GHG emissions from the original base case, for example, if in the base case the project would have 100 units as GHG emissions, and in the improved project design case the GHG emissions are 80. Then it can be stated that by improving the project's design, the potential GHG emissions from the project stand reduced by 20%.</p> <p>None of the above. This is in case the project will emit GHG and none of the above scenarios is applicable. Not used: please select this option in the case that information on GHG is not available.</p> <p>2. The project's expected resilience and adaptability to long-term climate changes and hazards. Select any one of the following options.</p> <p>Project has potential for recovery from previous adverse effects. This is if projects incorporate resilient and adaptive project design and systems that would mainly restore habitats in a way that reduces the impacts of future disasters as referenced in point (v) in the list of factors.</p> <p>Highly resilient and adaptive features. This is if the resilient and adaptive project design and systems incorporate three or more of the factors listed below.</p> <p>Moderately resilient to climate change and hazards. This is if the resilient and adaptive project design and systems incorporate at least one of the factors listed below.</p>

User-Input sheet

None of the above. This is in case the project has the potential to incorporate some of the resilient and adaptive project design and systems, but has not considered it part of the project.

Not used. Please select this option in the case that information on resilient and adaptive project design and systems is not available.

Projects could include resilient and adaptive project design and systems that have considered the following factors:

(i) Identification of specific measures taken to address the potential consequences of long-term climate change, such as sea level rise, increased intensity and frequency of extreme weather events, extended droughts, heat waves, increased ambient temperature, and so on.

(ii) Identification of specific measures taken to address other potential long-term threats, such as desertification, water and energy shortages, shortages of other critical materials, and so on.

(iii) Identification of siting or design features that increase alternative supply options for water, energy, or other materials critical to operation of the completed project.

(iv) Natural or human-induced hazards that could include a variety of events, such as wildfires, floods, tornadoes, hurricanes, earthquakes, tsunamis, and human-induced hazards. Research should be undertaken as to the past and projected frequency and severity of these hazards, and the ability of the project design to cope with each possible event.

(v) Where possible, some analysis (if applicable) on how the project could restore habitats in a way that reduces the impacts of future disasters, including various strategies and how they minimize the risk of future hazards using environmental restoration.

Source: Adapted from the Envision Manual, <https://sustainableinfrastructure.org/>.

Envision is a guidance and rating system for sustainable infrastructure. It was developed by the Institute for Sustainable Infrastructure (ISI) in partnership with the Zofnass Program at the Harvard Graduate School of Design. ISI was founded by the American Council of Engineering Companies, the American Public Works Association, and the American Society of Civil Engineers. For further details, please refer to the Envision Manual, at <https://sustainableinfrastructure.org/>.

6.4 Explanatory Notes: Parameters

I. Strategic suitability

Alignment with government priorities

The project's strategic importance and alignment with government priorities are assessed, as under:

Project derived from national plan or strategic documents. These could be one or a combination of national/ subnational/ sectoral/ departmental plans and

strategies that articulate the development priorities and provide an indicative nature of the project pipeline.

Alternatively, projects could be identified through a needs analysis emanating from a policy or strategy document. For large projects, it is advisable that the project is part of a strategic document or plan, which would assure that the government's scarce resources are optimally deployed.

Strategic importance. Herein, priority should be placed on projects that have the potential to transform a region, which could attract further private investments and lead to substantial economic development of the region. These could be projects that have a high economic multiplier effect in terms of income or investments. The region is defined as the area of influence of the project. The region can be a municipality for an urban water supply project, a hinterland for a port project, or an influence area served by an expressway project, and so forth.

Typically, development of such projects may be a prerequisite for other projects to develop (driver relationship). This could also include projects that have substantial forward and/or backward linkages with other projects. For example, a toll road or railway line project could improve connectivity to a port, thereby reducing logistics costs or enabling faster evacuation of cargo at the port and/or supporting port-based industries to an existing port facility. In such a case, the sustenance of one project is closely linked to the development of the new project (linkage relationship).

Improvement in quality of life. This parameter is used to assess the nature of the positive impact that a project has on the quality of life of users/ citizens. This could be through reduced cost of living, facilitated by reduced cost of a service, such as mass transit that may reduce the cost of commuting and save time.

A project could also substantially improve part of a citizen's life through a cleaner environment, such as a waste collection and treatment facility. The impact or outcome of the project can aid a practitioner in making comparative assessments to understand the importance of the project in a citizen's life, that is, livability.

Identification of service need

Infrastructure assets are enablers for the government to meet its service delivery obligations, and not an end in themselves. Hence, the user needs to identify what problem the project is trying to solve, or what service needs to be addressed by the project, while answering the questions.

Service deficiency. This highlights the gap between service need and present level of service delivery. Indicative examples of the existence of service deficiency include

- (i) Only 50% of the city gets drinking water for six hours a day.
- (ii) Unaccounted-for water is 60%.
- (iii) There is traffic congestion.
- (iv) Travel time from point A to point B has doubled in the past 10 years.

