

# Preventing Disputes in PPP Contracts: Best Practices for Effective Drafting

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**Abstract**— India's growth story is fueled by the infrastructural development and delivery of services. An important tool for the development as the nation progresses towards a five trillion economy is the Public Private partnership (PPP) which involves the public sector to collaborate with the private sector to develop a robust infrastructure and network for delivery of services. While the PPP agreement is an important tool in India's growth story, the successful execution of the PPP agreement faces several challenges including misalignment of objectives, contractual ambiguities, and ineffective risk management among others which lead to the PPP projects falling into disputes. This paper discusses the key principles for effective drafting of the PPP agreement to mitigate disputes. Further, it looks at the different risks associated with the project at different phases and the preventive steps that can be undertaken at the drafting stage. The paper proposes drafting techniques and risk-sharing models that will reduce disputes and address the systematic inefficiencies in the execution of the PPP agreement. This paper also examines the best global practices that can be inculcated in the PPP agreement to make it effective and less contentious.

**Index Terms**— Private Partnership, Disputes, Drafting, Risk Allocation (*key words*)

## I. INTRODUCTION

II. The Public Private Partnership (PPP) Project is a project wherein the government partners with private entities to build public projects or deliver services that help in the exercise of nation-building. This partnership allows both the parties to leverage the strength of both the private and public sectors through resource-sharing which further leads to development that fosters economic growth and enhances public services. The main objective of any PPP Project is to foster development and growth and not fiscal considerations. As the economies attempt to bridge the infrastructural gap, the PPP projects gain prominence. The PPP projects help countries like India in developing their infrastructure for transportation, energy, and urban development. However, for the successful execution of the PPP project, it is essential that the objectives of both parties are aligned. Further, the PPP projects also face hindrances due to contractual ambiguities, inefficient risk management, external factors like political and economic. As the world looks at global challenges like that of climate change and rapid digitalization as they change the course of development framework through reshaping infrastructure needs, PPP models also must evolve to remain resilient. A case in point can be the PPP agreement in the UK under the PFI scheme envisaged that the private sector delivered the public infrastructure and services by assuming the long-term operational risks, however, with the rise in the events associated with climate change such risks have become unviable for the private sector to assume especially with the rising construction costs to build climate resilient infrastructure. Thus, UK transitioned from the PFI scheme replacing them with the Alternate funding models wherein the unanticipated climate related risks can be assumed by the public sector. Another case in point can be Singapore's desalination projects that showcase the how the PPP agreements can be effectively integrated into infrastructure planning and entail sustainability. This paper discusses the role of PPP projects and the challenges faced by the PPP projects in successful implementation. Further, it shall discuss the steps that can be taken to prevent disputes through effective drafting.

### III. CHALLENGES FACED IN EXECUTION OF SUCCESSFUL PPP PROJECTS

#### A. *Misalignment of Objectives*

The PPP agreement is signed when the objectives of both the parties are aligned, however, in the cases where there is misalignment of objectives between the parties, the chances of a dispute arising increase [1]. The public sector companies focus on enhancing the public services which includes ensuring that the project is affordable, accessible and sustainable and contributes to the economy's growth objective through job creation and development. An example of this could be the case of Delhi-Gurgaon Expressway wherein the project concessionaire through fraudulent refinancing focused on the financial gains through lower interest rates, extended repayment terms, etc. [2]

#### B. *Contractual ambiguities*

In a PPP agreement, it is essential that the roles of the parties, definitions of terms, processes in the contract documents are defined with clarity [3]. The legal ambiguities are one of the highest sources of disputes for PPP contracts as they leave room for varying interpretations. A case in point is the highway development projects carried by the NHDP which have been delayed or have become financially unviable due to disputes arising out of unclear terms in the concession agreements like unclear timelines regarding the land acquisition and provisions for extension which impacted the project execution whereby while the Concessionaires argued that the financial losses were caused due to the delay and the government argued that such risks were implicit in the contract [4].

