आर्थिक कार्य विभाग
DEPARTMENT OF
ECONOMIC AFFAIRS

2024

OUTCOME REPORT: PPP STRUCTURING TOOLKIT

SOLID WASTE MANAGEMENT
18 - 19 JANUARY, 2024

PREPARED BY:
INFRASTRUCTURE FINANCE SECRETARIAT
MINISTRY OF FINANCE
GOVERNMENT OF INDIA

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1. Background and Objective of the workshop

1.1. Background of the Workshop

Infrastructure investment and economic development reciprocally influence each other. In other words, they are mutually causal. While infrastructure serves as a factor of production, it also drives Total Factor Productivity. Without adequate infrastructure development, sustained economic growth remains elusive.

According to the RBI Bulletin 2022, the infrastructure gap poses a significant challenge for India. Currently, infrastructure investment accounts for approximately 4.6% of GDP. However, if India were to invest around 6% of GDP in infrastructure, it could achieve a GDP level of US $ 7.5 trillion by 2030, effectively closing the infrastructure gap. This is also consistent with our target of becoming a US$ 5 trillion economy by 2027[1].

The Union Budget FY22 witnessed a capital outlay of Rs 5.54 lakh crore, a substantial 34.5% increase compared to FY21. Furthermore, the capex allocation surged by an additional 35% to 7.54 lakh crore in FY23. With various grants supporting capital expenditure, the Central Government's 'Effective Capital Expenditure' exceeded Rs. 10 lakh crore in 2022-23.

In pursuit of faster infrastructure development and improved public service delivery, the Government of India views the private sector as a vital partner. The emphasis lies on enhancing the Public Private Partnership (PPP) ecosystem through collaborative efforts. Recently, the stakeholder workshop titled "PPP Structuring Toolkit for Solid Waste Management Sector" was organized by the Infrastructure Finance Secretariat (IFS), Department of Economic Affairs (DEA), Ministry of Finance (MoF). The workshop specifically aimed to develop a robust pipeline of solid waste management projects using the web-based PPP Structuring Toolkit.

The objective of the workshop was to connect and collaborate with the stakeholders within the PSAs, over a two-day workshop and to listen to their views/ suggestions and the issues while implementing PPP projects. The event was attended by 90+ participants from public and private sector institutions.

The workshop was organised at the SCOPE Complex in New Delhi, on 18th – 19th January 2024. The workshop commenced with an inaugural session by Joint Secretary, DEA Shri Baldeo Purushartha, followed by walk through of the PPP structuring toolkit for the sector. The participants completed a case study using the web-based toolkit.

The Toolkits are available for use by PPP professionals across India on www.pppinindia.gov.in. It currently covers four sectors – Road & Highway, Water and Sanitation, Port and Solid Waste Management respectively.

The Workshop was intended towards awareness building and guidance to use on these toolkits.

About toolkits

The section below briefly discusses various tools of the toolkit discussed during the workshop.

The Toolkit assists the PPP practitioners at all key stages of the PPP project cycle and improve the quality of the PPPs that are being developed. It facilitates identification,

[1] https://m.rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=21203

assessment, development, procurement and monitoring of PPP projects. The toolkit is structured to cover the full life cycle of PPP projects. The Toolkit contains the following 5 tools to strengthen decision-making for PPPs:

- **Suitability filter:** This is the key tool to test whether the project is suitable to be developed on PPP basis. It tests for qualitative factors that have an impact on the ease or challenges of developing a project on PPP basis. It provides **Go/ No Go** decision for the project to be implemented on PPP. This tool also acts a preliminary qualitative value for money tool.
- **Family indicator:** Family indicator tools help to identify the appropriate PPP family that the project may be best fit. The tool uses a decision tree to assist the PSA in identifying the PPP family.
- **Mode validation:** The mode validation is based on the risk profile of the project.
- **Financial viability indicator**: Financial viability indicator evaluates the viability of the project with returns on various PPP modes.
- **Value for money indicator:** VFM tool helps to examine whether the project provides for value for money if structured as a PPP project.

Contingent liability toolkit was also presented in the workshop. The toolkit has been developed to assist Project Sponsoring Authorities (PSAs) in assessing the amount of financial liability arising from a PPP project. It is also expected to aid PSAs in making informed decisions regarding the financial payout to Concessionaire as a result of occurrence of unforeseen events.

1.2. Workshop Objectives

The workshop was meticulously organized to serve as a platform for guiding participants through the PPP structuring toolkit and Contingent Liability toolkit. Additionally, it offered an opportunity to highlight the various guidance materials developed by the Department of Economic Affairs (DEA), Ministry of Finance, Government of India. This workshop marked the second in a series, with the specific goal of raising awareness, enhancing usability, and providing clear direction to Project Sponsoring Authorities and their officials on how to maximize the use of these toolkits in developing PPP Projects.

The workshop also provided an opportunity to the participants to develop a project based on a case study of **Solid Waste Management sector** using the tools of the toolkit. It gave participants hands on experience to learn the use of the toolkit. At the same time, the workshop also provided an excellent opportunity to seek suggestions for improvements in the toolkits.

A total of **380** user logins have been created for the PPP Structuring toolkit as of 31 Jan 2024.

2. Summary of the workshop

2.1. Workshop Schedule

The detailed agenda of the workshop is provided below:

Day	Timing	Details	Presenter
Day 1	1000 – 1030	Registration & Tea	
	1030 - 1045	Welcome Address	Ms. Preeti Jain, Director, DEA
	1045 – 1100	Inaugural Address	Shri Baldeo Purushartha, Joint Secretary, DEA
	1100 – 1130	Introduction of the participants, their expectation from the workshop	Participants
	1130 – 1215	Introduction of PPP structuring toolkit (Objectives, sectoral coverage, modules etc.)	Ms. Arya B Kumari, Joint Director, ISD, DEA
Session I	1215 – 1245	Walkthrough of Tool 1: Suitability filter	Ms. Puja Sharma, PPP Expert, ADB Consultant
	1245 – 1315	Case study	Ms. Puja Sharma PPP Expert, ADB Consultant
	1315 – 1400	Lunch Break	
Session II	1400 – 1500	Walkthrough of the Tool 2: Family mode and Tool 3: Mode selection tool	Ms. Puja Sharma PPP Expert, ADB Consultant
	1500 – 1530	Case study	Ms. Puja Sharma, PPP Expert, ADB Consultant
Session III	1530 – 1600	Financial Viability Indicator Tool	Ms. Puja Sharma, PPP Expert, ADB Consultant
	1600 – 1630	Tea Break	

Day	Timing	Details	Presenter
	1630 – 1700	Q & A session	
Day 2	0930 – 1000	Tea	
Session III	1000 – 1130	Financial Viability indicator tool	Ms. Puja Sharma, PPP Expert, ADB Consultant
	1130 – 1230	Case Study	Ms. Puja Sharma, PPP Expert, ADB Consultant
	1230 – 1330	Lunch Break	
Session IV	1330 – 1400	Value for money indicator tool	Ms. Puja Sharma, PPP Expert, ADB Consultant
Session V	1400 – 1545	Contingent liability toolkit	Ms. Nikita Chhabra, KPMG, Consultant
	1545 – 1615	Tea	
	1615 – 1630	Q & A session	
	1630 – 1645	Vote of thanks and next steps	Ms. Arya Balan, Joint Director, ISD, DEA

The Workshop was inaugurated by Joint Secretary DEA, Shri Baldeo Purushartha with a welcome address and context setting note delivered by the Ms. Preeti Jain, Director, Infrastructure Support and Development (ISD) Division, DEA in which she highlighted the potential in PPPs and the importance of structuring of the projects before it is sent for appraisal and approval to various stakeholders.

Figure 1:*Welcome Address by Ms. Preeti Jain, Director, DEA*

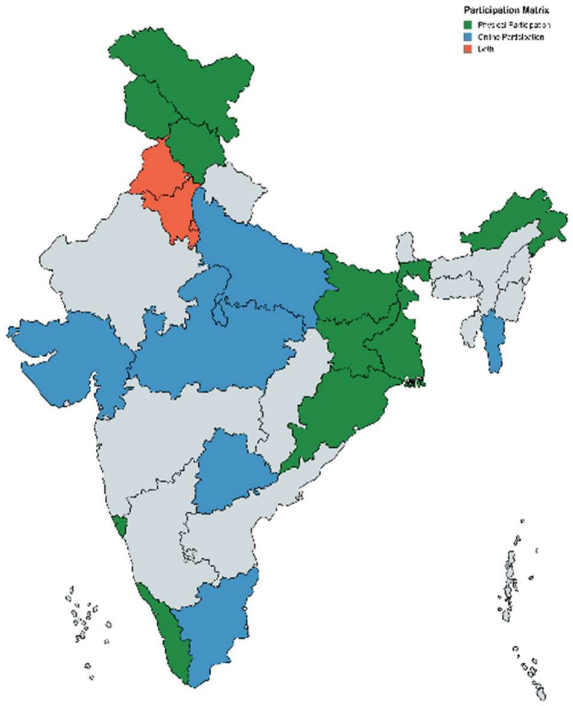
2.2. Coverage of the workshop

The workshop was attended by officers of PSA who are associated with the Solid Waste Management sector. The Workshop witnessed active participation of more than **85 participants** through hybrid mode from Central Infrastructure Line Ministries and Departments including MOHUA, NITI Aayog, Department of Expenditure, Department of Drinking Water and Sanitation, Ministry of Port and Shipping, and Centre for Science and Environment. 19 States and UT including Bihar, Jharkhand, Odisha, Jammu & Kashmir,

Telangana, Mizoram, Gujarat, Andhra Pradesh, Delhi, Arunachal Pradesh, Kerala, Ladakh, Uttarakhand, Karnataka, Madhya Pradesh, West Bengal and Uttar Pradesh participated in the workshop.

The detailed list of participants, both online and offline is given in **Annexure B**.

Figure 2: Participation Matrix



2.3. Suggestions & feedback from participants

Each session was followed by a Q&A session, where both online and physical participants

shared their experiences with PPP projects, toolkits and extended suggestions to enhance the utility and awareness about the toolkits. At the end of workshop on January 19, 2024, an online feedback form was circulated to all participants to seek their feedback related to all sessions of the workshop. Feedback was sought with respect to the content, quality of delivery, satisfaction level, etc. aspects of the workshop. As on 25 January, a total of 31 responses have been received.

Subsequent section highlights the feedback received from the participants. The feedback was sought on the scale of 1 to 5 where 1 indicate low score and 5 indicate highest score as mentioned below:

1= Poor

2= Needs improvement

3= Effective

4= Very Effective

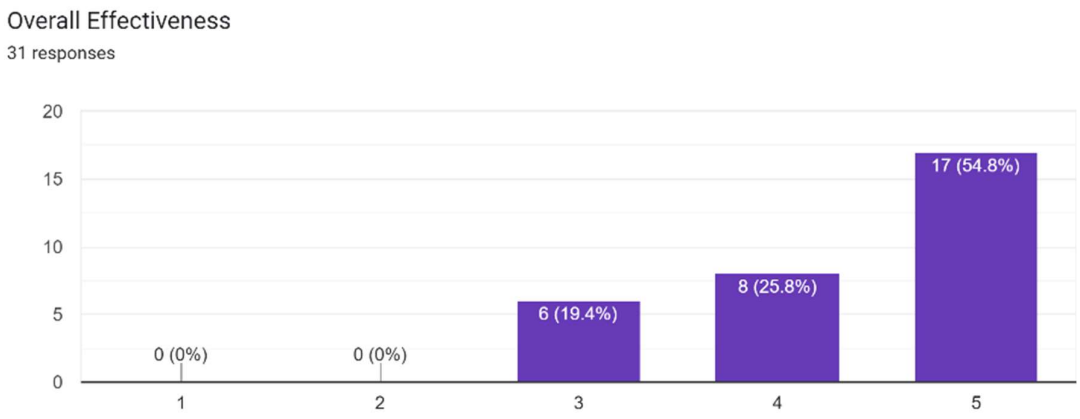
5= Excellent

Summary of the feedback is presented in the following section.

2.3.1. Overall feedback on the workshop

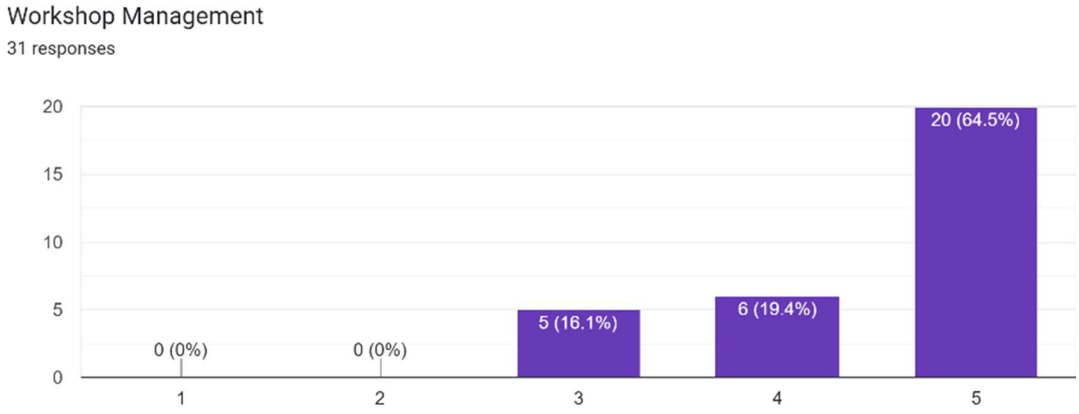
Figure 1 and Figure 2 below highlights the 'Level of satisfaction of participants' and 'Interest for participating in similar workshops in future'.