Desired service outcome. This is the service outcome expected from a project. The outcome is the effect of the project on the community and helps define the scope of the project. For example, the project could target one or a combination of service outcomes, such as:

- (i) Provide 100% connectivity to all users.

- (ii) Achieve at least 80% collections.
- (iii) Meet specified quality standards, such as 24x7 water supply of specified health standards and water pressure.
- (iv) Reduced average travel time from point A to point B to 15 minutes.

Consensus from users/ stakeholders. It is a good practice to consult prospective users and key stakeholders while preparing a project. This will ensure that the user needs are well reflected in defining the service needs to be addressed by the project, as well as specifying the desired service outcomes and then cross-checking whether the proposed service outcomes will indeed meet user needs.

Assessment of service delivery options

There may be a range of technical solutions available for addressing the service need. The technical solutions may include any one or a combination of the following options:

- (i) **Existing asset options.** Considering whether existing assets held by the government can be used. This may involve rehabilitation, renewal, enhancement, replacement, adaptation, or reconfiguration of assets.
- (ii) **Non-asset options.** Service needs may be met without creating additional assets by reconfiguring the means of service delivery, developing initiatives to manage demand more effectively, or better utilization of existing assets.
- (iii) **New asset-based options.** New investment in assets may be developed.

In practice, all options for addressing the service need are analyzed. The assessment should factor in the ability of the option to meet the service need in terms of capacity, service improvements delivered, time horizon, and lifecycle costs. Thereafter, a best fit solution is arrived at that could be a combination of the above options.

Scope of the project

This is the project’s description, in technical terms, including a detailed description and requirements for the most important aspects of the project.

The scope of a project needs to define the technical outputs expected from the project, the market services expected in location/ geography, the users to be serviced, and so forth. It needs to cover the life of the project, from the construction of the project to its operations and maintenance requirements, measurable and verifiable outputs at each stage of the project, and so forth. Output is defined as a measure of services of the project; it addresses the service deficiency and the desired outcome of the project.

A well-scoped project is clearly articulated, unambiguous, and not subject to multiple interpretations of the expectations from the project.

II. Preliminary feasibility

Technical prefeasibility

This covers a preliminary assessment to gauge whether the project can be technically delivered in an efficient and effective manner to achieve the project outputs. It will include an early analysis of the project scope, technical design requirements, performance requirements, site issues, cost estimates, and

related preparatory works. All available information relating to the engineering design and technical execution aspects of the project should be analyzed.

Typically, the following aspects will be covered in a technical prefeasibility:

- Appropriateness of the technology
- Comparison of the scope of the project with other similar projects
- Assessment of the completeness of the project cost estimates vis-à-vis the project delivery/ output specification requirements
- Analysis of lifecycle costs for major project components, whether reasonable and affordable
- Site suitability based on geo-technical requirements, project requirements, and regulatory risks
- Site accessibility from the perspective of construction management, for example, assessing the availability of borrow earth/ aggregates⁴, site for pre-casting structural components, site flexibility to manage construction in brownfield projects, and so forth
- Availability of skilled workers for construction, operations, and maintenance of the project.

Clarifications on questions raised

1. Well established technology. The intent is to prefer technologies that are in wide use and have a proven track record of success in similar projects and regions/ terrains similar to the one related to this project. Untested and new technologies would potentially pose a greater risk to the project.
2. Comparability of the project's scope of work to similar projects. This relates to the tasks and outputs to be delivered under the project in terms of physical works, facilities, infrastructure, and services, and in compliance with specified/ applicable performance levels and standards. The question seeks to ascertain whether the scope of work of the proposed project is similar to those of other similar projects (preferably within the country or region).
3. Output specifications. These relate to the consistency between the project's deliverables in terms of the project's physical works, facilities, and services with the technical cost estimates for such output specifications.
4. Lifecycle costs relate to all costs that the project will incur throughout its life, from the development, construction, operations, and exit phases (as applicable to the particular PPP format). This typically includes not only capital expenditure, but also operating period expenses and termination/ exit phase costs.
5. Site suitability relates to the assessment of the site from the project's location standpoint and its suitability in terms of the project's requirements during the design, construction, operations, and maintenance phases.
6. Site accessibility during construction is critical, especially if the project is located in a remote area. There are challenges in relation to transportation/ movement of construction equipment, material, and people. Remoteness of a site can substantially increase the construction cost and might make the project financially unviable or unsustainable due to site-related challenges.

⁴ Compacted soil/rocks used to keep the road at a particular level. They could come from on-site source (regular excavation), off-site source (borrow excavation), etc.

Environmental prefeasibility

At this stage, a preliminary analysis of environmental aspects will include an understanding of the project's impact on key environmental aspects, environmental scoping, outlining environmental management work plans for downstream activities, and other related works that would feed into a comprehensive Environmental Impact Assessment that would be undertaken at the detailed engineering and design stage. For example, in the case of World Bank safeguard policies, one or more of the following policies may be triggered in a PPP project:

- (i) Environmental assessment (OP/BP 4.01)
- (ii) Natural habitats (OP/BP 4.04)
- (iii) Pest management (OP 4.09)
- (iv) Physical cultural resources (OP 4.11)
- (v) Involuntary resettlement (OP/BP 4.12)
- (vi) Indigenous peoples (OP 4.10)
- (vii) Safety of dams (OP/BP 4.37).