#### C. *Risk Management*

For the effective execution of the PPP contracts, it becomes essential that the risks are managed efficiently between the public and private players [5]. This can be best seen through the case of Delhi Airport Metro Express whose failure also resulted in a financial viability of Rs. 8000 Crore. In this case, the risk allocation executed by the parties was very ineffective as the construction risks were assumed by the DMRC however they are typically best managed by the private entities due to their expertise and flexibility [6]. Thus, the project was faced with inefficiencies in the project execution due to inappropriate risk allocation.

#### D. *Public Opposition*

For the successful completion of any PPP project, it becomes crucial that the public opposition is navigated through in a very efficient manner to ensure that the project does not get derailed. One of the prime cases that showcase the importance of engaging with the public to avoid disputes and successfully executing the project is that of Narmada Dam [7]. In this case, the project was stalled due to resistance showcased by the displaced communities as while the dam was to provide for water, irrigation and power to the millions, the lack of engagement with the local communities led to extensive delays and cost overruns which then resulted in legal battles taking place. One of the methods to navigate through this is to prepare a Mult stakeholder framework.

#### IV. PRINCIPLES FOR PPP DRAFTING

1. **Clarity and Comprehensiveness** – The PPP contracts need to be drafted in a highly effective manner for the project to be executed successfully [8]. Further, considering that in India, the government has a major role in many industries, contracts with better clarity in terms of defining roles, responsibilities, or deliverables make the contracts more attractive for the private players.
  - A. Allocation of Roles and responsibilities- The PPP agreement should clearly define the roles and responsibilities for both the public and private entity including construction, operations, maintenance, and financing.
  - B. Scope & deliverables- The PPP agreement should draft the scope of the project and the deliverables which helps in reducing the risk of scope creep.
  - C. Financial mechanisms- The payment terms, revenue-sharing agreements, and penalty clauses should be drafted with precision and made enforceable.
  - D. Performance Standards- The framework for the performance evaluation should be well-defined to ensure compliance.

A unique solution for ensuring the comprehensiveness in the contract is through ensuring the clear demarcation of roles and responsibilities as showcased in the case of Mumbai Metro Line 1 project. In this project, the PPP agreement was drafted to ensure clarity in the roles and responsibilities of the public and private entities especially for the operations phase. It also consisted of clauses that gave specific performance metrics including clauses specific performance metrics for punctuality, safety, and cleanliness[9].

Another case in point can be the Delhi – Meerut Expressway project which worked on the hybrid annuity model (HAM). In this project, the PPP agreement defined the role of government and private entities as the government was to cover 40% of the construction cost while the rest would be borne by the private concessionaire[10]. Another clause that needs to be incorporated to mitigate disputes is a detailed toll escalation clause by linking the toll rates to inflation, removing the ambiguities. Further, opting for modular contracts shall allow the parties to indulge dynamic agreements that are structured into independent modules which shall further allow them to adjust specific parts of the contract without renegotiation of the entire agreement. Another step that can be taken by the parties to reduce the possibility of a dispute is through the AI and IoT based technology that shall allow the parties to collect real-time data, analyze, report and monitor

#### 2. BALANCED RISK ALLOCATION

For any project pursued, there are several risks that need to be hedged through the effective allocation of risks[11]. This becomes especially essential for PPP projects whose successful execution is dependent on effective risk allocation. The PPP projects need to address the following risks-

- A. Construction Risks – The PPP projects are vulnerable to the construction risks associated with the design and building phases of the project[12]. The projects during this phase can run through blockades due to unforeseen circumstances like labour strikes or supply chain disruptions. A case in point can be Mumbai Metro Line 3 which faced delays in construction due to labour strikes for better wages[13]. Another case that showcases this is the Delhi-Meerut Expressway which experienced delay during the construction phase of the project due to supply issues in the procuring of cement which was exacerbated due to transportation bottlenecks[14].

The project is also vulnerable to cost overruns due to inaccurate estimates or inflation in the prices of the material. The Hyderabad Metro Rail project is one of the cases which suffered due to the inflation in the material prices and changes made to the scope of the project which led to a significant escalation in the costs [15]. In addition to this, one of the crucial reasons for the project to be declared unsuccessful is the structural deficiencies or functional inadequacies which was showcased through the Bandra-Worli project [16].