Figure 3: Scoring on overall effectiveness of the workshop



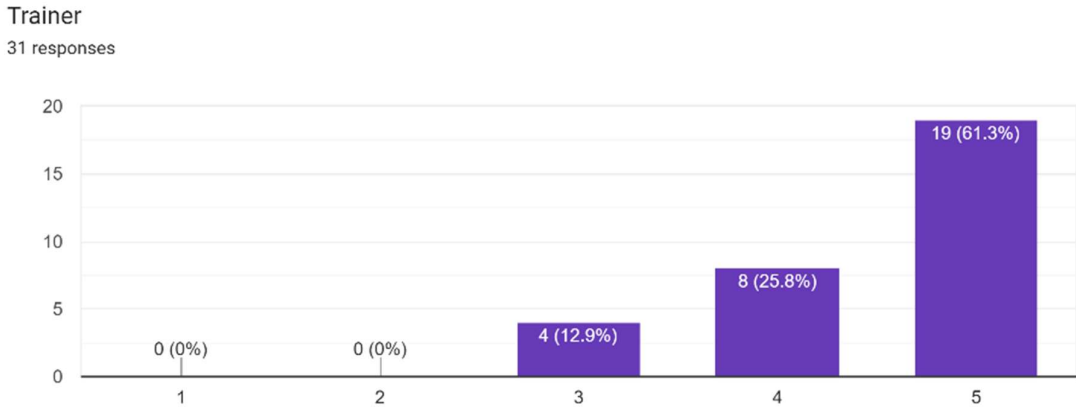
Workshop was rated effective by the respondents. The participants also provided feedback to have more such workshops in the states and choose the participants from the field.

Figure 4: Overall workshop managment feedback



The participants rated overall management of the workshop on a rating of 4 or 5 indicating that participants found the workshop and related infrastructure conducive and useful.

Figure 5: Feedback on trainier



~97% of the participants rated the trainer's effectiveness and delivery on a scale of 4 and 5. They were satisfied with the speed, content and delivery aspect of the trainer.

Figure 6: Feeback on contextual relevance

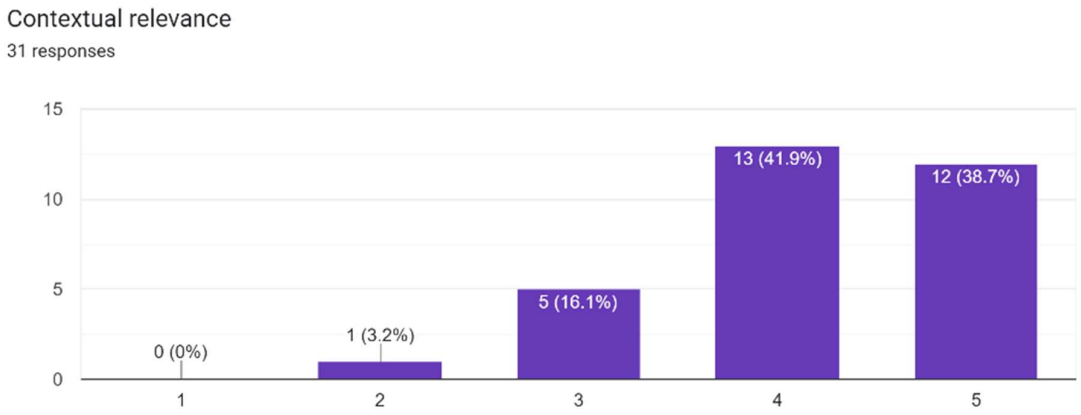
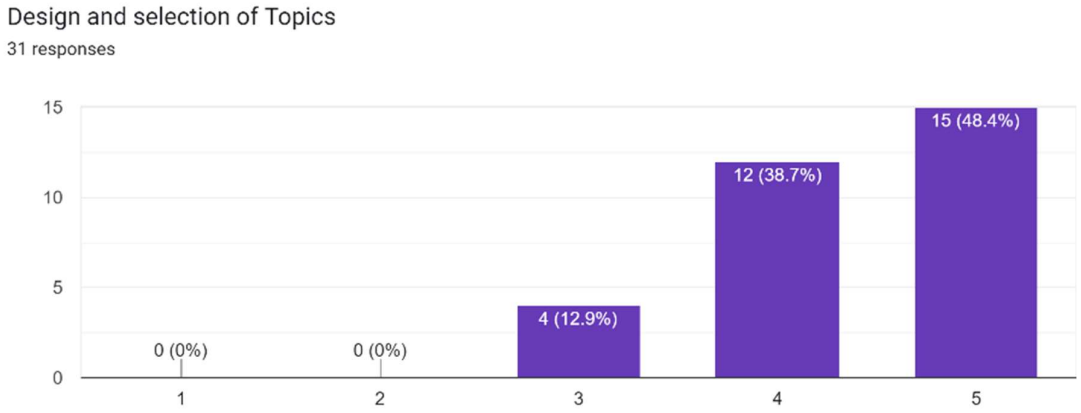
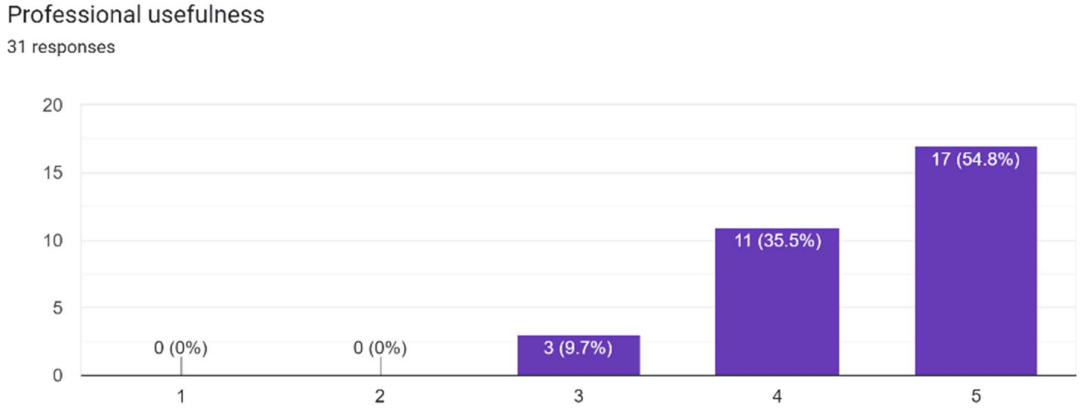


Figure 7: Design and selection of Topics



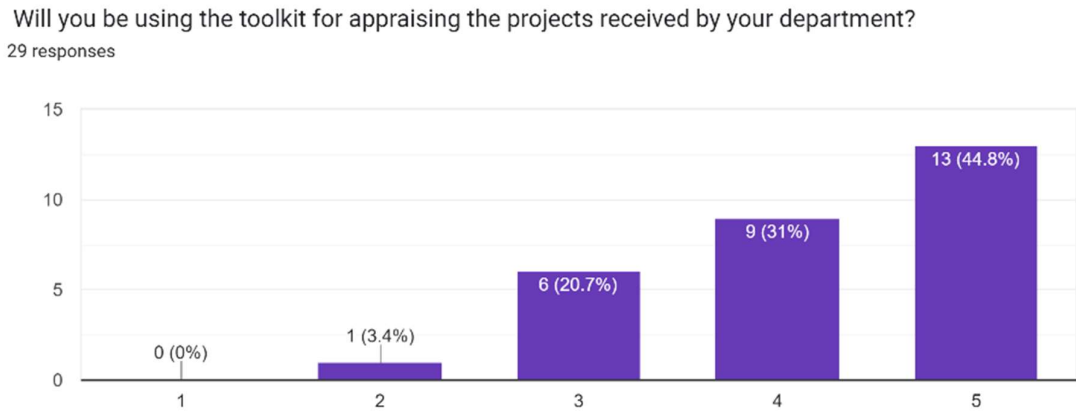
All the respondents to the feedback survey were satisfied with the contents of the workshop. They found it relevant and in line with their work.

Figure 8: Professional usage of toolkit feedback



All the respondents found the content to be useful in their profession. 90% of respondents rated the workshop content on a scale of 4 and 5 for their professional usage.

Figure 9: Feedback on using toolkit for project appraisal

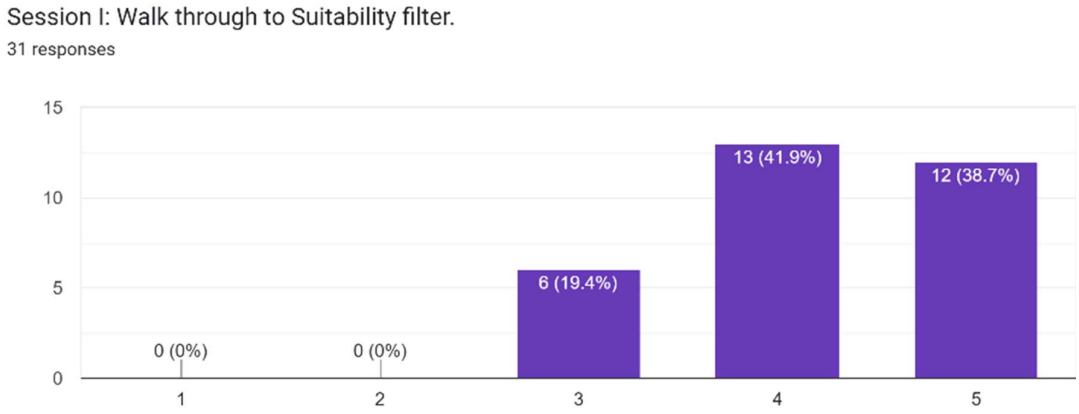


Respondents were keen on using the toolkit to appraise the projects in their departments using the toolkits as a resource available to them.

2.3.2. Feedback on individual sessions

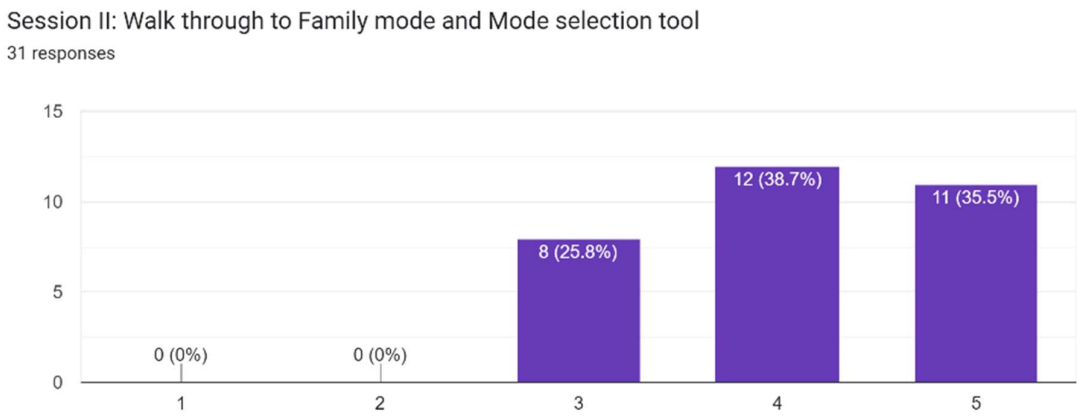
The participants were requested to share the feedback on four critical aspects of each of the session. The section below highlights the feedback.

Figure 10: Suitability Filter tool



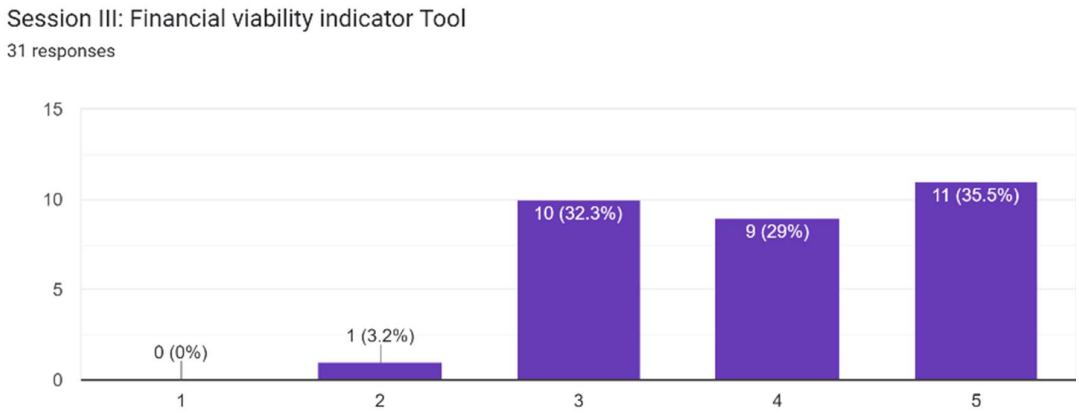
All the respondents rated the session I between 3 to 5 scale. They rated the session as very effective.

Figure 11: Family Indicator & Mode validation tool



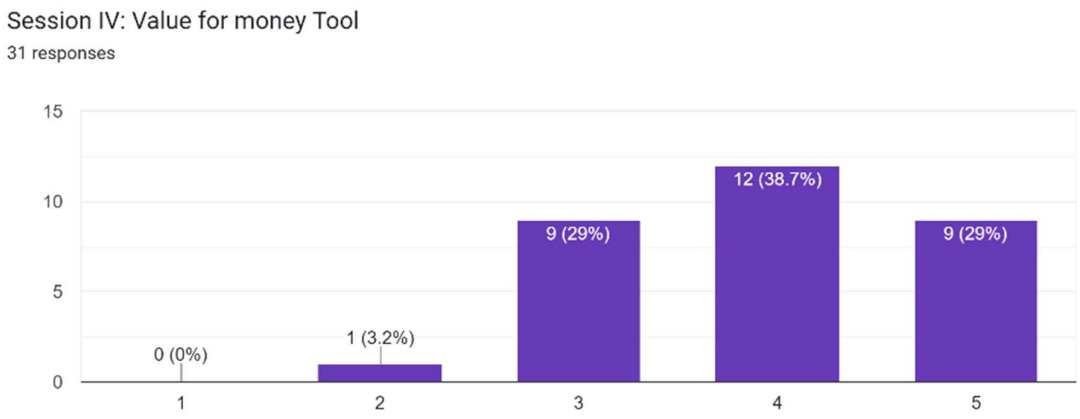
All the respondents rated the session II between 4 and 5 scale. They rated the session as effective and liked the quality of delivery of the session.