In addition, national or international standards on labor and occupational health and safety may be applicable.

These studies are an initial analysis of positive and negative impacts of the project during construction and operations, as applicable. Any potential negative impact on the environment, especially with natural resources like water bodies or protected land like forests, and impact on air and unmanageable emissions will need to be identified early on. Delays with respect to obtaining forest, environmental, and wildlife clearances and so forth from the respective departments should be factored in, as they may lead to significant delays during the implementation stage.

Environmental prefeasibility is particularly critical in the case of development of power plants based on conventional fuels, setting up ports to handle hazardous or chemical cargo, or industrial parks or waste treatment facilities.

Greenhouse Gas Emissions and Sustainability

Greenhouse gas emissions. Increased release of carbon dioxide and other greenhouse gases (GHGs), primarily attributable to burning fossil fuels, has led to their increased concentration. This in turn has led to the greenhouse effect, which is potentially increasing Earth's temperature at the surface and in the atmosphere, which is disrupting short-term weather patterns and causing long-term climate change. This can have several unintended consequences, such as flooding from excess rain in certain parts of the world, drought from lack of rain in others, ocean acidification, changing crops and crop production, and rising sea level. Reducing the emission of GHGs now will help mitigate the effects of climate change in the future.

Unavoidable carbon dioxide—equivalent emissions can be countered by carbon sequestration, in which carbon dioxide (CO₂) is removed from the atmosphere and deposited in a reservoir, typically deep within the earth where it cannot reach the atmosphere. Sequestration also can come in the form of planting new forests, which absorb and use CO₂ for their growth. To fulfill this credit, a streamlined lifecycle assessment needs to be conducted in accordance with the International Organization for Standardization (ISO) 14040 and ISO 14044 standards, when the project's detailed project report is being prepared prior to the construction phase.

Expected Reduction in GHG Emissions Once the Project Is Completed

Net carbon negative. The completed project is carbon negative (i.e., sequesters more carbon than it produces). Using a completed lifecycle carbon assessment, the project team works to design the project so that it is carbon negative through extensive use of renewable energy and carbon sinks.

Carbon neutral. The completed project is carbon neutral (does not produce any net carbon emissions, i.e., a 100% reduction). Using a completed lifecycle carbon assessment, the project team works to design the project so that it is carbon neutral through extensive use of renewable energy and carbon sinks.

Potential reduction possible. There is potential for at least 20% GHG reduction, from the original base case scenario of the project. In this instance, it is reasonably expected that the project team will improve the project's design and thereby achieve a reduction in GHG emissions from the original base case. For example, if in the base case the project would have 100 units as GHG emissions, in the improved project design case the GHG emissions are 80. Then it can be stated that by improving the project's design, the potential GHG emissions from the project stand to be reduced by 20%.

Resilience and Adaptability to Climate Change

Infrastructure projects that are designed for today's conditions may not be able to function adequately under altered conditions in the future. Climate change will likely lead to changes in weather patterns and sea levels. Projects should be designed to withstand a range of conditions that may result from climate change, such as changes in temperatures, humidity, precipitation, seasonal hydrology, flooding, and increased sea levels. Changing climate conditions can have drastic impacts on the site. For example, desertification is a significant concern throughout the world, as water availability and vegetative cover decrease and overgrazing, overharvesting, and mismanagement of vegetative cover increase.

In this context, it is vital to design projects that suitably address resiliency and adaptive capacity in relation to climate change. "Resilience" refers to the ability of a system to recover quickly and cost-effectively following an extreme event. "Adaptive capacity" means the system has the ability to respond to changing conditions over time to withstand them. Flexibility is a key part of adaptive capacity. Redundancy, possibly from backup systems or decentralized distributed networks, helps systems remain functional even if one component fails.

Strategies for managing long-term changes may include the following:

- (a) Structural changes—expand the range of conditions in which the system can function.
- (b) Decentralized systems—these depend on many small facilities instead of a single large facility; distributed networks spread risk.
- (c) Natural systems—choose environmentally friendly solutions for infrastructure provision (e.g., using wetlands to treat storm water also helps protect against flooding).
- (d) Alternative supply options—identify alternative methods or locations for resources that are important for the infrastructure project (water sources, energy sources, materials, and so forth).

(e) Adaptive capabilities—include ways for the system to learn or change over time to be more prepared to deal with altered conditions.

(f) Site selection—choose sites that are less vulnerable to potential impacts of climate change (farther away from coasts to reduce the impact of increasing sea levels, at higher elevations where flooding is less likely, and so forth).

Short-term hazards could include a variety of events that may or may not be related to climate change. These include natural hazards, such as earthquakes, tsunamis, floods, fires, wild fires, and storm surges, and human-induced hazards such as hazardous material spills, terrorist attacks, epidemics, and biohazards.