For the project to be successfully executed, it is generally seen that the construction risks are allocated to the private sector due to the technical skills and resources available to them to produce the results more efficiently. One of the cases.

In order to reduce the construction risks, the escalation clauses for the material and labour costs can be incorporated to reduce the impact of inflation during the construction phase as shown in the Delhi International Airport (DIAL) Expansion contract [17]. Furthermore, clauses for mandating the contractors to maintain the buffer stock of critical material could be incorporated to mitigate the risk of supply chain disruptions as seen in the Bangalore International Airport agreement [18]. In addition to this, third-party monitoring and audits can be drafted to ensure the quality of the material used.

The Mumbai Metro Line 1 also drafted the step-in rights clause in the PPP agreement which allowed the government to take control in case the private party fails to meet the construction deadlines or quality [19]. One of the unique solutions that can implemented to address the construction risks is to create a contingency reserve fund to address the cost overruns that might take place [20] The Bangalore International Airport project successfully utilized a contingency fund to address unexpected cost escalations due to labor strikes. Further, emerging technologies like Building Information Modelling help in navigating through the design and construction risks [21]. Mandatory pre-construction feasibility studies can also be conducted to ensure early risk detection and ensuring the project viability[22].

- B. Operational risks – The operational risks are the risks that are borne during the operation and maintenance phase of the project [23]. These risks include revenue shortfalls due to the real demand for the service being lower/upper than the expected demand. One of the case studies that showcases this is that of the Bangalore International Airport wherein the expected passenger number was lower than the real demand which led to the airport running into operational complexities and having to go through multiple rounds of expansion [24]. Another major issue that is looked at is the deficiency in the service quality which further results in lower user satisfaction. The operations risks are typically borne by the private sector companies since they want to maximize profits through efficient performance. One of the methods of mitigating the operational risks is to include the clause of Minimum Revenue Guarantee (MRG) which establishes provisions for governmental support for situations wherein the
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revenue is lower than expected [25]. Further clauses for Technology Upgrade Requirements can be drafted for mandating periodic upgrades of equipment and improving the operational efficiency as incorporated in the PPP agreement of Jawaharlal Nehru Port Container Terminal Agreement [26]. Further, a multistakeholder responsibility framework can be drafted like in the Chennai Desalination Plant PPP agreement. Inflation-linked cost adjustment clause could be incorporated to reduce the disputes related to operational costs [27]. Further, dynamic pricing models that adjust based on the real-time demand and economic conditions like Uber's dynamic pricing can be introduced in the PPP model.

C. Regulatory and political risk – The regulatory risks are the risks arising from changes in government policies, legal compliances, or public sentiment [28]. Thus, the regulatory and political risks include any changes that affect the tariff rates or operational mandates, disputes arising out of land or in land acquisition or contract enforcement. One of the cases that showcases this is the Sardar Sarovar Dam and Canal Project wherein the environmental clearances were delayed due to the opposition from activists and stringent regulatory requirements [29]. This also includes the project facing hurdles due to environmental or social concerns. These risks are generally taken over by the public sector since it is better adept at managing policy changes and legal disputes. These disputes can be mitigated through clauses that take provide for the delays in environmental clearance. Further, a political force majeure clause can be added to the PPP agreement if the project is politically volatile for projects like the Delhi-Gurgaon expressway and Noida Toll Bridge [30]. Furthermore, one of the innovative means for addressing the regulatory framework is drafting a Multistakeholder framework that shall allow for the government to engage with all the stakeholders to ensure the mitigation of disputes. Third party mediator can also be adjudging, appointed to ensure that the parties could resolve the disputes. The Thames Tideway Tideway Tunnel project wherein a third-party mediator has been involved in the dispute resolution [31].

D. Market and demand risk –

The revenue generation for any project is linked to the markets and any fluctuations in the statistics related to the market impact the revenue generation directly [32]. Such risks include fluctuations in the user demand like variations in the traffic volume for toll road projects or changes in the energy demand affecting the Power Purchase Agreement [33]. Such changes generally are shared between the public and the private sector to ensure the project's viability.