Figure 12: Financial viability indicator tool



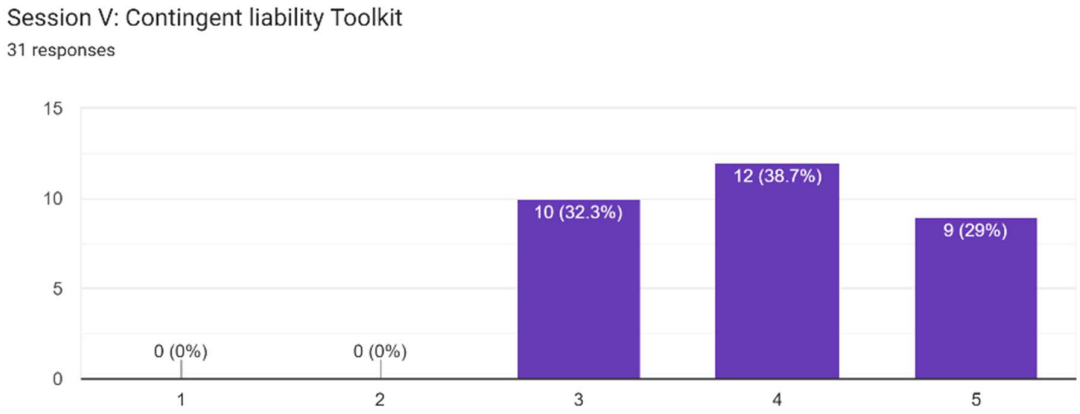
~96% respondents were extremely satisfied with the case study used to learn the financial viability tool.

Figure 13: Value for money indicator tool



~95% respondents were extremely satisfied with the learning of Value for money indicator tool.

Figure 14: Feedback on Contingent liability tool



~96%+ respondent was satisfied with the delivery and understanding of the Contingent Liability Toolkit. They have rated the session on a scale of 3 to 5 respectively.

2.4. Key Takeaways and Feedback received

Some of the key takeaways and feedback received from participants during the workshop and through

feedback form are as follows:

- Use of Structuring Toolkit
- Need of PPP project & it's benefits
- How to make primary evaluation using suitability toolkit
- Understood Project feasibility(financial) to attract investors.
- Financial aspect needs to take care of before bringing private sector on board.

- An Overview of Indicators weightage to given while assessing the PPP in waste management.
- Better understanding of PPP Project Structuring, further knowledge resources, understanding of PPP contingent toolkit
- Importance of toolkit in project development
- The workshop enhanced participants' understanding of PPP model systems and toolkits, providing valuable tools for selecting projects and measuring both physical and financial

Figure 15: Key Takeaways & Feedback

- The workshop is well designed to understand how the PPP model can work successfully for solid waste projects and the toolkit will help to countercheck the work of TA.
- Understanding DEA initiatives and Implementation of Government Schemes through PPP Mode, Support in Tendering Process

2.5. Suggestion for improvement

Some of the key suggestions received from participants during the workshop and through feedback form are as follows:

- **More case studies** from States and using their information in the Toolkit.
- **Extend the coverage of PPP toolkits for other sectors**: Participant requested that these tools should be customised and extended for other sectors and sub-sectors also such as hydel sector project
- Workshop should have **One more day** to get more exercise on case studies.
- **Frequent workshops should be conducted to impart such good things**
- **More hands-on training using Excel sheet**. Financial viability tool could have been more elaborate.
- **Allocate more time** to Financial Viability module.
- **Include Construction & Demolition** module.

2.6. Vote of Thanks

The workshop was concluded with Vote of Thanks from Ms. Arya Balan Kumari, Joint Director, Department of Economic Affairs, Ministry of Finance, Government of India. On behalf of Private Investment Unit (PIU) - DEA, Ms. Balan thanked to honourable Joint Secretary, Shri Baldeo Purushartha, who had taken time out of their busy schedule to inaugurate and contribute to the workshop and being the driving force behind development of these toolkits. Ms. Balan thanked Consultant Ms. Puja Sharma for her contribution in the revamping the PPP Structuring toolkit. She also thanked Ms. Nikita Chhabra for presenting the Contingent Liability toolkit. She also expressed her gratitude and well wishes to all the participants joining physical and virtually from various central ministries, state departments, Public Sector Undertakings, etc. for their active participation and contributions to the discussions. Ms. Balan acknowledged and appreciated the feedback and the suggestions from the participants and indicated that DEA is already in process of incorporating many of the suggestions and feedback received.

Ms. Balan concluded the workshop highlighting that DEA will continue to organise a pipeline of workshops which could support government institutions in improving their decision making for PPP projects and expect better usage of these toolkits.

Appendix A **– Snapshots of the workshop**

Following is the glimpse of the workshop:

Figure 16: Joint Secretary, Shri Baldeo Purushartha lighting the lamp

Figure 17: Inaugral Address by Joint Secretary DEA, Shri Baldeo Purushartha

Figure 18: Day 1 Ms. Balan presenting Overview of PPP structuring toolkit

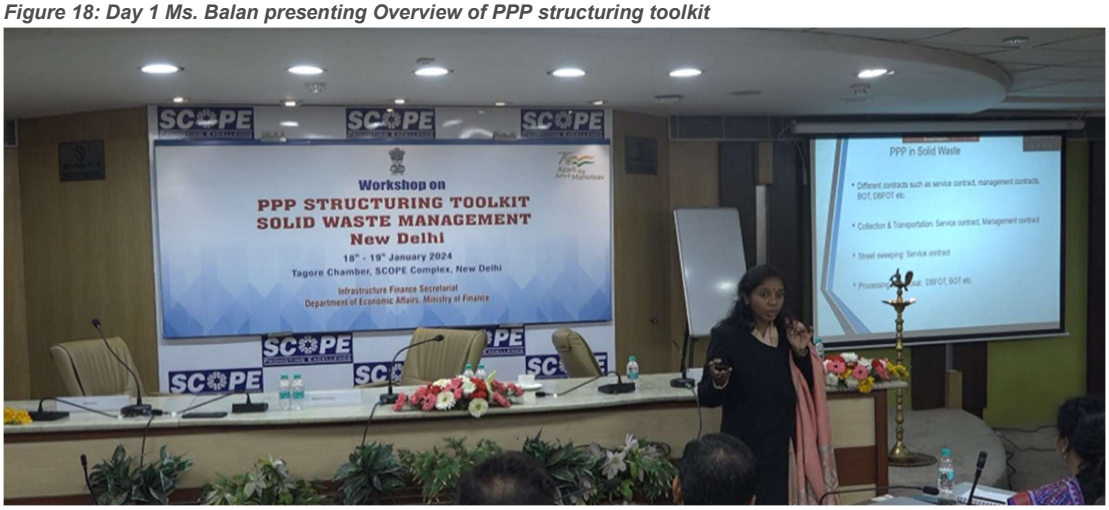


Figure 19: Day 1 Presentation by Dr. Himanshu Chaturvedi, NITI Aayog on SWM MCA

Figure 20: Day 1 Session I presentation by Ms. Puja Sharma

Figure 21: Day 2 Session III presentation by Ms. Puja Sharma

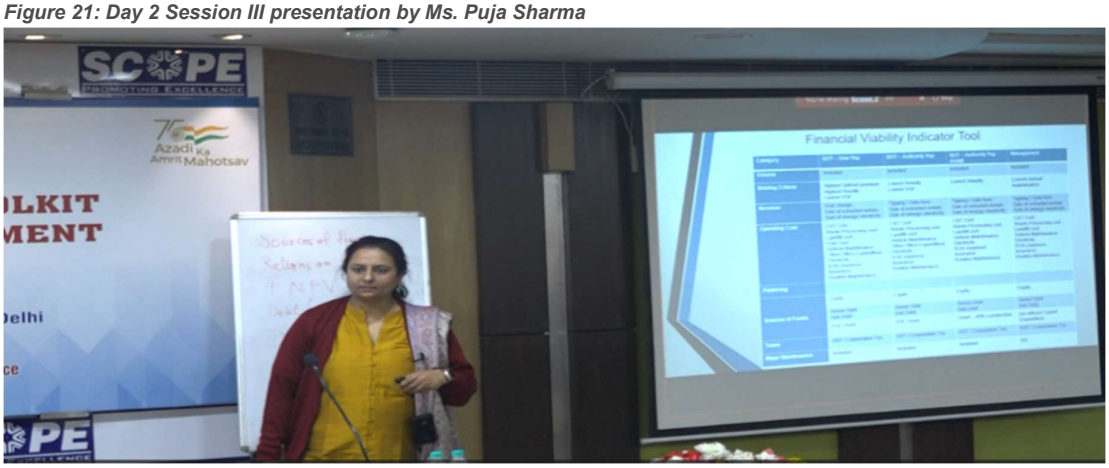


Figure 22: Day 2 Experience sharing by Shri Levinson J Martins from Goa Waste Management Corporation

Figure 23: Day 2 Ms. Nikita Chhabra presenting Contingent liability toolkit

Figure 24: Deputy Director, Dr. Kartik Agrawal presenting VGF, IIPDF and other schemes of DEA

Figure 25: Participants' interactions

Appendix B – **Participants List**

List of Physical participants			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from Department of Economic Affairs			
1.	Ms. Preeti Jain	Director	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
2.	Shri Manoj Kumar Madholia	Joint Director	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
3.	Shri R Shiva Kumar	Deputy Secretary	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
4.	Dr. Kartik Agrawal	Deputy Director	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
5.	Ms. Arya Balan Kumari	Joint Director	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
6.	Shri Madhav Jha	Section Officer	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
7.	Shri Rajender Singh	Section Officer	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
8.	Ms. Puja Sharma	Consultant, PPP Expert	Asian Development Bank
9.	Shri Haider Saikh	Consultant, Finance Expert	Asian Development Bank
10.	Shri Dhruv Rohatgi	OSD	Infrastructure Support and Development Division (ISD),

List of Physical participants			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from Department of Economic Affairs			
			Department of Economic Affairs (DEA), Ministry of Finance
11.	Shri Gaurav Jumrani	Consultant	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
12.	Ms. Nikita Chhabra	Consultant	KPMG
13.	Shri Amritesh Bhaskar	Consultant	KPMG
14.	Shri Shubham Varun	Stenographer	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
15.	Shri Anurag Choudhary	DEO	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance
16.	Shri Anup Kumar	MTS	Infrastructure Support and Development Division (ISD), Department of Economic Affairs (DEA), Ministry of Finance

List of Physical participants - PSA			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from States/ Line Ministries			
17.	Shri Taring Darang	Chief Engineer	Urban Development and Housing, Arunachal Pradesh
18.	Shri Anand Kumar	Consultant, SBM – G	Rural Development Department, Bihar
19.	Shri Prabhat Ranjan	Manager M&E	Rural Development Department, Bihar
20.	Ms. Arunava Dey	Research Officer	NITI Aayog
21.	Dr. Himanshu Chaturvedi	Technical Director – SWM Expert	MOHUA

List of Physical participants - PSA			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from States/ Line Ministries			
22.	Shri Kaifee Jawed	Programme officer	Centre for Science and Environment
23.	Shri M I Siddique	Assistant Environmental Engineer	Delhi Pollution Control committee
24.	Shri Magan Lal	Under Secretary	Dept of Drinking water & Sanitation
25.	Shri Manish Kumar Yadav	Under Secretary	Ministry of Ports, Shipping and Waterways
26.	Shri Mohd Zubair Ali Hashmi	Director	NITI Aayog
27.	Shri Levinson J Martins	Director	Science & Technology and Waste Management, Goa
28.	Shri Shashank Dessai	Asst. Manager	Goas Waste Management Corporation, Goa
29.	Shri Mukesh Gupta	HOD (Engineering)	Haryana State Industrial and Infrastructure Development Corporation Limited
30.	Shri Virender Kadyan	Asst. General Manager	Haryana State Industrial and Infrastructure Development Corporation Limited
31.	Shri Arun Kumar Verma	Sanitary Inspector	Municipal Corporation, Shimla, Himachal Pradesh
32.	Shri Rajnish Brar	Sanitary Inspector	Municipal Corporation, Shimla, Himachal Pradesh
33.	Shri Ravi Raj Sharma	Municipal Commissioner	Dhanbad Municipal Corporation, Jharkhand
34.	Ms. Ganga R S	Director (SWM)	Local Self Government Department, Kerala
35.	Ms. Gopika Udayan	Under Secretary	Local Self Government Department, Kerala
36.	Shri Tsewang Gyalson	Chief Planning Officer	Ladakh Autonomous Hill Development Council
37.	Shri Stanzin Rabgais	Executive Officer	Ladakh Autonomous Hill Development Council
38.	Ms. Yamini Sarangi	Director Cum Special Secretary	Directorate of PPP, Finance Department, Odisha
39.	Shri Charandeep Singh	Executive Engineer	Water Supply and Sanitation, Punjab
40.	Dr. Varinder Kaur	SWM Expert	Municipal Corporation SAS Nagar, Mohali, Punjab
41.	Ms. Jasmine Sidhu	Project Associate	Punjab Municipal Infrastructure Development Company

List of Physical participants - PSA			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from States/ Line Ministries			
42.	Shri Shaminder Singh	Executive Engineer	Water Supply and Sanitation Punjab
43.	Ms. Amrita Singh	Officer on Special Duty	Finance Department, PPP Cell, West Bengal
44.	Shri Anil Shukla	Joint Secretary	Finance Department, PPP Cell, West Bengal
45.	Shri Tarun Rajvanshi	Consultant	MOHUA
46.	Shri Vikramaditya Singh	Consultant	Department of Drinking Water and Sanitation
47.	Shri K Sravanthi	Assistant Adviser, CPHEEO	MOHUA
48.	Shri Ankit Jain	Assistant Adviser, CPHEEO	MOHUA
49.	Shri Kamlesh Tufali	Chief Engineer	Jammu Municipal Corporation
50.	Shri Rajesh S	CCF	Govt of Arunachal Pradesh
51.	Shri Pradeep Kumar	Deputy CEO	Haryana
52.	Ms. Anjula Negi	Consultant	World Bank