Managing and preparing for short-term hazards helps to secure the longevity of infrastructure projects and protect investments and secure the well-being of the surrounding community. Key components for resiliency to hazards include the ability to withstand hazards (e.g., through physical fortification against flooding or hurricanes) and the ability to adapt to hazards. Adapting to a hazard can include redundancy through backup systems or decentralized distribution networks, which help systems to remain functioning even if one component fails.

Source: Adapted from the Envision Manual, <https://sustainableinfrastructure.org/>.

Envision is a guidance and rating system for sustainable infrastructure. It was developed by the Institute for Sustainable Infrastructure (ISI) in partnership with the Zofnass Program at the Harvard Graduate School of Design. ISI was founded by the American Council of Engineering Companies, the American Public Works Association, and the American Society of Civil Engineers. For further details, please refer to the Envision Manual.

Social prefeasibility

Although a comprehensive social impact assessment is advisable at the feasibility study and detailed engineering design stage, at this stage a preliminary analysis of social aspects is suggested. The preliminary social analysis could include an early identification of the project's influence area and people affected by the project. It is suggested that the project adopt international standards on social impact assessment and management, such as those of the World Bank and International Finance Corporation. These international standards espouse a wider definition of project-affected parties and stakeholders, and measures to mitigate potential negative social impacts and encourage greater integration of communities in project design. It should be assessed whether the project will result in displacement of people, loss of livelihoods of a section of society, and an economic impact that will change people's quality of life (this can be positive or negative).

Social impact mitigation may include rehabilitation and resettlement for people affected by the project. Interventions to protect social impacts should

- (i) Be informed and must take into account the key relevant social issues
- (ii) Incorporate a participation strategy for involving a wide range of stakeholders.

Such social safeguard measures could be part of the contractual obligations of the concessionaire or part of the project preparatory works for the contracting agency.

Land acquisition resulting in loss of land, resettlement, and rehabilitation are some of the key social impacts of a project. Projects with substantial land-

related social impacts could potentially be delayed if not managed well. Hence, the assessment will need to assess livelihoods impacted due the acquisition, compensation mechanisms, engagement with stakeholders on resettlement options, and provisioning of adequate funding for managing the resettlement and rehabilitation, and prepare for potential judicial scrutiny of such measures.

The preliminary social assessment would need to assess the support of the affected communities and other key stakeholders for the project, based on consultations, political support, and/ or support for such project initiatives in the past.

The assessment will need to conclude on a preliminary social management strategy that is sufficiently detailed, provide information on the approvals required, and comment on the timelines for obtaining such approvals.

**Economic
prefeasibility**

Economic analysis is a cost-benefit analysis of the project that seeks to quantify the net benefits for society after factoring in all the direct and indirect costs of the project. It is a key metric for the public sector to decide whether to proceed with a project or not. This is done with a long-term perspective, projecting costs and benefits through the analysis period. The period considered must be in line with the useful economic life of the infrastructure asset.

The review should conclude on the completeness of the costs and benefits from the project, the reasonableness of the assumptions for the direct and indirect costs and benefits, and whether the project is economically sound with an economic rate of return (ERR) that is greater than the threshold ERR of the government.

**Financial
prefeasibility**

A preliminary financial analysis is designed to give an early indication of a project's potential financial viability. The analysis covers projecting income, expenses, and cash flows over the project lifecycle. The cash flow takes into consideration all capital funding, capital expenditure, income and operational expenses, and debt servicing and investor returns.

A project is considered feasible if the benchmark metrics are considered above their thresholds on a sustained basis (such as the project's internal rate of return and debt service coverage ratio) and in multiple scenario analysis (typically, three to five scenarios should be developed with realistic variations in key assumptions).

An important factor in the analysis is the source of project revenue, such as user charges, availability payments, or a hybrid (a combination of user charges and availability payments).

In each of the cases, the revenue projections need to be backed by realistic assumptions, preferably based on historical data and independent studies. Care should be taken to ensure that overoptimistic growth rates are not considered while making projections over the long term. In the case of user charges, the revenue assessment will need to be backed by demand studies. The affordability of user charges could be assessed from willingness-to-pay surveys. In the case of availability payments, the assessment needs to cover the ability of the counterparty to make payments and the arrangements within the counterparty to ensure that payments can be made on a sustainable basis.

The financing assumptions for the project will need to be realistic and supported by evidence based on the country's experience with funding similar infrastructure projects in the past. The debt-to-equity ratio, interest rates, debt

tenure assumptions, cost of equity, and so forth would need to be benchmarked to similar projects that have achieved financial closure in the recent past.

Legal prefeasibility

At this stage, a basic level of legal analysis is recommended. The assessment will need to cover the legal feasibility of sources of revenue for the project, enforcement of lenders' rights, foreign exchange restrictions that may affect the financing of the project, and so forth.

In the case of user charges, the prefeasibility will need to assess whether user charges can be levied by the PPP operator and assess regulatory frameworks or proposed contractual frameworks that provide a basis for tariff setting and periodic reviews. For availability payment types of projects, the prefeasibility will need to assess the modalities for assuring payments by the contracting agency through dedicating revenues to service the payment obligations.