Such risks can be mitigated by incorporating a demand risk-sharing clause wherein the public and private parties allocate the demand risks based on predefined thresholds [34]. Penalty and incentive mechanisms could also be incorporated to incentivize the concessionaire to increase the demand. In addition to this, clauses like that of Off-take guarantee clauses allow for minimum purchase or use of service by the public entity to support demand like in the case of Chennai Desalination Plant [35]. Another unique solution to address this issue can be Hedging mechanisms or insurance models that mitigate revenue fluctuations. A case in point can be the example of Mexico

City's New Airport, wherein the market demand and the market demand analysis can reduce the uncertainties over the project.

#### Limitations of Risk Allocation

- A. Level of Detail for Risk Allocation – While the parties to the contract for the particular project lay down the risk and their allocation in the contract [36]. However, if each risk is being addressed, it shall drastically increase the cost of doing so which may lead to benefits outweighing in cases of less significance. A case in point for this can be the case of a construction project, generally, all the risks are borne by the private entities except a few specific risks like geological risks that the government can provide indemnity against.
- B. Risks that cannot be transferred –There are certain types of risks that can't be transferred through the PP contract. Such cases include the private entity being responsible for the risks related to the government reneging on the contract or expropriating assets [37].
- C. The extent of risk transfer to a private party – The government bears a major part of the risks for the project to be executed successfully. This is so because the capacity of a company to bear the risk is limited by the value of equity that the equity holders have at stake. In addition to this, the lenders of the project shall typically accept a very low level of risk. This results in the government having to bear the onus of the risk [38].
- D. Incomplete Contracts – The PPP contracts when drafted in an inefficient manner where the crucial clauses of the contract have not been incorporated at the time of signing of the agreement, the contract shall fall through [39].

#### **V. EFFECTIVE DRAFTING PRACTICES**

- A. Performance Requirements – The PPP contracts should have detailed clauses to describe the quality of the assets that need to be utilized for the project to be successfully implemented like clauses for the service delivery, operational efficiency, and asset management. Further, the PPP contracts should also incorporate the measurable outputs [40].
- B. In order to assess the performance of the plant, it is necessary that the requisite monitoring mechanism be set up for real-time tracking and periodic evaluation of performance. Further penalty clauses should be incorporated with specific formulas for penalties for non-compliance of targets. Another innovative clause that can be incorporated in the agreement is that of mandating environmental impact assessments (EIAs) and periodic audits to ensure compliance with sustainability standards. The Chennai desalination plant also included sustainability requirements to ensure water security while minimizing environmental impact.
- C. Payment Mechanisms – It is crucial that the PPP contracts define the payment mechanisms for compensating the parties for delivering the services or the assets [41] wherein the bonuses and penalties come into play as per the performance of the plant. The clause for flexible payment mechanisms should also be drafted which accounts for inflation, currency fluctuations, and market conditions, with built-in adjustment triggers. This was also implemented in the Delhi International Airport expansion project wherein the inflation-linked payment adjustments to prevent financial strain during volatile periods was drafted into the contract.
- D. Adjustment Mechanisms – The PPP contracts should be drafted in a manner to adapt to the changing global scenarios like the rise in inflation, policy changes, or evolving user needs. This ensures that the PPP contracts being long-term contracts is able to sustain through periods of crisis [42]. Thus, in order to ensure this, the contracts should incorporate a clause for extraordinary review which enables periodic reviews triggered through an extraordinary event for reviews

of tariffs, operational requirements, or service standards [43]. Furthermore, a provision for the allowance of modifications to service delivery requirements, etc. needs to be taken into consideration as they shall enable for the parties to fulfil the commitments in the contract. One of the most crucial clauses that can help the PPP contracts to not go into disputes is through incorporating risk reallocation clause. Any PPP contract is successfully executed if the parties engage in efficient risk allocation. The non-efficient risk allocation can lead to disputes between both the parties and also lead to heavy financial losses.