List of Online participants - PSA			
S. No.	Full Name of Participant	Designation	Name of the Organization/Firm
Participants from States/ Line Ministries			
53.	Shri Arunachalam M	Consultant	Tamil Nadu Infrastructure Development Board
54.	Ms. C Bhanusri		Greater Hyderabad Municipal Corporation
55.	Ms. Debmalya		KPMG
56.	Shri Dharmesh Rana	HOD	Vadodara Municipal Corporation
57.	Shri Hardik Gamdha	Environmental Engineer	Vadodara Municipal Corporation
58.	Shri Kahsyap Shah	Solid Waste Manager	Vadodara Municipal Corporation
59.	Shri Chetram Koli	Consultant, HEAD – PMU	Department of Higher Education, Ministry of Education

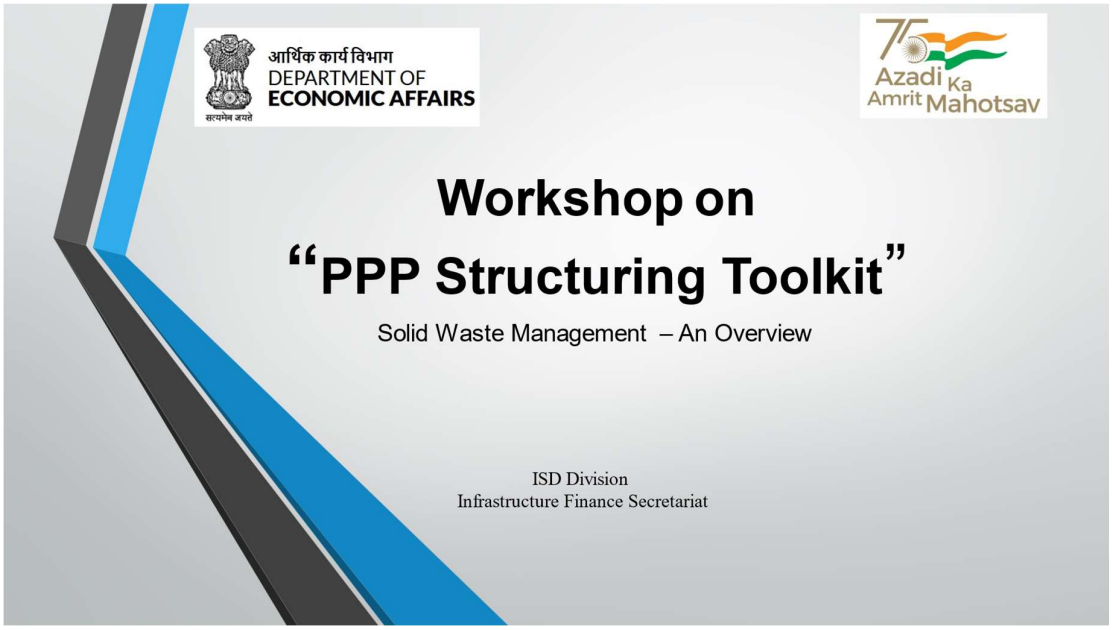
List of Physical participants - PSA			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from States/ Line Ministries			
60.	Shri Perumallapalli Praveen	Asstt Engineer	Chennai
61.	Shri M. Koteswara Rao	Superintending Engineer	Greater Hyderabad Municipal Corporation
62.	Shri Aftab Hanifee	Assistant Engineer	Greater Hyderabad Municipal Corporation
63.	Shri Shivpratap Singh Baghel	Account Officer	Directorate of Institutional Finance
64.	Ms. Vandana Dixit	Jr Account Officer	Directorate of Institutional Finance
65.	Ms. Kasha Bhavani	DZM(E)	Telangana State Industrial Infrastructure Corporation
66.	Shri Satyananda Sarangi	Under Secretary	PPP Cell, Finance Department, Odisha
67.	Ms. Rupali Rathore	PPP Expert	SBM directorate, UP
68.	Shri Abhishek Kumar	Assistant Engineer	Nagar Nigam Moradabad
69.	Shri Pramod Kumar	Additional Municipal Commissioner	Meerut Municipal Corporation
70.	Shri Bhuwan Sharma	HAS	Municipal Corporation, Shimla
71.	Dr. Mithlesh Kumar	Municipal Health officer /SBM Nodal	Ghaziabad Municipal Corporation
72.	Shri Prateek Mishra	Consultant	Kanpur Municipal Corporation
73.	Dr. Abhishek Parasai	Team Leader, S.B.M-P.M.U	Kanpur Municipal Corporation
74.	Shri Rishabh Kant Dubey	Sanitation Expert	Swachh Bharat Mission
75.	Shri Pankaj Bhushan	Environment Engineer	Agra Municipal Corporation
76.	Shri Ajay Kumar Saksena	Executive Engineer	Transport Department Varanasi Nagar Nigam
77.	Shri Manoj Kumar Mishra	Nagar Swasthya Adhikari	Urban Development Department, Shahjahanpur
78.	Shri Mohd Saif Akhtar Siddiqui	DPM SBM Urban	Urban Development Department, Shahjahanpur
79.	Shri Ashish Trivedi	Executive Engineer Civil	Urban Development Department, Shahjahanpur
80.	Ms. Ratn Priya	Ass Municipal Commissioner	Municipal Corporation Prayagraj
81.	Shri Uttam Kumar Verma	Environment Engineer	Municipal Corporation Prayagraj

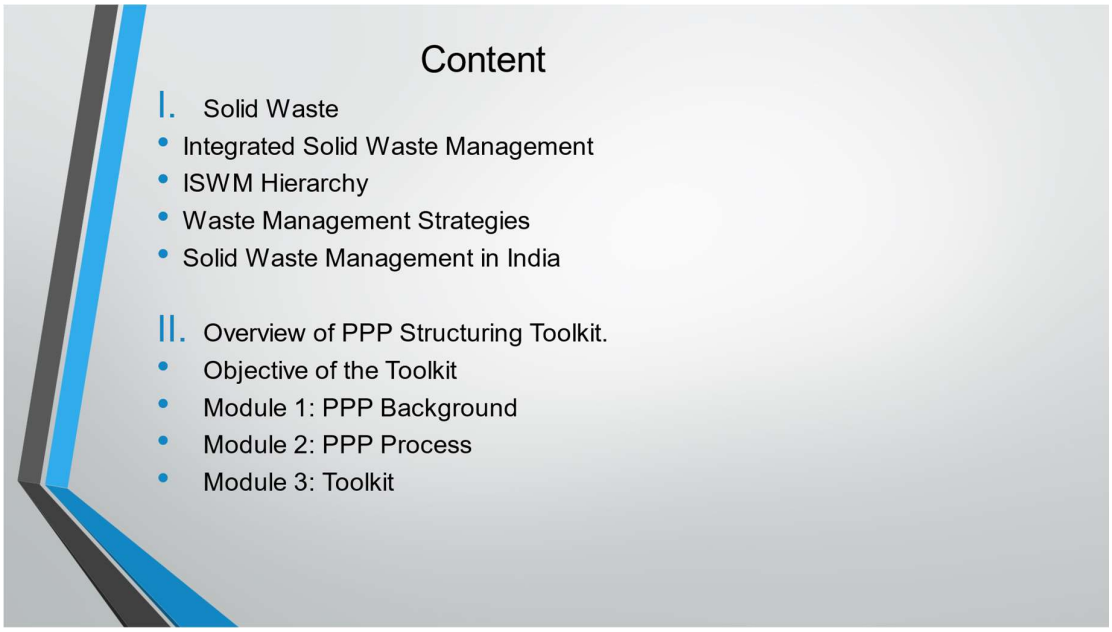
List of Physical participants - PSA			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from States/ Line Ministries			
82.	Shri Sanjeev Pradhan	Environmental Engineer	Lucknow Municipal Corporation
83.	Shree Ajeet Kumar	Executive Engineer	Municipal Corporation Prayagraj
84.	Shree Vibhor Kumar	Junior Engineer	Nagar Nigam Firozabad
85.	Shri Abhay Sonker	Junior Engineer	Nagar Nigam Gorakhpur
86.	Shri N K Chaudhary	Chief Engineer	Municipal Corporation Ghaziabad
87.	Shri Sanjay Chandra	Food and Sanitary inspector	Jhansi Nagar Nigam
88.	Shri Anoop Sahu	Food and Sanitary inspector	Jhansi Nagar Nigam
89.	Shri Sukhdeep Kaur	Scientist	DST- Centre for Policy Research, Panjab University, Chandigarh
90.	Ms. Nishika	Project Associate	DST- Centre for Policy Research, Panjab University, Chandigarh
91.	Shri Z.R Thasangzuala	Executive Engineer	Public Health Engineering Department , Mizoram
92.	Shri V. Laldanmawia	Executive Engineer	Public Health Engineering Department , Mizoram
93.	Shri Gurjeet Singh	IEC&CB Expert	Punjab Municipal Infrastructure development company
94.	Ms. Anjali	MIS Expert	Punjab Municipal Infrastructure development company
95.	Ms. Manisha Sharma	State Rural Sanitation Manager	Department of Rural Development and Panchayati Raj, Punjab
96.	Ms. Shubhangi Singh	Liquid Waste Manager	Department of Rural Development and Panchayati Raj, Punjab
97.	Shri Vishal Sharma	Sub Divisional Engineer	Municipal Corporation Chandigarh
98.	Er. Rajeev kr.Rathi	Environment Engineer	Bareilly Nagar Nigam
99.	Shri Ilayaraja JH		Greater Chennai Corporation
100.	Shri Pavan		Tamil Nadu Infrastructure Development Board

List of Physical participants - PSA			
S. No.	**Full Name of Participant**	**Designation**	**Name of the Organization/Firm**
Participants from States/ Line Ministries			
101.	Shri Sanjay Chandra		Jhansi Nagar Nigam
102.	Shri Rakesh Kuma Sahu		Jhansi Nagar Nigam
103.	Shri Utsav Sharma	Environmental Engineer	UP Pollution Control Board
104.	Officials of		Nagar Nigam Moradabad
105.	Officials of		Nagar Nigam Mathura Vrindavan
Private Participants			
106.	Ms. K.B. Anitthaasree	Student	Chennai

Appendix C – **Presentation on PPP structuring toolkit and Contingent liability toolkit**

- **Presentation of PPP structuring toolkit**





What is solid waste?

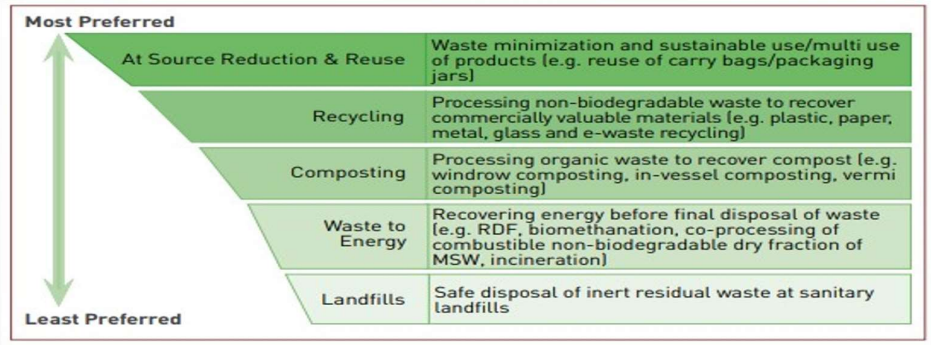
- **According to WHO**, "solid waste refers to any type of garbage, trash, refuse or discarded material".
- Based on the source of its generation, solid waste can be called as municipal solid waste, health waste, e-waste etc.
- **SDG indicator 11.6.1 meta data** targets by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

Integrated Solid Waste Management

- 4 aspects of SWM: Collection, Transportation, Processing & Disposal.
- Integrated Solid Waste Management is a strategic approach to manage municipal solid waste in a sustainable manner by considering all aspects of MSWM, such as generation, transfer, sorting, treatment, recovery, in a integrated manner.
- 3 R approach: Reduce, Reuse, Recycle

ISWM Hierarchy

Integrated solid waste management provides a waste management hierarchy based on their efficiency .



Waste Management Strategies

Waste Management Strategy	Details
Recycling & Recovery	Recycling is the process of transforming segregated solid waste into a new product or a raw material for producing new products.
Composting	Composting is a process of controlled decomposition of the organic waste, typically in aerobic conditions, resulting in the production of stable humus-like product, i.e., compost
Waste to Energy	Waste to energy (WtE) refers to the process of generating energy in the form of heat or electricity from MSW. (RDF, Biomethenation)
Sanitary Landfills	Landfill is a site for the disposal of waste materials. Landfills are the oldest and most common form of waste disposal. ``Non-hazardous waste, inert etc.

Composting

- This is the third preferred strategy in SWM hierarchy.
- Composting is a biological process of stabilizing biomass either in the presence or absence of free oxygen, carried out by a host of microbes.
- Technologies include windrow composting, in -vessel composting, vermi-composting etc.
- Windrow composting process consists of placing the pre -sorted feedstock in long narrow piles called windrows that are turned on a regular basis for boosting passive aeration.

Waste to Energy

- Recovery of energy from waste is preferable only after considering the potential for recovery of material.
- Valuable energy is sought to be recovered after ensuring that all possible reduce, recycle, and recover mechanisms have been adopted.
- **Incineration** is a waste treatment process that involves combustion of waste at very high temperatures in the presence of oxygen and results in the production of ash, flue gas, and heat.
- **Biomethanation** is the anaerobic (in the absence of free oxygen) fermentation of biodegradable matter in an enclosed space under controlled conditions of temperature, moisture, pH, etc.
- **Refuse derived fuel (RDF)** as fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste. It is used as a fuel for electricity generation or as alternate fuel in industrial furnaces or boilers

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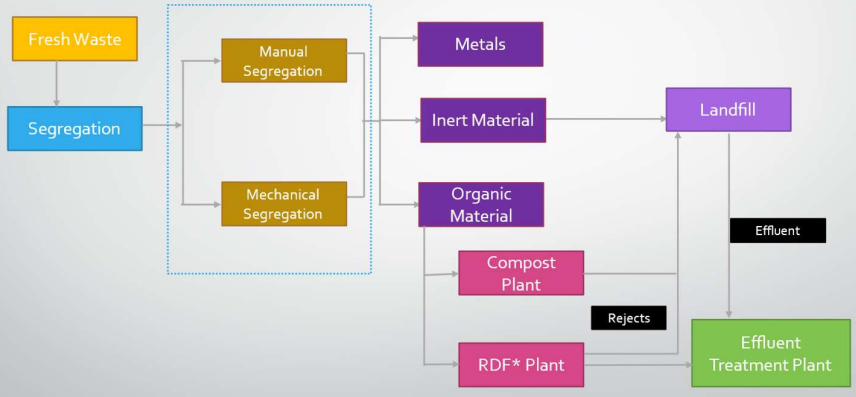
Sanitary Landfills

- The term sanitary landfills refers to a unit of operation for final disposal of municipal solid waste on land designed and constructed with the objective of minimizing impact on environment.
- Suitable wastes: inert waste, mixed waste not suitable for processing, non-hazardous waste not being processed or recycled.
- Not Suitable Wastes: Biodegradable waste, garden waste, hazardous waste, industrial waste etc.