Assess legislation/ guidelines related to enforcement of lenders' rights of substitution, step-in rights, and other recourse to lenders to recover their outstanding loan in the event of default.

Assess if there are any restrictions to attracting foreign investment for the project in the form of debt and equity and repatriation of returns to equity investors outside the country.

The assessment will need to conclude on the preliminary legal feasibility for the project; identify legal barriers, if any; and recommend a plan to address these barriers through appropriate executive action or legislative reforms.

III. Risk assessment

Risk of delay in land acquisition

This refers to the risk that the project site will be unavailable or unable to be used within the required time or in the manner or cost anticipated, or the site will generate unanticipated liabilities due to existing encumbrances and native claims being made on it.

The assessment will need to form an understanding on the land-related risks with respect to the quantum of land to be acquired, the legislative preparedness of the procuring agency to acquire land, budget availability to pay for the acquisition, and so forth. The assessment will also cover risks related to the nature of land being acquired with respect to resettlement of existing landowners, protected or notified lands, forest or eco-sensitive lands, and so forth.

The assessment will need to assess the preparedness of the contracting authority to provide 100% unencumbered land for the project in a timely manner.

Financing risk

This refers to the risk that sufficient finance will not be available for the project at reasonable cost (for example, due to changes in market conditions or credit availability), resulting in delays in a project's financial closure.

This will cover an assessment of financial closure of similar projects in the country or region, financiers who may be interested in PPPs, and appraisal of other potential factors that may delay or impact raising finances for the project in a timely manner.

Design and construction risk

Design risk. This refers to the risk that the proposed design will be unable to meet the performance and service requirements mentioned in the output specification. It can result in additional costs for modification and redesign.

Construction risk. This refers to the risk that the construction of assets required for the project will not be completed on time, budget, or to specification. It may lead to additional raw material and labor costs, as well as increase in the cost of maintaining existing infrastructure or providing a temporary alternative solution in case of delay in provision of the service.

This will cover an assessment of technology risks, site-specific risks and construction challenges thereof, and sourcing of skills for constructing and operating the project. It includes the ability of the private sector partner to manage efficiently the design, construction, and commissioning risks by allowing engineering procurement and construction (EPC), equipment suppliers, or equivalent arrangements wherein EPC (or similar contractors) will take on cost, schedule, and performance risk through a “date-certain,” fixed price lump-sum, turnkey contract. It also includes the ability of the private sector to include a strong system of safeguards, incentives, and liabilities to manage contractor/ sub-contractor performance, as well as an adequate warranty and defects liability period to manage any construction-related challenges.

Operations and maintenance risk

This refers to risks associated with the need for increased operations and maintenance (O&M) costs over the term of the project to meet performance requirements.

This will cover an assessment of the O&M scope of the PPP, that is, whether it is clearly defined, with output standards that are clearly measurable and verifiable; sourcing of skills for managing O&M; and the ability of the PPP to manage this risk through back-to-back arrangements in O&M contracts and warranties on the performance of subcontractors.

Market and demand risk

This refers to the risk that demand for a service will vary from that initially projected, such that the total revenue derived from the project over the project term will vary from initial expectations. Demand or usage risk emanates from optimism bias in traffic/ income projections and two possible situations: (a) delay in ramp-up of usage or demand, or (b) usage or demand levels remaining well below project estimates over a long period of time. There could be several underlying reasons for these situations to come up, such as a general economic downturn, competition within the sector and beyond, changes in target market composition or demographics, technical obsolescence or innovation, and shifts in industry activity/focus. These should be critically examined while projecting usage volumes and revenues.

This risk is at the heart of user-pay structures and should generally be borne by the private party, with adequate government support measures to address extreme situations.

Off-taker risk

This refers to the risk where payments are to be received from government counterparties, such as in availability payment or output-linked payments. The risk of timely and adequate payments is driven by the credit worthiness and financial position of the government counterparty. The credibility of the government agency to make payments as per the contract and on time is assessed here. Any payment mechanism by the government should be supported by identified income sources or budget line provisions; the private sector partner needs to be assured of availability of funds with the government counterparty to make payments.

This will also cover assessment of creditworthiness of the government counterparty reflected through sovereign credit ratings, debt-to-GDP ratios, debt service to revenue income, and so forth.

Often lenders require putting in place an adequate liquidity and payment security mechanism, such as provisions to create a debt service reserve account, escrow arrangements, payment guarantees or sovereign guarantees, letters of credit, and similar credit enhancement arrangements.

Foreign exchange risk

This refers to the risk that could arise from increased payment obligations for the PPP due to depreciation of the local currency vis-à-vis the foreign currency deployed to fund the capital and revenue expenditures for the project. The assessment will cover foreign currency payment obligations of the project toward interest payments and repayment of foreign debt, and imports of raw materials for the project from international markets, such as imports of coal/ gas/ fuel for power projects, and so forth.