- E. Termination Provisions – The PPP contracts should be drafted to entail the conditions under which the PPP contract may be terminated either at the conclusion of the agreed term or prematurely [44]. Thus, it becomes essential that the PPP contracts specify the duration of the contracts and the conditions under which it may be renewed. Furthermore, in order for handover to take place, a clause specifying the procedures for transferring of assets and operations back to the public sector at the end of the term should be specified. The PPP contract should also be drafted to entail the provisions for early termination. A default termination clause needs to be drafted within the PPP agreement to terminate the contract at significant non-compliance or failure by one party. The mutual termination clause needs to be drafted for cases wherein both parties due to an unforeseen circumstance have decided to terminate the project. Lastly, force majeure termination clause needs to be incorporated to terminate the project in case the project is stalled due to uncontrollable events like natural disasters. The PPP contracts need to specify the compensation for the parties in cases of termination and they need to be drafted in a manner that the fair compensation is calculated through specific formulas.

## VI. CONCLUSION

Public-Private Partnership (PPP) contracts play a crucial role in driving India's growth and development by enabling efficient infrastructure development and service delivery. Since the primary objective of PPP projects is not profit but the creation of long-term value for the public through collaboration between the public and private sectors. However, the execution of PPP projects in India faces significant challenges, including ambiguities in agreements, imbalanced risk allocation, and disputes arising from undefined mechanisms. To address these challenges, it is crucial that the PPP agreements are drafted with clarity and consciousness in PPP agreements and ensure balanced risk allocation. Contracts must clearly define roles and responsibilities, allocate risks to the party best equipped to manage them, and ensure mutual accountability. Further, Feedback Loops for Continuous Improvement should include clauses requiring periodic feedback from end-users and stakeholders to refine service delivery during service. Further, the smart contract should be integrated in automating payment triggers, monitoring compliance, and ensuring transparency.

Clauses for payment mechanisms, performance requirements, adjustment mechanisms, and termination provisions must be meticulously drafted to avoid disputes. Payment structures should incorporate incentives and penalties for increasing the efficiency of the project. Furthermore, adjustment clauses should be drafted to adapt to changing conditions. Clear termination provisions and dispute resolution frameworks help preempt conflicts and safeguard project continuity. The PPP agreements if executed successfully shall help in developing the nation.

## REFERENCES

- [1] P. Hovy, *Aligning Public and Private Interests in PPP* (Int'l Inst. for Sustainable Dev., Discussion Paper, Aug. 2015), available at <https://www.iisd.org/system/files/publications/aligning-public-private-interests-in-ppp-discussion-paper.pdf> (last visited Jan. 14, 2025).
- [2] Sekhar et al., *Delhi-Gurgaon Expressway Made Toll-Free Following Delhi High Court's Order*, Econ. Times (Feb. 2014), available at <https://economictimes.indiatimes.com/news/economy/infrastructure/delhi-gurgaon-expressway-made-toll-free-following-delhi-high-courts-order/articleshow/30696789.cms?from=mdr>.