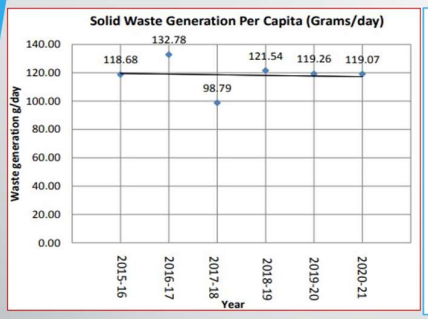
Project Life Cycle

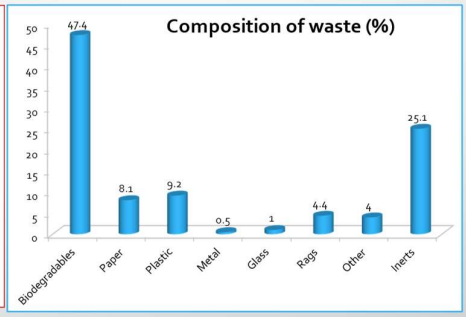
The chart below explain the process flow diagram for a SWM project lifecycle.



*RDF = Refuse Derived Fuel

Solid Waste Management in India





Source: Annual Report 2020 -21 on implementation of solid waste management rule, 2016

Cont…

Source: Annual Report 2020 -21 on implementation of solid waste management rule, 2016

PPP in Solid Waste

- Different contracts such as service contract, management contracts, BOT, DBFOT etc.
- Collection & Transportation: Service contract, Management contract
- Street sweeping: Service contract
- Processing & Disposal: DBFOT, BOT etc.

What is PPP Structuring Toolkit?

- The PPP Toolkit is a web -based resource that has been designed to help improve decision-making for infrastructure PPPs in India
- It is designed for the use by officials in Project Sponsoring Agency (PSA)
- The Toolkit is being developed for six sectors. Currently it supports **four** sectors namely:


Road & Highway


Port


Solid Waste Management


Water & Sanitation


Urban Transport (BRTS)


Healthcare

Objective of the PPP Structuring Toolkit

Toolkit structure and content

3 main parts to the toolkit :

- **Module 1: PPP Background**
  - General information and explanation about PPPs
- **Module 2: PPP Process**
  - Describes the process of developing a PPP through four Phases
- **Module 3: Tools and resources**
  - 5 decision-making tools: (Family Indicator, Model Validation Tool, Suitability Filter, PPP Financial Viability Indicator Model and VFM Indicator Tool)

Module1: PPP Background
Module 2: PPP process
Module 3: Tools and Resources

Module 1: PPP Background

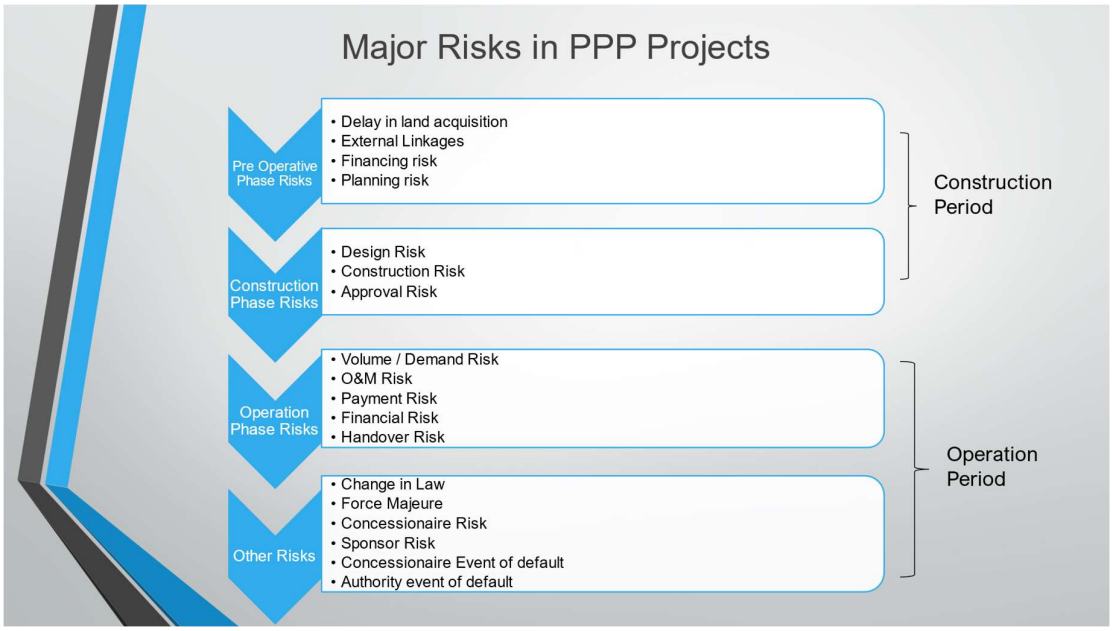
Overview of PPP in Infrastructure
- PPP in Infrastructure
- Why use PPP?
- When should PPP be used
- PPPs internationally

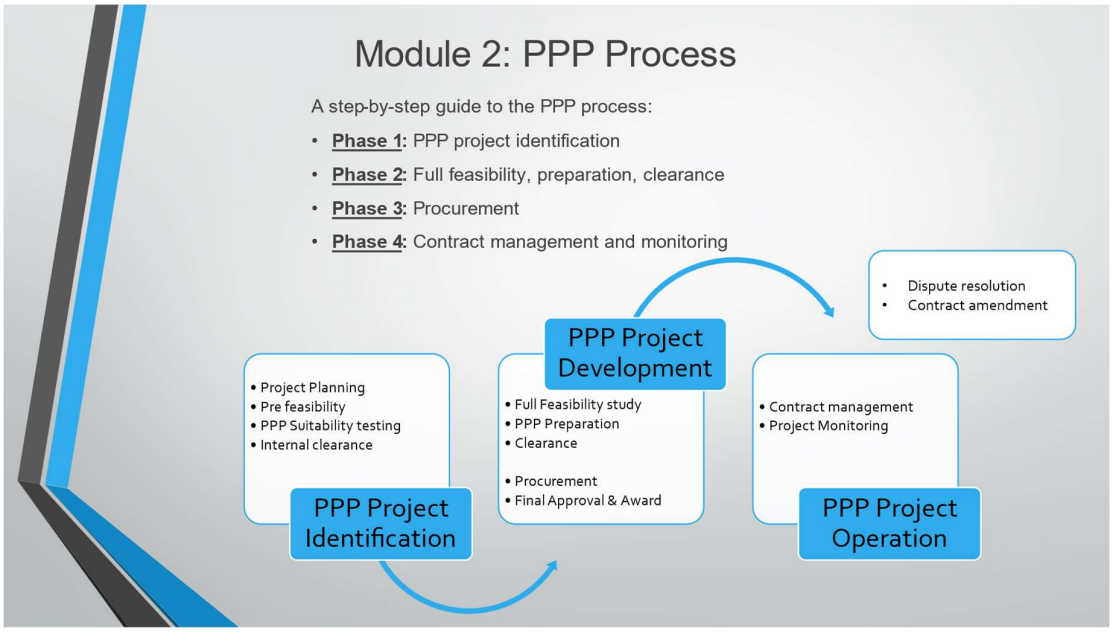
Overview of PPP in India
- Need and Potential of PPP
- PPP framework in India
- Sectoral overview

Risk – a focal element in PPP design
- Major Risk in Infrastructure Projects

Overview of PPP modal variant
- Project characteristics
- PPP modal families
- Risk allocation under different PPP modes

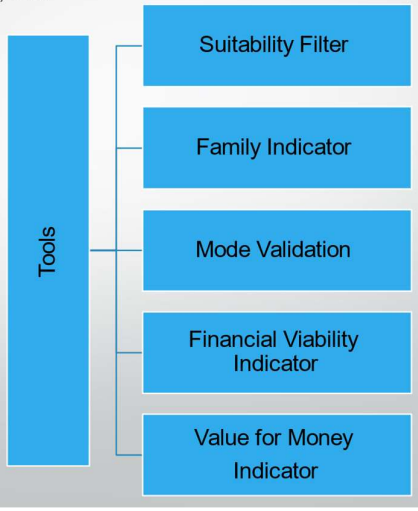
PPP Supporting Environment
- Public Sector PPP capacity and experience
- Public sector funding assistance
- Private sector appetite and capacity
- Legal environment and Policy support
- Government support


Major Risks in PPP Projects
Pre Operative Phase Risks
• Delay in land acquisition
• External Linkages
• Financing risk
• Planning risk
Construction Phase Risks
• Design Risk
• Construction Risk
• Approval Risk
Construction Period
Operation Phase Risks
• Volume / Demand Risk
• O&M Risk
• Payment Risk
• Financial Risk
• Handover Risk
Other Risks
• Change in Law
• Force Majeure
• Concessionaire Risk
• Sponsor Risk
• Concessionaire Event of default
• Authority event of default
Operation Period


Module 2: PPP Process
A step-by-step guide to the PPP process:
• Phase 1: PPP project identification
• Phase 2: Full feasibility, preparation, clearance
• Phase 3: Procurement
• Phase 4: Contract management and monitoring
• Project Planning
• Pre feasibility
• PPP Suitability testing
• Internal clearance
PPP Project Identification
PPP Project Development
• Full Feasibility study
• PPP Preparation
• Clearance
• Procurement
• Final Approval & Award
• Contract management
• Project Monitoring
PPP Project Operation
• Dispute resolution
• Contract amendment

Module 3: Tools and resources

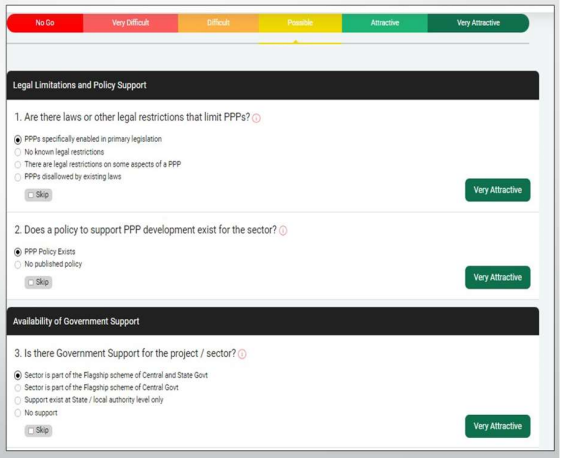
Contains the **five** decision-making tools, and other PPP resources:



Module 3 –Tools – Suitability Filter

Is the key tool to test whether the project is suitable to be developed on PPP basis.

- Answers to questions are scored
- Result shown on **Suitability Indicator**
- '**Very Attractive**' or '**Very Difficult**
  - Give clear result for or against
- **'Difficult'**
  - Probably not suitable as a PPP
- **'Possible'**
  - Could be suitable, need to address problems first
- **'Attractive'**
  - Probably suitable



Module 3 –Tools – Suitability Filter

Parameters	Questions	Explanation
Legal	• Are there laws or other legal restrictions that limit PPPs? • Does a policy for private participation in the sector exist?	Legal parameters help the user to understand if the law permits the implementation of PPPs or not?
Political	• Is there Political Support for the sector/ project? Is there support of PPP in the affected communities?	Political parameter helps the user to understand if the public environment is supportive implementation of PPP projects.
Public sector PPP capacity and experience	• Is there a PPP Unit/Dept in the State? • Does the Public Sponsoring Agency have the capabilities to procure PPPs? • Does the Sponsoring Agency have the capabilities to manage and monitor a PPP contract? • Does the Sponsoring Agency have previous experience with PPPs? • Would the physical infrastructure pass through multiple jurisdictions?	This parameter analyses PSAs capacity to execute and implement PPP project.

Module 3 –Tools – Suitability Filter

Parameters	Questions	Explanation
Public sector funding assistance for PPPs	• Is funding assistance available for project development? • Is the project likely to be eligible for Viability Gap Funding? • Is the project likely to be eligible for funding from other grant schemes? • Is the project eligible for funding / guarantees from multi-lateral agencies?	This parameter helps in understanding difference funding options that may be available for development of the project to the PSA.
Private Sector	• Are multiple firms active in the PPP market? • Have other similar PPP projects reached Financial Close?	These parameters assess private sector participation and interest in the PPP projects in the chosen sector

Module 3 –Tools – Suitability Filter

Parameters	Questions	Explanation
Land availability and acquisition	• Will the PPP require land acquisition? • If land acquisition is required, will the public sector do this?	These parameters assess the land requirement and potential issues related to acquisition of land for the project and their impact on the project timelines.
Environmental and Social Impact	• Will the PPP have significant environmental impacts? • Will the PPP have significant social impacts?	These parameters assess the impact of the project on Environment and social factors related to it.
Labour	• Will a significant transfer of employees take place under the PPP? • Have there been successful transfers under previous PPPs? • Is the project likely to result in job losses?	This parameter helps the PSA evaluate potential unrest by the employees and to prepare for its resolution.