The mitigation measures to manage the risk could include hedging the risks through forward contracts or options on payment obligations, assessment of the mix of foreign exchange and local currency earnings from the project, and availability of foreign exchange guarantees from the contracting authorities to mitigate this risk.

Environmental and social risk

Environmental and social risk refers to the risks being borne by the project on account of environmental and social impact management. The risk could result in negative outcomes for the environment/ society, and increase in unanticipated costs for the project company. Primarily, this risk is a design and construction phase risk and should generally be borne by the private partner. A notable exception is preexisting contamination. When there has been an existing operation, the government usually accepts responsibility for preexisting environmental problems (for example, site contamination for a power plant or waste dump).

Environmental risks may also affect the O&M phase with increased management costs (for example, noncompliance with environmental legislation that is detected during operations or changes in environmental law). Social risks are related to issues of project-affected people.

While a detailed environmental and social impact assessment will be expected at the detailed design and engineering stage, it is recommended that an early-stage analysis of potential environmental and social impact issues should be undertaken during the preliminary analysis stage, preferably as per international performance standards (please refer to preliminary feasibility section).

In addition, there should be suitable contractual provisions to manage preexisting environmental and social risks, and any unexpected factors.

IV. PPP suitability

Value for money

A PPP represents value for money (VFM), implying cost savings enjoyed by the public sector on a whole-of-life-cycle basis. VFM would include qualitative and quantitative approaches to assess a range of project outcomes not only in terms of price, but also increased benefits to the end-users, greater certainty of the financial outcome, assets and services delivered at a specified level, and consideration of long-term service needs.

Drivers of VFM. Several qualitative factors contribute to VFM, including the following:

- Project scale: a large project can potentially lead to economies of scale.
- Longer project duration: provides an opportunity for the private sector to manage costs optimally and recoup its investments.
- Adequate integration of services: provides greater incentive for the private sector to have a longer-term view on service delivery, optimize costs, and benefit from efficiency gains. The idea is not to encourage full integration, but rather an adequate level of integration that optimizes the whole-of-life-cycle costs. For example, under the United Kingdom's Private Finance 2 (PF2), certain auxiliary services (soft services: cleaning, catering, pest control, laundry, and mail; other common services: information and communications services, telephony, receptionist, health, and safety) have now been excluded from PFI contracts on the grounds that they were being costed at rates much higher than what the public sector was procuring under traditional public procurement. Hence, the notion of an "adequate" level of integration as against full integration is understood to be more beneficial. More information on the United Kingdom's PF2 can be accessed at <https://www.gov.uk/government/publications/private-finance-2-pf2>.
- Opportunities for cost reduction: it is expected that the private sector has better asset management skills than the public sector and is well-incentivized to realize efficiency gains from operating assets.
- Opportunities for increasing revenue generation: it is expected that the private sector will have better marketing skills for efficiently increasing asset utilization/ asset realization by increasing the usage of the facility and also exploring alternative revenue sources.

Linking remuneration to the private sector to performance on measurable and verifiable outputs. Quantitative VFM analysis should seek to quantify the incremental net benefit over costs vis-à-vis private sector delivery and risk-adjusted public sector delivery. VFM compares the proportion of cost savings between a project that is delivered by the public sector, that is, a risk-adjusted public sector benchmark (PSB), with project delivery via a PPP. $VFM \% = (\text{cost of risk-adjusted PSB} - \text{cost of PPP}) / \text{cost of risk-adjusted PSB}$. The quantitative VFM assessment will need to be supported by assumptions that are realistic and reasonable. It is a good practice to benchmark assumptions and data for VFM analysis with outcomes on similar projects implemented in the past.

Scenario analysis for VFM. Given that there is high uncertainty in relation to basic assumptions, often practitioners conduct simulations and scenario analysis to generate different ranges of outcomes based on changes in assumptions, to examine whether there is VFM above the threshold VFM percentage in the stress case scenarios.

The threshold VFM percentage is the minimum expectation of the government below which the government would be neutral if the project was taken up for delivery by the public sector or the private partner. Usually, this reference VFM is taken as 10%.

The approach to structuring a project should be to look at an optimal VFM that the private sector can provide. These VFM solutions could emerge through permutations and combinations of project scope, the qualitative factors

mentioned above, and quantitative VFM analysis, without a bias toward a particular form of delivery.

Market appetite

An effective market sounding exercise provides an opportunity for a structured dialogue between the private and public sectors in the early stages of the PPP process. This not only tests the viability of the project's details, but also elicits feedback on how aspects of the project should be defined to ensure private sector participation and foster competition.

The prefeasibility exercise should capture the potential investor's perspective of the project, the private sector's value drivers, and the main financial and operational constraints companies might face during the provision of the infrastructure and services.

It can be assessed if the project is eligible for obtaining funding from multilaterals or an identified line of credit. Learning from similar projects executed in the past in the country can be used as guidance. In this process, valuable feedback can be obtained that may have important effects on the financial model, technical requirements, and preliminary contract structure.