- [3] Hovy P (*Aligning-public-private-interests-in-PPP-discussion-paper. ...*, August 2015) <<https://www.iisd.org/system/files/publications/aligning-public-private-interests-in-ppp-discussion-paper.pdf>> accessed 14 January 2025
- [4] Asian Development Bank, *Trial Balance: Private Sector Financing of Road Projects in India* (2014), available at <https://www.adb.org/sites/default/files/publication/159754/trial-balance-ps-financing-road-projects-india.pdf> (last accessed Jan. 14, 2025).
- [5] M.K. Lewis, *Risk Management in Public Private Partnerships* (Univ. of S. Austl., Jan. 2001).
- [6] NDTV, *Court Relief for Delhi Metro Over Rs 8,000 Crore Payment to Reliance Firm* (Jan. 13, 2025), available at <https://www.ndtv.com/business-news/court-relief-for-delhi-metro-over-rs-8-000-crore-payment-to-reliance-firm-5411354> (last accessed Jan. 14, 2025).
- [7] K.C. Sivaramakrishnan, *The Narmada Dams Controversy: Impact of Development Planning and Litigation in India* (NYU Sch. of L., Working Paper No. 238, 1997), available at <https://archive.nyu.edu/jspui/bitstream/2451/33619/2/Narmada%20Dams%20Controversy.pdf> (last accessed Jan. 17, 2025).
- [8] Asian Development Bank, *Public-Private Partnership Handbook* (2008), available at <https://www.adb.org/sites/default/files/institutional-document/31484/public-private-partnership.pdf> (last accessed Jan. 14, 2025).
- [9] Reliance Mumbai Metro, *Concession Agreement: Article 1 to 41* (Reliance Mumbai Metro), available at [https://www.reliancemumbaimetro.com/doc/CA\\_Article\\_1\\_to\\_41.pdf](https://www.reliancemumbaimetro.com/doc/CA_Article_1_to_41.pdf) (last accessed Jan. 15, 2025).
- [10] Asian Development Bank, *Hybrid Annuity Model Public-Private Partnerships in India's Road Sector* (2023), available at <https://www.adb.org/sites/default/files/publication/820206/sawp-094-ham-ppps-india-road-sector.pdf> (last accessed Jan. 15, 2025).
- [11] S.C. Ward, C.B. Chapman & B. Curtis, *On the Allocation of Risk in Construction Projects*, 9(1) INT'L J. PROJECT MGMT. 47 (1991), available at [https://doi.org/10.1016/0263-7863\(91\)90038-W](https://doi.org/10.1016/0263-7863(91)90038-W) (last accessed Jan. 14, 2025).
- [12] World Bank, *Identifying Risks in Public-Private Partnerships* (World Bank PPP Knowledge Lab), available at <https://ppp.worldbank.org/public-private-partnership/applicable-all-sectors/identifying-risks> (last accessed Jan. 14, 2025).
- [13] The Print, *After Delays & Controversies, Mumbai's Costliest Metro Inches Close to Launch — Just in Time for Polls* (Jan. 12, 2025), available at <https://theprint.in/india/after-delays-controversies-mumbais-costliest-metro-inches-close-to-launch-just-in-time-for-polls/2266226/> (last accessed Jan. 14, 2025).
- [14] Asian Development Bank, *Chennai Metro Rail Investment Project* (Asian Development Bank), available at <https://www.adb.org/projects/51073-004/main> (last accessed Jan. 15, 2025).
- [15] Ministry of Housing & Urban Affairs, *Hyderabad Metro Rail Project: An Overview* (Gov't of India, 2023), available at [https://www.mohua.gov.in/upload/uploadfiles/files/Hyd\\_Metro\\_PPT.pdf](https://www.mohua.gov.in/upload/uploadfiles/files/Hyd_Metro_PPT.pdf) (last accessed Jan. 15, 2025).
- [16] Airports Economic Regulatory Authority of India, *Consultation Paper No. 04/2022-23: Determination of Tariff for Aeronautical Services at Bengaluru International Airport Limited* (2022), available at [https://www.aera.gov.in/uploads/stack\\_holder/16469005524314.pdf](https://www.aera.gov.in/uploads/stack_holder/16469005524314.pdf) (last accessed Jan. 15, 2025).
- [17] World Bank, *Operation, Management, and Development Agreement: Delhi International Airport*, available at <https://ppp.worldbank.org/public-private-partnership/library/operation-management-and-development-agreement-delhi-international-airport> (last accessed Jan. 15, 2025).
- [18] *Consultation Paper No. 03/2022-23: Tariff Determination for Aeronautical Services at Cochin International Airport Limited* (2022), available at [https://www.aera.gov.in/uploads/stack\\_holder/16466368267659.pdf](https://www.aera.gov.in/uploads/stack_holder/16466368267659.pdf) (last accessed Jan. 15, 2025).
- [19] NITI Aayog, *New Approaches to PPP: Focusing on the Airport Sector* (2023), available at <https://www.niti.gov.in/sites/default/files/2023-03/New%20Approaches%20to%20PPP%20focusing%20on%20the%20Airport%20Sector.pdf> (last accessed Jan. 15, 2025).