Module 3 –Tools – Suitability Filter

Parameters	Questions	Explanation
Outputs	• Are outputs definable, measurable and verifiable?	If it is not possible to clearly specify outputs then there is a high risk of disputes arising during the course of the PPP. There should also be an agreed understanding on the desired outputs before proceeding to PPP procurement.
Timing	• Are there time constraints? • Can PPP project be tendered at a short notice?	A PPP procurement will generally take more time than a conventional procurement-although this will be offset by the faster speed of delivery once the contract is awarded. If there are significant time constraints on the contracting process, a PPP may not be appropriate. This parameter understands the time available to procure the PPP.

Module 3 –Tools – Family indicator

Is the key tool to suggest PPP mode "**Family"** for the particular project

2. Would assets under the proposed PPP be 'greenfield' (newly-built) or 'brownfield' (additions to existing infrastructure)?

Greenfield assets

3. Which party would own the assets under the PPP?

Assets would be publicly owned

4. Finance responsibility:For any solid waste management PPP involving capex the main finance source will be the private sector

Private sector finance required

Results: Indicative PPP family

Indicative roles for private sectors	Suggest PPP "family":	Typical revenue structures :
Design, finance, construction, operation and maintenance	User Pay	User Charges

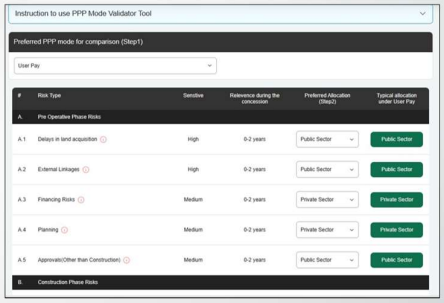
Module 3 –Tools – Mode validation

The tool uses a risk allocation analysis to help decide further whether the selected PPP mode is best for the project.

The risk are assigned based on the latest model concession agreement.

Risks are broadly classified in the following major categories

1. Pre operative Risk
2. Construction Risk
3. Operation Risk
4. Other Risk



Outputs of the tool

Number of matches to preferred risk allocation:	
BOT User Pay	**17of 20**
BOT Annuity	**15 of 20**
BOT Annuity – HAM	**16 of 20**
OMT	**9 of 20**
Score of 20 = perfectly matched	

Module 3 –Tools – Mode validation

Risks	Description
Pre-Operative Phase Risks	
Delay in land acquisition	Refers to the risk that the project site will be unavailable or unable to be used within the required time, or in the manner or the cost anticipated or the site will generate unanticipated liabilities due to existing encumbrances and native claims being made on the site. This risk is most relevant to greenfield projects involving treatment and disposal facilities.
External linkages	Refers to the risk that adequate and timely connectivity to the project site is not available, which may impact the commencement of construction and the overall pace of development of the project. Eg. Road's connectivity to Landfill site.
Financing risks	Refers to the risk that sufficient finance will not be available for the project at a reasonable cost (e.g., because of changes in market conditions or credit availability) resulting in delays in the financial closure of the project.
Planning risks	Refers to the risk that the pre-development studies (technical, legal, financial, and others) conducted are inadequate or not robust enough resulting in possible deviations from the planned or expected outcomes in the PPP project development.
Approval risk	Refers to the risk that necessary permits, authorisations, and approvals required before the start of construction are not obtained in a timely fashion, resulting in delays to construction and the project as a whole.

Module 3 –Tools – Mode validation

Risks	Description
Construction Phase Risk	
Design risk	Refers to the risk that the proposed design will not meet the performance and service requirements in the output specification. It can result in additional costs for modification and redesign.
Construction risk	Refers to the risk that the construction of the assets required for the project will not be completed on time, within budget, or to specification. It may lead to additional raw materials and labour costs, an increase in the cost of maintaining existing infrastructure or providing a temporary alternative solution due to a delay in the provision of the service.
Approval risk	Refers to the risk that delays in approvals to be obtained during the construction phase will result in a delay in the construction of the assets as per the construction schedule. Such delays in obtaining approvals may lead to cost overruns.

Module 3 –Tools – Mode validation

Risks	Description
Operation Phase risk	
Technology risk	Refers to the risk that the technology used will be unexpectedly superseded during the term of the project and will not be able to satisfy the requirements in the output specifications. It would result in increased costs of replacement technology.
Operations and maintenance risk	Refers to the risks associated with the need for increased maintenance of the assets over the term of the project to meet performance requirements.
Volume / Demand risk	Refers to the risk that demand for 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.
Payment risk	Refers to the risk that tolls are not collected in full or are not set at a level that allows recovery of costs. This is a risk for the public sector under shadow tolls and for the private sector under user tolls. There is no risk in annuity contracts.
Financial risk	Refers to the risk that the private sector overstresses a project by inappropriate financial structuring. It can result in additional funding costs for increased margins or unexpected refinancing costs.
Handover risk	Refers to the risk that the concessionaire will default in the handover of the asset at the end of the project term or will deviate from the minimum quality/value of the asset that needs to be handed back to the public entity.

Module 3 –Tools – Mode validation

Risks	Description
Other risks	
Change in law	Refers to the risk that the current legal/regulatory regime will change, having a material adverse impact on the project.
Force Majeure	Refers to the risk that events beyond the control of either entity may occur, resulting in a material adverse impact on either party's ability to perform its obligations under the PPP contract. E.g.: pandemics, strikes, act of war.
Sponsor risk	Refers to the risk that the Private entity will prove to be an unsuitable partner for the project, for example, due to poor project management, lack of funds or a failure to fully recognise the agreed terms of the Concession Agreement.
Concessionaire event of default	Refers to the risk that the private entity will not fulfil its contractual obligations and that the Public Sponsoring Authority will be unable to either enforce those obligations against the sponsors or recover some form of compensation or remedy from the sponsors for any loss sustained by it as a result of the breach or the private partner will prove to be inappropriate or unsuitable for delivery of the project.
Authority event of default	Refers to the risk that the Public Sponsoring Authority will not fulfil its contractual obligations and that the Concessionaire will be unable to either enforce those obligations against the Authority or recover some form of compensation or remedy from the Authority for any loss sustained by it as a result of the breach.

Risk allocation

	Risk Type / PPP Mode	User Pay	Authority Pay	Authority Pay - HAM	Management
A	**PRE OPERATIVE PHASE RISKS**				
A.1	**Delays in land acquisition**	Public Sector	Public Sector	Public Sector	Not Relevant
A.2	**External linkages**	Public Sector	Public Sector	Public Sector	Not Relevant
A.3	**Financing risks**	Private Sector	Private Sector	Private Sector	Not Relevant
A.4	**Planning**	Private Sector	Private Sector	Private Sector	Not Relevant
A.5	**Approvals (other than for construction)**	Public Sector	Public Sector	Public Sector	Public Sector
B	**CONSTRUCTION PHASE RISKS**				
B.1	**Design Risk**	Private Sector	Private Sector	Private Sector	Not Relevant
B.2	**Construction Risk**	Private Sector	Private Sector	Private Sector	Not Relevant
B.3	**Approvals**	Private Sector	Private Sector	Private Sector	Not Relevant

Risk allocation

	Risk Type / PPP Mode	User Pay	Authority Pay	Authority Pay - HAM	Management
C	**OPERATIONS PHASE RISKS**				
C.1	**Operations & Maintenance Risk**	Private Sector	Private Sector	Private Sector	Private Sector
C.2	**Volume Risk**	Private Sector	Public Sector	Public Sector	Public Sector
C.3	**Payment Risk**	Private Sector	Public Sector	Public Sector	Public Sector
C.4	**Financial Risks**	Private Sector	Private Sector	Private Sector	Private Sector
C.5	**Revenue risk in associated operations (eg, waste-to-power)**	Private Sector	Public Sector	Public Sector	Not Relevant
C.6	**Environmental, health and safety risk**	Shared	Shared	Shared	Shared

Risk allocation

	Risk Type / PPP Mode	User Pay	Authority Pay	Authority Pay - HAM	Management
D	**OTHER RISKS**				
D.1	**Change in Law**	Public Sector	Public Sector	Public Sector	Public Sector
D.2	**Force Majeure**	Shared	Shared	Shared	Shared
D.3	**Concessionaire risk**	Private Sector	Private Sector	Private Sector	Private Sector
D.4	**Sponsor risk**	Private Sector	Private Sector	Private Sector	Private Sector
D.5	**Concessionaire event of default**	Private Sector	Private Sector	Private Sector	Private Sector
D.6	**Authority event of default**	Public Sector	Public Sector	Public Sector	Public Sector

Module 3 – Tools – Financial Viability Tool – SWM

Category	BOT – User Pay	BOT – Authority Pay	BOT – Authority Pay (HAM)	Management
Volume	Included	Included	Included	Included
Bidding Criteria	Highest Upfront premium Highest Royalty Lowest VGF	Lowest Annuity Lowest VGF	Lowest Annuity	Lowest annual maintenance
Revenue	User charge Sale of extracted metals Sale of energy/ electricity	Tipping / Gate fees Sale of extracted metals Sale of energy/ electricity	Tipping / Gate fees Sale of extracted metals Sale of energy/ electricity	Tipping / Gate fees Sale of extracted metals Sale of energy/ electricity
Operating Cost	C&T Cost Waste Processing cost Landfill cost Fuel Cost Vehicle Maintenance Other Office Expenditure Electricity IE/IA expenses Insurance Routine Maintenance	C&T Cost Waste Processing cost Landfill cost Vehicle Maintenance Other Office Expenditure Electricity IE/IA expenses Insurance Routine Maintenance	C&T Cost Waste Processing cost Landfill cost Vehicle Maintenance Electricity IE/IA expenses Insurance Routine Maintenance	C&T Cost Waste Processing cost Landfill cost Vehicle Maintenance Electricity IE/IA expenses Insurance Routine Maintenance
Financing				
Sources of Funds	Equity	Equity	Equity	Equity
	Senior Debt Sub Debt	Senior Debt Sub Debt	Senior Debt Sub Debt	Senior Debt Sub Debt
	VGF Grant	VGF Grant	Grant – 40% construction	n/a without Capital Expenditure
Taxes	GST / Corporation Tax	GST / Corporation Tax	GST / Corporation Tax	GST / Corporation Tax
Major Maintenance	Included	Included	Included	n/a

Module 3 –Tools – Value for Money

Testing for Value for Money (VfM) should be an important part of any PPP project development.

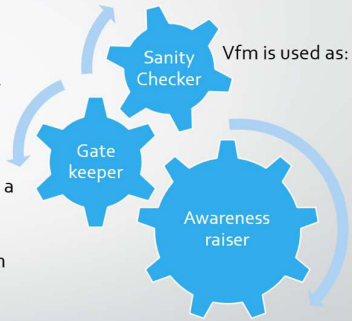
VFM is used as procurement decision i.e. What is the best mode for project implementation? (Public procurement or PPP)

Value for Money (VfM) means the public sector is financially better off if the project is implemented as a PPP rather than if it is done as a traditional public sector project.

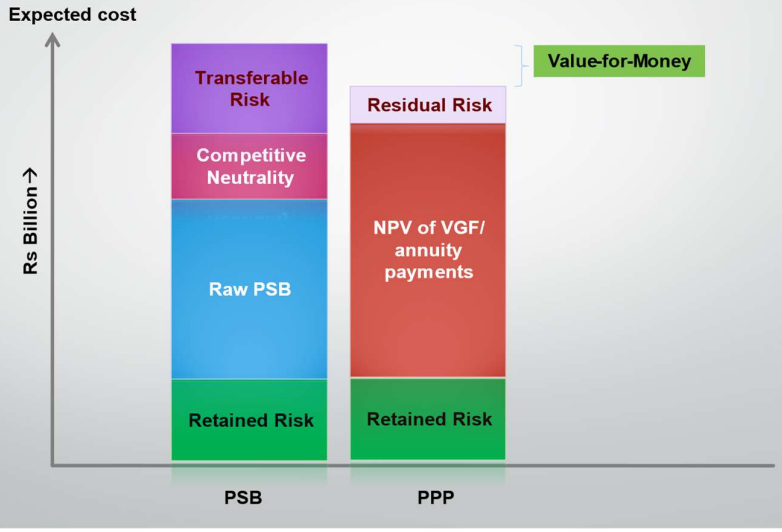
If a project is not expected to provide VFM for the public sector then the project should not be implemented as a PPP.

A VFM test compares the estimated cost of procuring the project in the public sector (the traditional route) with the estimated cost of procuring it as a PPP. The public sector procurement option is called the public sector benchmark (PSB).

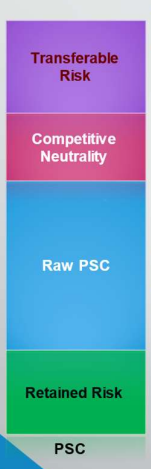
VFM = Cost of PSB – Cost of PPP



Module 3 –Tools – Value for Money



Elements of Quantitative VFM – PSC



Transferable risks

- These capture the impact of the specific risks which are generally transferred to the private sector in case of PPP
- Typically includes – construction cost/ time over-run, design risk, O&M cost over-run, interest rate, exchange rate, inflation and revenue risks.

Competitive neutrality

- Identify effects of PSA ownership and the advantages/ disadvantages it brings in vis-à-vis private sector
- Typical example is the taxation

Retained risks

- These are risks retained with the public sector in case of traditional procurement and PPP
- Eg: delay in land acquisition, providing approvals for the project

Raw PSC

- Generally the life-cycle cost of the project includes:-
- The total project cost and the NPV of the annual O&M cost
- This cost is relevant only during the estimation of PSC

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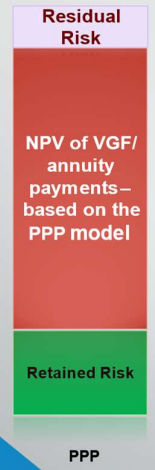
Elements of Quantitative VFM – PPP



Residual risks

- These the residual risks retained by the PSA on the ones transferred to the private sector
- For example: renegotiation risks

Annuity payments / VGF

- In case of annuity model wherein the private sector is supported by annuity payments. Calculated as the NPV of the payments
- It also includes any upfront VGF or capital grant paid by the Govt. to the private sector

Retained risks

- These are risks retained with the public sector in case of traditional procurement and PPP

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Module 3 –Tools – Value for Money

Present value inputs are calculated using cashflows provided by the Financial Viability Indicator tool, discounted at the user-input discount rate.
All calculations should be made in nominal terms.