V. Government's fiscal affordability

Extent and nature of government's fiscal support

Fiscal commitments for PPP projects are the government's obligations to make payments to the private sector, constituting the whole or part of the remuneration of the private party, a means to share risk, or a combination of the two. Typically, fiscal commitments may be required to: (1) make PPP projects viable, when economically viable projects are not financially viable at an affordable level of user charges alone, or where user charging may not be desirable or practical; and (2) achieve an appropriate risk allocation, by ensuring that each party bears the project risks they are best able to manage efficiently. Allocating too much risk to the private party may make it expensive or impossible to raise finance.

Unless these commitments are managed well, the potential advantages of a PPP can be eroded, and the government can risk building up significant fiscal exposure. On the one hand, uncertain payment obligations expose the government to fiscal risk that can create budgetary uncertainty and may put public debt on an unsustainable path. On the other hand, uncertainty among private partners as to whether the government will be able to honor its commitments promptly can undermine the VFM created by allocating risks well.

Fiscal commitments can take the form of direct or contingent liabilities. Direct liabilities or direct commitments are those where the need for payment is known. These could include an upfront capital payment or regular payments (such as availability payments or operational subsidies) over a specified period of the contract. Contingent liabilities or guarantees are those for which payment is needed only if some uncertain future event or circumstance occurs, so the occurrence, value, and timing of a payment may all be unknown when the government takes on the obligation. Collectively, they are termed as fiscal commitments and constitute a form of government support measures.

The process of analysis to assess the extent of fiscal support from the government would include the following:

- A preliminary feasibility study (PFS) would recommend that the project requires specified fiscal commitments to make it financially viable and potentially bankable.
- The PFS considers all options to increase efficiency in project scoping and that there is no further reduction possible, that is, to ascertain that the same level of service delivery needs cannot be met with a reduced scope and scale of the project.
- The PFS adequately examines all options to increase project revenues through user charges and/or third-party revenue sources that would be socially and economically acceptable to the users and the government.
- The PFS includes an independent assessment of market demand, including comprehensive justification of major assumptions and key findings, and the project revenues are considered realistic.
- The PFS considers all areas to optimize capital and operating costs, and establishes a strong case for their reasonableness.
- The PFS recommends optimal risk-sharing between the government, implementing agency and investor(s).
- The PFS concludes that the project is likely to be technically, legally, financially, environmentally, and socially feasible and bankable, with the desired level of fiscal commitments.

When a project goes into tender, the direct fiscal support required from the government is made the bid variable for the project, while keeping all the other project parameters fixed. This ensures that there is competitive pressure in market determination of government support in the project. For example, India's Viability Gap Financing (VGF) policy requires that the VGF support required for the project is the bid variable, and the bidder quoting the lowest VGF support is selected as the preferred bidder.

Quantification of fiscal support

With respect to direct commitments, the typical metrics include projections of multi-year payments and aggregations in terms of nominal and present value, computed at an appropriate discount rate (typically, the government's cost of funds).

Budgetary ceilings are limits on exposure to direct and indirect fiscal commitments to PPPs that governments impose to restrict their fiscal exposure to PPPs. Depending on the nature of the fiscal commitments that the government seeks to provide, different ceilings could be established. For example, if payments are in the form of cash subventions during the construction period or for a prespecified number of early years, the government could consider an absolute ceiling amount, specified in applicable currency over aggregate payments to be made for respective planning periods (this could be consistent with, say, a Medium-Term Expenditure Framework (MTEF) period of 3–5 years or a public investment planning period, which is usually 5–7 years) and subsequent periods, as applicable to the overall duration of the fiscal commitments tenure. Some governments prefer to limit annual payments to a percentage of government expenditure or an MTEF planning period (i.e., sum of annual payments \leq % of government expenditure over the same period).

In the case of guarantees or contingent liabilities (arising from nontermination events), some governments prefer placing a ceiling on maximum annual payments or maximum estimated annual payments linked as a percentage of

GDP (i.e., maximum estimated or absolute annual payment less than or equal to a percentage of GDP or as a percentage of government expenditure or public debt).

The fiscal significance has been defined as 0.25% of the nominal GDP. This input assumption can be changed based on the government's acceptance of risk exposure. Usually, any event that has a potential impact is considered as 0.5%; those exceeding 1% would be considered as high.

VI. Government's institutional ability

Institutional capacity

The institutional capacity of the government refers to the capacity of the contracting agency to develop and manage the project PPP. To develop a PPP successfully, the contracting agency needs to have personnel in its departments with the capability to manage a PPP, and available for deployment on the project on a dedicated basis. Departments with experience in executing PPPs would be at an obvious advantage, provided learnings from past PPPs have been incorporated in the current project and the right personnel have been chosen for the project.

The focal person for PPP refers to an officer from the department or an advisor appointed by the contracting authority to support them on the project PPP. It is expected that this person has capabilities in the area of PPPs and has executed similar projects in the past. This person may have an advisory role in the project or may be a senior officer with substantial decision-making powers to guide the process.