- [20] Taher Ammar, Mohamed Abdel-Monem & Karim El-Dash, *Appropriate Budget Contingency Determination for Construction Projects: State-of-the-Art*, Alexandria Eng'g J. (2023), available at <https://doi.org/10.1016/j.aej.2023.07.035> (last accessed Jan. 15, 2025).
- [21] Chartered Institute of Building (CIOB), *Building Information Modelling (BIM)* (CIOB Report, 2014), available at <https://www.ciob.org/sites/default/files/M21%20%20BUILDING%20INFORMATION%20MODELLING%20-%20BIM.pdf> (last accessed Jan. 17, 2025).
- [22] Blackridge Research, *What Is a Feasibility Study and Importance of Feasibility Study in Construction Project* (2023), available at <https://www.blackridgeresearch.com/blog/what-is-a-feasibility-study-and-importance-of-feasibility-study-in-construction-project> (last accessed Jan. 17, 2025).
- [23] Institute of Risk Management, *Operational Risk: Practical Approaches to Implementation* (IRM), available at [https://www.theirm.org/media/6809/irm\\_operational-risks\\_booklet\\_hi-res\\_web-2.pdf](https://www.theirm.org/media/6809/irm_operational-risks_booklet_hi-res_web-2.pdf) (last accessed Jan. 14, 2025).
- [24] Airports Economic Regulatory Authority of India, *Consultation Paper No. 02/2022-23: Tariff Determination for Aeronautical Services at Hyderabad International Airport Limited* (2022), available at [https://aera.gov.in/uploads/stack\\_holder/16466188868642.pdf](https://aera.gov.in/uploads/stack_holder/16466188868642.pdf) (last accessed Jan. 15, 2025).
- [25] World Bank, *Valuation of Minimum Revenue Guarantee in Urban Railway PPP Project* (Public-Private Partnership Legal Resource Center), available at <https://ppp.worldbank.org/public-private-partnership/library/valuation-minimum-revenue-guarantee-urban-railway-ppp-project> (last accessed Jan. 15, 2025).
- [26] Press Information Bureau, *Union Cabinet Approves Tariff Policy with Focus on Consumers, Sustainability, and Innovation* (Gov't of India, July 7, 2022), available at <https://pib.gov.in/PressReleasePage.aspx?PRID=1842587> (last accessed Jan. 15, 2025).
- [27] World Bank, *Adjustments for Exceptional Situations in PPP Contracts* (Public-Private Partnership Legal Resource Center), available at <https://ppp.worldbank.org/public-private-partnership/adjustments-exceptional-situations> (last accessed Jan. 15, 2025).
- [28] World Bank, *Identifying Risks in Public-Private Partnerships* (World Bank PPP Knowledge Lab), available at <https://ppp.worldbank.org/public-private-partnership/applicable-all-sectors/identifying-risks> (last accessed Jan. 14, 2025).
- [29] Government of Tamil Nadu, *Tamil Nadu Public-Private Partnership (PPP) Policy* (Tamil Nadu Infrastructure Development Board, 2021), available at [https://tnidb.tn.gov.in/media/filer\\_public/ac/fd/acfddddc2-4487-43ae-87b3-bc1bb06b8ce3/tnidb\\_ppp\\_policy.pdf](https://tnidb.tn.gov.in/media/filer_public/ac/fd/acfddddc2-4487-43ae-87b3-bc1bb06b8ce3/tnidb_ppp_policy.pdf) (last accessed Jan. 15, 2025).
- [30] World Bank, *Concession for Delhi-Noida Bridge: A Case Study* (Public-Private Partnership Legal Resource Center), available at <https://ppp.worldbank.org/public-private-partnership/library/concession-delhi-noida-bridge-case-study> (last accessed Jan. 15, 2025).
- [31] World Bank, *Thames Tideway Tunnel* (Public-Private Partnership Legal Resource Center), available at <https://ppp.worldbank.org/public-private-partnership/library/thames-tideway-tunnel> (last accessed Jan. 17, 2025).
- [32] World Bank, *Structuring PPP Contracts* (World Bank PPP Knowledge Lab), available at <https://ppp.worldbank.org/public-private-partnership/structuring-ppp-contract> (last accessed Jan. 14, 2025).
- [33] World Bank, *Traffic and Demand Risk: Global Infrastructure Facility Guidance Note* (2022), available at [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2022-02/WB\\_GIF-Traffic\\_Demand\\_Risk.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2022-02/WB_GIF-Traffic_Demand_Risk.pdf) (last accessed Jan. 17, 2025).
- [34] International Institute for Sustainable Development, *Risk Allocation in Public-Private Partnerships: Maximizing Value for Money* (Discussion Paper, IISD, 2022), available at <https://www.iisd.org/system/files/publications/risk-allocation-ppp-maximizing-value-for-money-discussion-paper.pdf> (last accessed Jan. 17, 2025).
- [35] Asian Development Bank, *Risk Assessment and Risk Management Plan: 49107-013* (ADB), available at <https://www.adb.org/sites/default/files/linked-documents/49107-013-ra.pdf> (last accessed Jan. 17, 2025).
- [36] Nick Merritt, Simon Currie & Mark Moseley, *Allocating Risks in Public-Private Partnerships* (Global Infrastructure Hub, 2016), available at [https://ppp.worldbank.org/public-private-partnership/sites/default/files/2024-08/GIHub\\_Allocating\\_Risks\\_PPP\\_Contracts\\_EN\\_2016.pdf](https://ppp.worldbank.org/public-private-partnership/sites/default/files/2024-08/GIHub_Allocating_Risks_PPP_Contracts_EN_2016.pdf) (last accessed Jan. 14, 2025).