Cash costs and receipts - from Financial Viability Indicator tool		*PSB*		*PPP*
PV of payments for a public sector project	*R cr.*	495.5		
PV of payments under PPP	*R cr.*			249.8
Total costs for public finances	*R cr.*	495.5		249.8
Gross VAT received	*R cr.*	0.0		0.0
Corporate tax (including MAT) received	*R cr.*			82.7
Third party income (eg, tolls, charges, advertising) received	*R cr.*	422.5		
Total receipts for public finances	*R cr.*	422.5		82.7
Net cash cost to Public Finances (= costs - receipts)	*R cr.*	72.9		167.1

Risk adjustment		*PSB*		*PPP*
Expected value of risk that would be transferred under PPP	*R cr.*	**199.2**		
Expected cost of added risks from a PPP for the public sector	*R cr.*			**12.1**
Adjusted net cost to Public Finances	***R cr.***	**272.1**		**155.0**
Expected VFM	***R cr.***			**117.1**

Module 3: Summary of the Tools

Tool	What's it for?	For use in which phase of the PPP Process?		
		Pre-feasibility	**Feasibility**	**Procurement**
PPP Suitability Filter	Should you do the project on PPP? A Go/No Go decision	●		
PPP Family Indicator	Which type of PPP?	●		
PPP Mode validation	Risk-based check of type	●	●	
Financial Viability Model	Viable for private partners?	●	●	●
VFM Indicator	Likely VFM public sponsor?	●	●	●

No / little experience of PPPs ● ● ● ● Experienced with PPPs

- Presentation on Contingent Liability Toolkit

What is Contingent Liability?

What is Contingent Liability?

Obligations of the government arising from a valid PPP contract whose occurrence, timing, and amount depend on some uncertain future event or circumstance.

Contingent Liabilities arising from a PPP Contract:

- Costs on account of Force Majeure events
- Termination payments for Force Majeure events
- Payments for Concessionaire/Authority non-termination damages
- Termination Payments for event of default

Direct Liability versus Contingent Liability

Element of Liability	Direct Liability	Contingent Liability
Obligation and Need for Payment	Present and certain obligation resulting from a past event; obligations and payment needs are known upfront.	Possible obligation from a past event; obligations may be confirmed by occurrence/ nonoccurrence of uncertain future events.
Quantum of amount	Known upfront with certainty; reliable estimates of the amount of the obligation can be made for accounting and budgeting.	Uncertain amounts; estimates may also not be possible with reasonable accuracy and reliability.
Timing	Known with certainty	Uncertain/ unknown
Outflow of resources	Known with certainty	Uncertain and depend on the occurrence/nonoccurrence of an event in future;

Types of Direct and Contingent Liabilities

Direct Liabilities	Contingent Liabilities
1. Viability Gap Payments	1. Cost on account of Force Majeure Events
2. Annuity Payments	2. Termination payment for Force Majeure Events
3. Any project related specific subsidies	3. Payment for Concessionaire/Authority event of defaults, if such defaults lead to termination of contract

Objective & Applicability of the Contingent Liability Toolkit

Key Objectives

Applicability

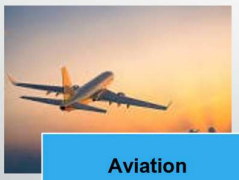
- To be used by **Project Sponsoring Agencies (PSAs)** to calculate the contingent liability arising from a PPP project.
- Accordingly, **appropriate funds** could be demarcated at the beginning itself to meet any contingent liabilities arising in the future.
- Also, this would help PSAs in taking measures such as introduction of **suitable clauses** in **bid documents** to minimize the impact of adverse events and **wisely allocate risks**.

Key Sectors Covered under the Toolkit

Road & Highway

Port

Solid Waste Management



Aviation

Sports

Contingent Liability Toolkit – Case Study

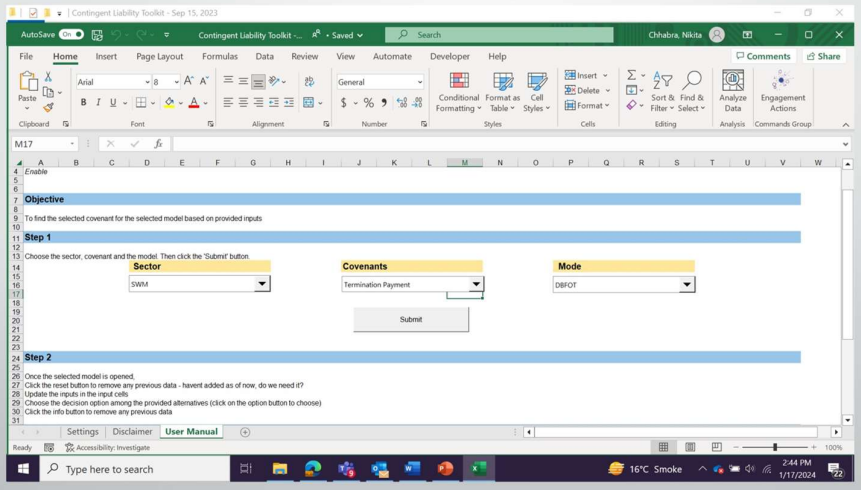
Case Study: Integrated Solid Waste Management (ISWM) through PPP mode on for Patna Cluster

S.No.	Particulars	Key Details
1.	Name of the project	Integrated Solid Waste Management (ISWM) through PPP mode
2.	Type of PPP (BOT, BOOT, BOLT, OMT etc.)	Design, Build, Finance, Operate and Transfer (DBFOT)
3.	Location	State: Lucknow District: Uttar Pradesh
4.	Administrative Ministry/Department	Urban Development & Housing Department
5.	Implementing Agency	Urban Development & Housing Department
6.	Capacity (	• Waste to Energy 15-Megawatt Plant • 1 Plant 100 TPD for Bio-Methanation • 3 MRF cum RDF Centre 250 TPD • 2 MRF of 25TPD • Compost Plant of 700 TPD • 1 Sanitary Land Fill (SLF)
7.	Estimated Project Cost (Rs. Cr)	i. Processing & Disposal: 500 ii. Financing cost: 5 iii. IDC: 25 **iv. Total Capital Cost: 530** v. Operating exp (per MT): 7% of plant cost

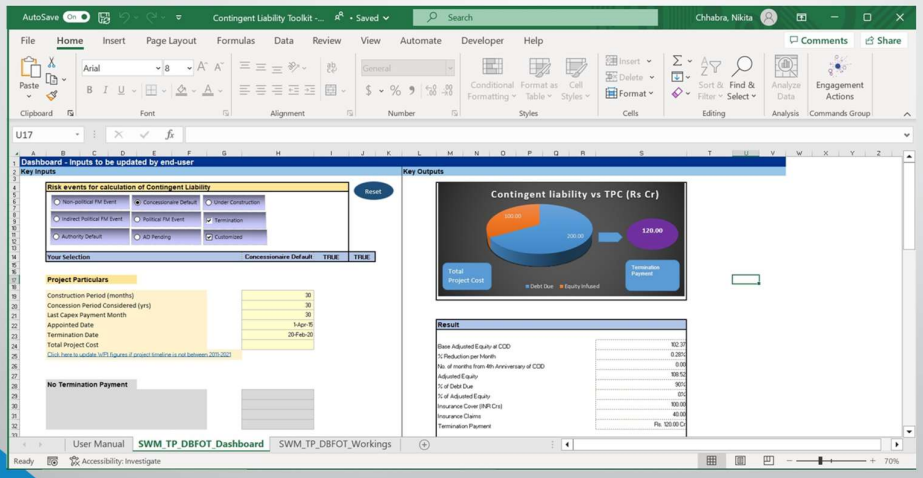
Case Study: Integrated Solid Waste Management (ISWM) through PPP mode on for Patna Cluster

S.No.	Particulars	Key Details
8.	Concession Period (years)	20
9.	Construction Period (years)	2
10.	Financing (Rs. Crore)	Equity: 30% Debt: 70%
11.	Appointed Date	30.04.2020
12.	COD	30.04.2022
13.	End of Concession Period	30.04.2050
14.	Date of Termination of Contract	30.04.2027

Step 1: Choose the Sector, Convenant and the PPP mode on the Home Page

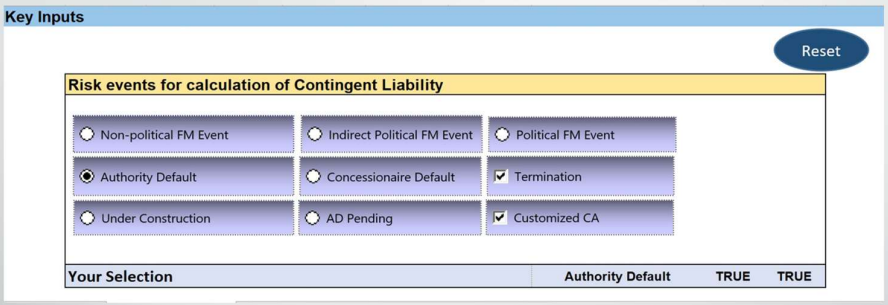


Step 2: Once the selections are made, press submit. Dashboard and workings sheet will appear



Risk Event: Authority Event of Default leading to Termination

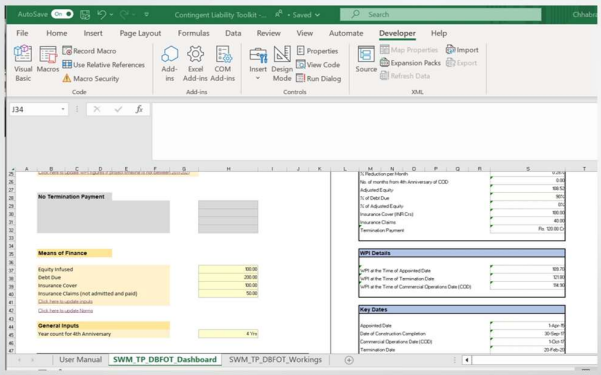
Step 3: Key Inputs to be provided on the Dashboard



The Dashboard Page consists of **Key Inputs** and **Key Outputs.** On the **Key Inputs** side, **following actions are required:**

1. **Select the Risk Event**
2. **Select Termination/Non-termination**
3. **Select Customized CA, if not based on Model Concession Agreement**
4. **Provide Project Details/Particulars - Key Dates, Concession Period, Construction Period, Means of Finance, etc.**

Step 3: Key Inputs to be Edited/Updated



Once the key project features are provided, Users can click on the **clickable links** provided on the **Dashboard** to update/change:

1. **WPI figures**
2. **Norms/Articles/Clauses for Termination Payment**
3. **Other Key Inputs, if any**

Step 3: Key Inputs to be Edited/Updated

MCA Norms & Values	Auto-filled
	I116-122;
To be filled in for Customised CA	M116-122;

Selected Optior	4
Termination Pe	1

Risk event	% of Debt Due as per MCA	% of Adjusted Equity as per MCA	Insurance Cover switch	Insurance Claim switch	Norms	Norms - Non Termination	Clauses as per MCA	Debt due as per Customized CA	Adjusted Equity as per Customized CA
Non-political FM Event	90%	-	1	1	If Termination is on account of a Non-Political Event, the Authority shall make a Termination Payment to the	NA	*Proposal, Article 34.6.3?*	100.00%	0.00%
Indirect Political FM Event	100%	110%	1	1	If Termination is on account of an Indirect Political Event, the Authority shall make a Termination Payment to the Concessionaire in an amount equal to: (a)Debt Due less Insurance Cover; provided that if any insurance claims forgone part of the Insurance	Upon occurrence of an Indirect Political Event, all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Concessionaire, and to the extent Force Majeure Costs exceed such Insurance Cover,	*Proposal, Article 34.6.3?*	80.00%	150.00%
Political FM Event	100%	150%	1	1	If Termination is on account of a Political Event, the Authority shall make Termination Payment equal to:(a)Debt Due; and (b)150% of the		*Proposal, Article 34.6.3?*	90.00%	100.00%
Authority Default	100%	150%	1	1	If Termination is on account of a Authority Default, the Authority shall make Termination Payment equal to:(a)Debt Due; and (b)150% of the	NA	*Proposal, Article 34.6.3?*	90.00%	100.00%
Concessionaire Default	90%	-	1	1	If Termination is on account of a Concessionaire Default, the Authority shall pay to the Concessionaire, an amount equal to 90% of the Debe Due	NA	*Proposal, Article 34.6.3?*	90.00%	100.00%
AD Pending	-	-	-	-	less Insurance Cover; provided that if any [(b) - For the avoidance of doubt, the Concessionaire hereby acknowledges	NA	*Proposal, Article 34.6.3?*	90.00%	100.00%
Underconstruction	-	-	-	-	that no Termination Payment shall be [(b) - For the avoidance of doubt, the Concessionaire hereby acknowledges	NA	*Proposal, Article 34.6.3?*	90.00%	100.00%

*Please provide details of the additional Clause, if any

In case of Concession Agreement being based on the **Model Concession Agreement**, **Norms** will be auto-filled in based on the clauses provided in the MCA.