Appointing transaction advisors to manage the PPP process is a good practice. Transaction advisors conduct prefeasibility and feasibility studies, structure a project PPP, and support the contracting agency in the procurement process and thereafter in contract negotiations.

Preparedness of the contracting agency

Project preparedness is the amount of rigor put in by the contracting agency to think through the entire project development phase, leading to procurement of the private sector partner and signing of the contract.

At a high level, it could include a road map with timelines and identified responsibilities to manage the process. The plan should preferably include subplans for major project items like environment approvals, communication strategies and plans, social impact mitigation measures, and land acquisition. Adequate funding allocated to these activities also indicates a high level of preparedness and intent of the contracting agency to go ahead with the PPP procurement. The contracting agency should be aware of the licenses, permits, approvals, and so forth that are required for undertaking the project, and should identify the concerned departments/ agencies responsible for providing these permissions and approvals.

Project execution capability of the contracting agency

Project execution capabilities refer to the capability of the contracting agency to develop, operate, and maintain the project on its own through the normal procurement route. This indicates whether the agency has the full range of skills with the department to execute such projects. This is especially important in the context of social sector projects like hospitals, sports, and education facilities; contracting agency officers are mostly adept in operating these facilities, but lack skills in constructing them. Understanding the skill gaps, supplementing them through secondment from other departments, and appointing advisors would help in effective project execution.

6.5 Notes for Customization

Notes for customization

The PST is pre-calibrated based on international best practices. If desired, the user can customize the PST to incorporate country-specific requirements.

- There are nine levels of customization available to the user. The options range from selecting the prerequisite conditions and potential deal breakers to altering weights for parameters, sub-parameters, questions, ratios for qualitative and quantitative assessment, modifying threshold levels for overarching score constraints, and overall project score constraints.
- Customization can be done on (i) Admin and (ii) Data Analysis sheets.
- The user will need to unhide the sheets to undertake any customization.
- Instructions are provided below on the process for customization. Only the yellow-shaded cells in the sheets can be modified.
- The user may refer to the User Manual for the PST for detailed instructions on customization of the PST.

Level	Customization	Sheet	Location cell reference	Cells allowed for modification	Steps
1	Selecting applicable prerequisites	Administrator	B37:N40	N38:N40	Step 1: Unhide the Admin sheet Step 2: Go to the location cell reference Step 3: Select/unselect applicable prerequisites in the yellow-shaded cells allowed for modification
2	Selecting applicable potential deal breakers	Administrator	B41:N53	N41:N53	Step 1: Unhide the Admin sheet Step 2: Go to the location cell reference Step 3: Select/unselect applicable potential deal breakers in the yellow-shaded cells allowed for modification
3	Alter parameter weights	Administrator	B3:N34	F4, F9, F16, F25, F28, F31	Step 1: Unhide the Admin sheet Step 2: Go to the location cell reference Step 3: Uncheck

Level	Customization	Sheet	Location cell reference	Cells allowed for modification	Steps
					reset parameter weights Step 4: Apply parameter weights using the scroll bar in the yellow-shaded cells allowed for modification
4	Alter sub-parameter weights	Administrator	B3:N34	G5:G34 H5:H34	Step 1: Unhide the Admin sheet Step 2: Go to the location cell reference Step 3: Uncheck reset button for the sub-parameter Step 4: Apply sub-parameter weights by inputting values or using the scroll bar in the yellow-shaded cells allowed for modification
5	Alter threshold limits specified for overarching score constraints	Administrator	B56:N61	L59, M59:N61	Step 1: Unhide the Admin sheet Step 2: Go to the location cell reference Step 3: Input the desired lower limit in the single yellow-shaded cell Step 4: Input the desired upper limits in the yellow-shaded cells Step 5: Input the desired score constraints in the yellow-shaded cells
6	Alter threshold limits for constraining the overall project score	Administrator	B62:N65	L64, N64	Step 1: Unhide the Admin sheet Step 2: Go to the location cell reference Step 3: Input the desired threshold value in the yellow-shaded cell Step 4: Input the desired forced score in the yellow-shaded cell

Level	Customization	Sheet	Location cell reference	Cells allowed for modification	Steps
7	Alter threshold limits for constraining the score for specific parameters	Administrator	B66:N71	L68:L71	<p>Step 1: Unhide the Admin sheet</p> <p>Step 2: Go to the location cell reference</p> <p>Step 3: Input the desired threshold value in the yellow-shaded cell</p> <p>Step 4: Input the desired forced score in the yellow-shaded cell</p>
8	Alter complexity ratio weights	Data Analysis	H18:K16	J11:J16	<p>Step 1: Unhide the Data Analysis sheet</p> <p>Step 2: Go to the location cell reference</p> <p>Step 3: The complexity weights can be altered in the yellow-shaded cells allowed for modification</p>
9	Alter question-wise weights	Data Analysis	A10:A143	D11:D143	<p>Step 1: Unhide the Data Analysis sheet</p> <p>Step 2: Go to the location cell reference</p> <p>Step 3: The question weights can be modified in the yellow-shaded cells allowed for modification</p>