- [37]<sup>1</sup>World Bank, *Identifying Risks in Public-Private Partnerships* (World Bank PPP Knowledge Lab), available at <https://ppp.worldbank.org/public-private-partnership/applicable-all-sectors/identifying-risks> (last accessed Jan. 14, 2025).
- [38] World Bank, *Government Guarantees for Mobilizing Private Investment in Infrastructure* (World Bank), available at <https://ppp.worldbank.org/public-private-partnership/sites/default/files/2020-02/Government-Guarantees%20for%20Mobilizing%20Private%20Investment%20in%20Infrastructure.pdf> (last accessed Jan. 14, 2025).
- [39] World Bank, *Guidance on PPP Contractual Provisions: 2019 Edition* (2019), available at [https://ppp.worldbank.org/public-private-partnership/sites/default/files/2021-03/Guidance%20on%20PPP%20Contractual%20Provisions\\_2019%20edition.pdf](https://ppp.worldbank.org/public-private-partnership/sites/default/files/2021-03/Guidance%20on%20PPP%20Contractual%20Provisions_2019%20edition.pdf) (last accessed Jan. 14, 2025).
- [40] World Bank, *Performance Requirements in Public-Private Partnerships* (World Bank PPP Knowledge Lab), available at <https://ppp.worldbank.org/public-private-partnership/applicable-all-sectors/performance-requirements> (last accessed Jan. 14, 2025).
- [41] World Bank, *Guidance on PPP Contractual Provisions: 2019 Edition* (2019), available at [https://ppp.worldbank.org/public-private-partnership/sites/default/files/2021-03/Guidance%20on%20PPP%20Contractual%20Provisions\\_2019%20edition.pdf](https://ppp.worldbank.org/public-private-partnership/sites/default/files/2021-03/Guidance%20on%20PPP%20Contractual%20Provisions_2019%20edition.pdf) (last accessed Jan. 14, 2025).
- [42] International Monetary Fund, *Public-Private Partnerships and Fiscal Risks* (2021), available at <https://www.elibrary.imf.org/view/journals/087/2021/010/article-A001-en.xml> (last accessed Jan. 14, 2025).
- [43] Asian Development Bank, *Public-Private Partnership Handbook* (2008), available at <https://www.adb.org/sites/default/files/institutional-document/31484/public-private-partnership.pdf> (last accessed Jan. 14, 2025).
- [44] World Bank, *Adjustment Mechanisms in Public-Private Partnerships* (World Bank PPP Knowledge Lab), available at <https://ppp.worldbank.org/public-private-partnership/print/pdf/node/5902> (last accessed Jan. 14, 2025).

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