Step 3: Key Inputs to be Edited/Updated

Risk event	Debt due as per Customized CA	Adjusted Equity as per Customized CA	Insurance cover	Insurance claim	Any other Clause (please provide the value	Clauses as per the DCA/Signed CA
Non-political FM Event	100.00%	0.00%				
Indirect Political FM Event	80.00%	150.00%				
Political FM Event	90.00%	100.00%				
Authority Default	90.00%	100.00%				
Concessionaire Default	90.00%	100.00%			100	
AD Pending	90.00%	100.00%				
Underconstruction	90.00%	100.00%				

*Please provide details of the additional Clause, if any

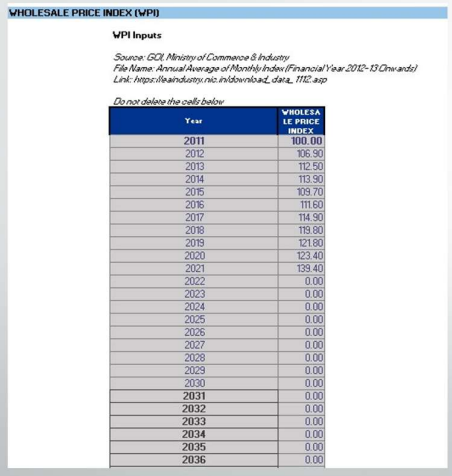
In case of Customized CA, the User will need to termination payment clauses/norms for risk events to be updated

Step 4: Workings would be updated based on Key Inputs

Model Concession Agreement	Authority Default	100%	150%	1	1	If Termination is on account of a Authority Default, the Authority shall make Termination Payment	NA
Customised CA	Authority Default	90.00%	100.00%	0	0	0	0

	Based on MCA		Customised CA	
Selected option	Authority Default		Authority Default	
% of Debt Due	100%	‡	90.00%	% to be added
% of Adjusted Equity	150%	‡	100.00%	% to be added
Insurance Cover switch	1	1=On; 0=Off	0	
Insurance Claim switch	1	1=On; 0=Off	0	
Any other Clause			0	
Insurance				
	Based on MCA		Customised CA	
Insurance Cover	100.00	INR Crs	100.00	INR Crs
Insurance Cover switch	1	1=On; 0=Off	0	
Insurance Cover (INR Crs)	100	INR Crs	0	
Insurance Claim Limit	80.00%	‡ - Proposed, Article-34, Note	80.00%	% as per Customised CA
Insurance Claims (not admitted and paid)	50.00	INR Crs	50.00	INR Crs
Insurance Claim switch	1	1=On; 0=Off	0	
Insurance Claims	40	INR Crs	0	INR Crs
Termination Payment				
Insurance Cover	100.00	INR Crs	100.00	INR Crs
Insurance Claims	40.00	INR Crs	0.00	INR Crs
Unclaimed Insurance Cover	60.00	INR Crs	100.00	INR Crs
Debt Due	200.00	INR Crs	200.00	INR Crs
Unclaimed Insurance Cover	60.00	INR Crs	100.00	INR Crs
Net Debt Due	200.00	INR Crs	200.00	INR Crs
% of Debt Due	100%	‡	90%	‡
Net Debt Due	200.00	INR Crs	200.00	INR Crs
Termination Payment – Debt	140	INR Crs	80	INR Crs
% of Adjusted Equity	150%	‡	100%	‡
Adjusted Equity	105.52	INR Crs	105.52	INR Crs

Step 4: Workings would be updated based on Key Inputs



WHOLESALE PRICE INDEX (WPI)

WPI Inputs

Source: GOI, Ministry of Commerce & Industry
File Name: Annual Average of Monthly Index (Financial Year 2012-13 Onwards)
Link: https://eaindustry.nic.in/download_data_1112.asp

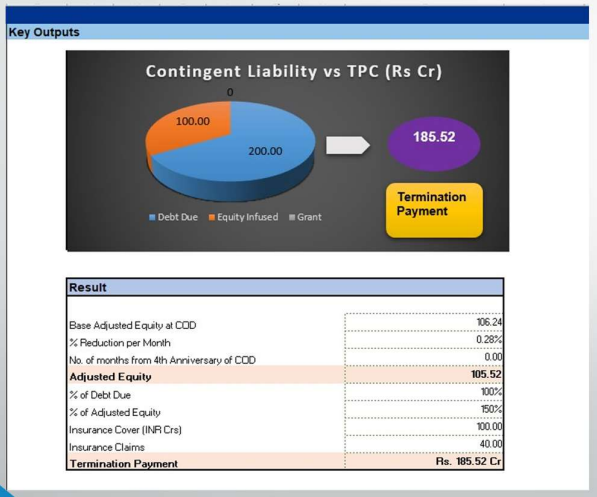
Do not delete the cells below

Year	WHOLESALE PRICE INDEX
2011	100.00
2012	106.90
2013	112.50
2014	113.90
2015	109.70
2016	111.60
2017	114.90
2018	118.80
2019	121.80
2020	123.40
2021	139.40
2022	0.00
2023	0.00
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00

WPI Figures can be updated by clicking on the link given in the Dashboard page under Key Inputs.

Once all the Key Inputs have been provided and norms have been updated based on MCA/Customized CA, Termination Payment will be automatically calculated and shown on the Dashboard.

Step 3: Key Outputs for Calculation of Contingent Liability



Key Outputs

Result	
Base Adjusted Equity at COD	106.24
% Reduction per Month	0.28%
No. of months from 4th Anniversary of COD	0.00
Adjusted Equity	**105.52**
% of Debt Due	100%
% of Adjusted Equity	150%
Insurance Cover (INR Crs)	100.00
Insurance Claims	40.00
Termination Payment	**Rs. 185.52 Cr**

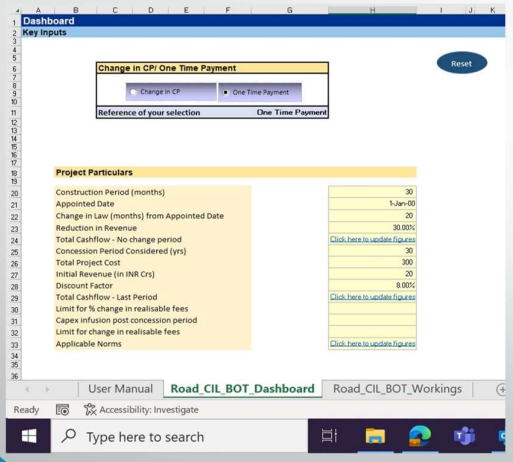
Termination Payment for the selected risk event is shown on the Dashboard

Important inputs for calculation of Termination Payment:

- **Adjusted Equity**
- **Debt Due**
- **Insurance Cover**
- **Force Majeure Cost**

Risk Event: Change in Law

Step 1: Key Inputs for Calculation of Contingent Liability



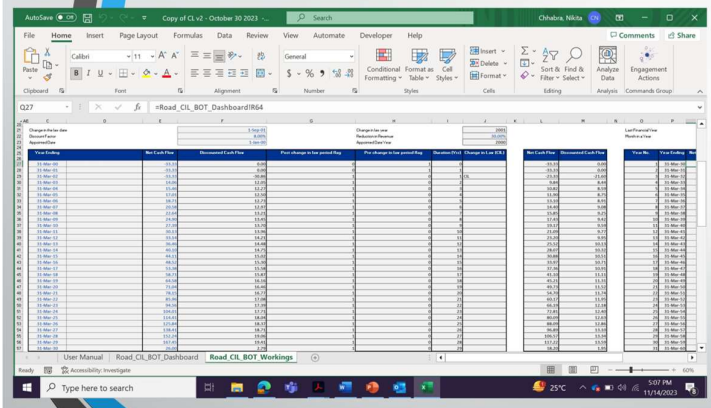
In case of Change in Law, Termination Payment will be in the form of:

- **Change in Concession Period**
- **One Time Payment**

Important inputs for calculation of Termination Payment:

- **Change in Law Date**
- **Months from Appointed Date**
- **Reduction in Revenue**
- **Initial Revenue**
- **Discount Factor**

Step 1: Key Inputs for Calculation of Contingent Liability



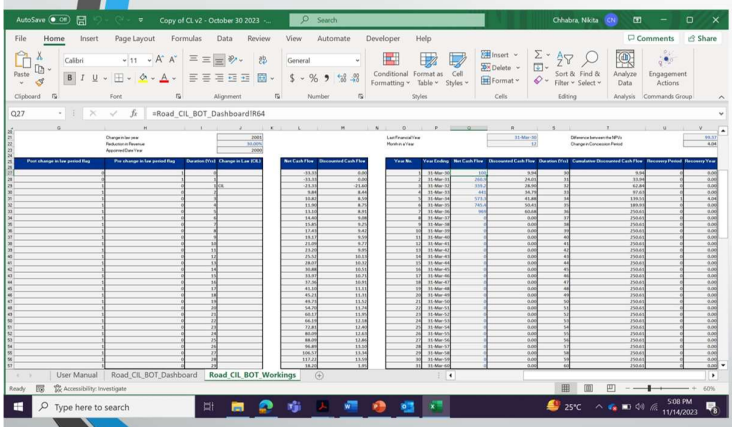
One time payment:

- **Difference in NPVs without and with Change in Law is paid to the Concessionaire**

Important inputs for calculation of Termination Payment:

- **Net Cash Flows**
- **Discount Factor**
- **Reduction in Revenue**
- **Appointed Date**
- **Change in Law Date**

Step 1: Key Inputs for Calculation of Contingent Liability



Change in Concession Period:

- **Concession Period is increased until the cumulative discounted cash flow is equal to the difference in NPV**

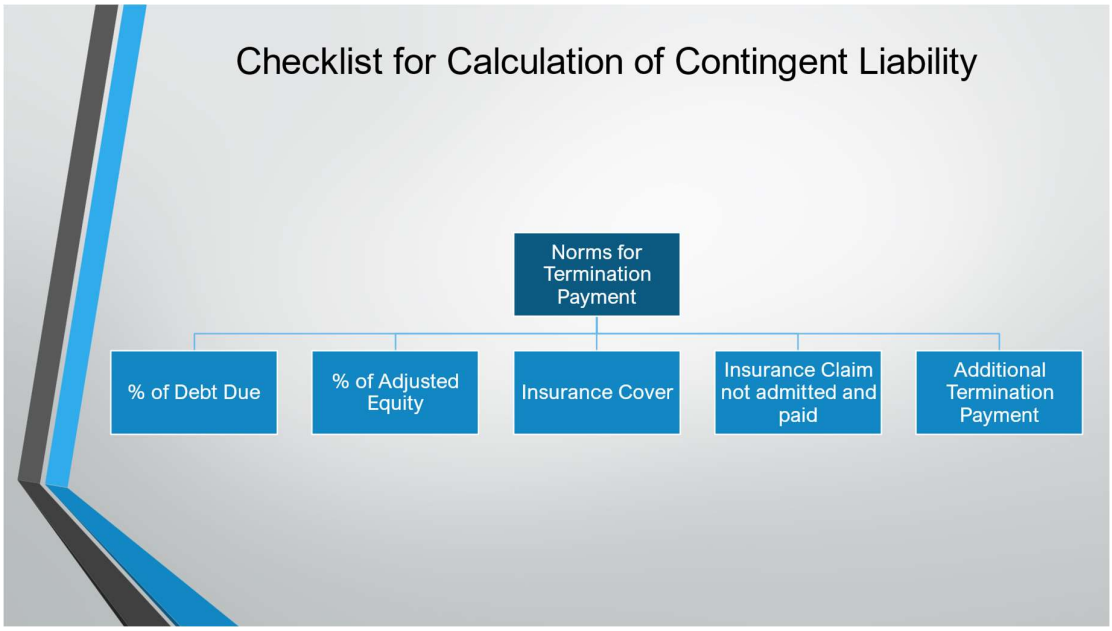
Important inputs for calculation of Termination Payment:

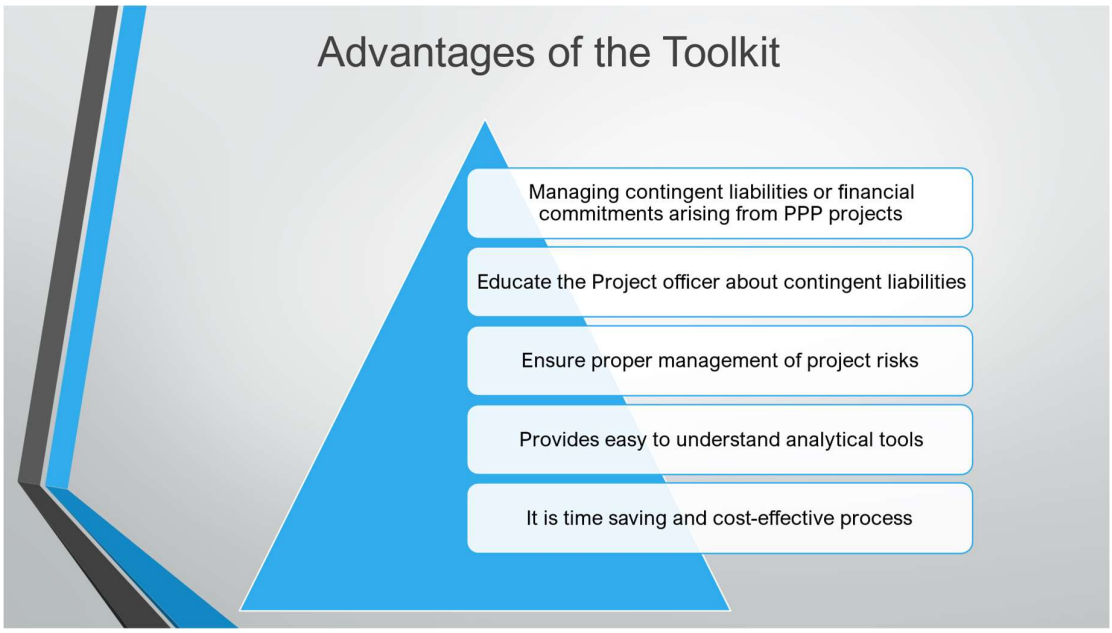
- **Net Cash Flows**
- **Discount Factor**
- **Reduction in Revenue**
- **Appointed Date**
- **Change in Law Date**

Checklist for Calculation of Contingent Liability

Checklist for Calculation of Contingent Liability

- √ Total Project Cost
- √ Concession Period
- √ Construction Period
- √ Appointed Date
- √ Commercial Operation Date (COD)
- √ Termination Date
- √ Debt
- √ Equity
- √ Det Due
- √ Grant/VGF
- √ Insurance Cover
- √ Insurance Claim (not admitted and paid)


Checklist for Calculation of Contingent Liability
Norms for Termination Payment
% of Debt Due
% of Adjusted Equity
Insurance Cover
Insurance Claim not admitted and paid
Additional Termination Payment


Advantages of the Toolkit
Managing contingent liabilities or financial commitments arising from PPP projects
Educate the Project officer about contingent liabilities
Ensure proper management of project risks
Provides easy to understand analytical tools
It is time saving and cost-effective process