STUDY ON INDIA'S PUBLIC-PRIVATE PARTNERSHIPS (PPPS) IN INFRASTRUCTURE: OPPORTUNITIES, TRENDS, AND CHALLENGES

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ABSTRACT

This article links that motivation to modes of PPPs practice in the Indian infrastructure sector. It has already witnessed considerable growth in PPPs projects. But in the long-term of practicing it has an absence of policies and implications. As a result, projects had challenges with coordination in the central government mechanism. So, that it could be said Indian PPPs have been used in hoc way, which has granted government departments leeway in closing partnership deals. The result showing through this research has been a fragmentation of practices and knowledge of the Indian way of practicing PPPs. It has discussed the issues of PPPs on Highways, Airports, and Ports. It will be challenging to realize reforms that include a more critical stance toward PPPs and foster learning processes. Actors have become used to their ways of dealing with PPPs and seek to pursue their fragmented trajectories. However, many problems remain in applying this model in India. In this, paper the Author will analyze the present conditions, trends, and challenges from a theoretical as well as practical perspective.

KEYWORDS: Public-Private Partnerships:Public service delivery: Public Policy: Private sector Participation: India

1. INTRODUCTION

Since the mid-1990s, the Public-Private Partnerships (PPPs) scheme adopted in many advanced and industrialized countries and has been increasingly introduced in developing parts of the world (LIU and YAMAMOTO, 2009). Still, there is ademand for the construction of modern, sustainable, and reliable infrastructure and public services for the promotion of the daily life of every citizen. Therefore, there is a need for massive investment in the infrastructure sector. Several scholars, claim that infrastructure investment helps to raise the economic growth rates, offers new economic opportunities, and facilitates investment in human capital (World Bank, 2020). An emerging market like India, a significant increase in

infrastructure investments is needed to sustainably achieve shared prosperity, poverty reduction, economic development, tackling climate change, achieving the Sustainable Development Goals (SDGs), etc. Only the government budget is not enough to achieve the targeted aims in the development of public infrastructure projects. As a result, private sector participation (PSP) is positively promoted in the development of the public sector. The policymakers in India have reiterated time and again the need to improve the investment climate in the country to drive growth by creating a world-class business environment (Dash and Sahoo, 2010).

Before introducing PPPs in the Indian public infrastructure market, the 1990s economic liberalization plays a vital role. The 1990s economic liberalization has started to support PSP in the domestic public infrastructure sector. It has amended several laws on private participation in several public infrastructure sectors. While practicing PSP, it has emerged as the most important policy instrument for attracting investment into the country's public infrastructure sector. To activate the PSP,activities the Government of India (GOI) introduced the PPPs schemes in several public sectors. In the current stage, all the Indian state has started to utilize PPP's schemes as a mainstream policy forproper project financing, developing, managing, and risk-sharing methods. Keeping in mind that India is still starved of adequate infrastructure required for high-level development, the opportunities for the growth of joint ventures between the public and private sectors are hugely desirable in the current condition and for future development.

On the other side,the high transaction costs arising from inadequate infrastructure can stifle the growth potential of an economy regardless of the progress in other areas. In several countries and around the world, the initial investment infrastructural setup is a challenging task for the government. For emerging economies like India with the low tax GDP ratio, it is even more difficult to provide long term investment and implement capital intensive infrastructure projects. If India is to continue with the tempo of rapid economic growth which might project it into the club of developed countries, huge investments must be made in the infrastructures sector and mostly in the construction of economic infrastructures like airports, ports, highways, and public housing, etc. While the government of India is perpetually wanting in cash, and hence increasingly feeling the necessity of turning towards the private sector for infrastructure development. Therefore, these days

PPPs in infrastructure are increasingly receiving importance for the provision of infrastructure and utility services. In this context, India should not escape from the PSP activities where the perspectives of the PPPs could justify the gap.

1.1 The Objective of the Paper

While researching Indian PPPs as a developing country, it is possible to find several articles, but comparing with developed countries the existing articles and appropriate data are very few in numbers. The existing literature mainly depends on experts from legal firms and public agencies. And academic papers and research papers are mainly generated by public relations, finance, and law departments.

This paper presents a brief review of the literature on PPPs it connects with the PPPs policies in India with their legal and policy implications. The evolution of PPPs models in India is summarized as an example of a developing country where the implementation of PPPs projects is prioritized with government policies particularly over the past decade. In the second part, it has picked up the trends, opportunities, and challenges of PPPs for India. However, the development of legislation, limitations, and challenges in PPPs projects have been reviewed and reported much less frequently in the construction management context. India needs diverse public services to meet the demand for new infrastructure construction and rehabilitation of the existing infrastructure, cooperation with the private sector seems to be one of the options to provide a solution.

In the last section this research provides a critical reflection of PPP's policy trends, opportunities, and challenges in Indian infrastructure projects. The results discussed in this article are based on a study of the utilization of PPPs in India. Overall this research is intended to answer the following research questions:

1) What are the current trends of PPPs activities in India?
2) What are the opportunities and challenges of PPPs in the Indian market?

2. METHODOLOGY

This is conceptual research with an explorative methodology. The article is based on undertaking desk research in exploring PPPs in the infrastructure sector. The secondary data and the information analyzed for this article were drawn from several sources, like GOI documents and other publicly available material, nondisclosed project documents, and research papers. Authors have used several search engines and databases including Google Scholar, JSTOR, Science Direct, etc.

3. LITERATURE REVIEW

The concept of infrastructure has a wide range of definitions in the literature. This paperis describing the infrastructure sector as the long-lasting and sunk investments used to deliver public services in the following sectors: energy, transport, water, and sanitation, telecommunications, etc. Any public services include service that the relevant government considers its responsibility to provide to its citizens is called as the public infrastructure (Great Britain,2012). The worldwide argument in favor of PPPs in infrastructure is that they can lead to efficiency gains in service delivery to the citizens. And the argument about the partnership is a collaboration among participants, and the sharing of resources, risks, responsibilities, and rewards among the actors involved.

These days, the growing infrastructure inadequacies, and the governmental constraints to meet the required investments have resulted in the emergence of alternative modes of financing infrastructure. Only the government budget itself is not enough investment for domestic infrastructure. For this reason, much more emphasis is now being placed on reducing government budget deficits. As a solution, the term 'third' is used by scholars. The word 'third' refers to finding a new way between two partners which exists between the Government and the private sector (Klijn &Teisman 2000). As a result, a new way of partnering for specific projects evolved which includes design, construction, financing, and operation phases of public utility infrastructure and their services. Historically, this way of partnering has been already utilized in industrialized countries such as the United Kingdom,

the USA, Germany, Japan, Korea, etc. in the 1970s and 1980s. As a result, private involvement has increased, although a purely private production arrangement does not appear to satisfy social needs either. Therefore, for the quality of service and less governmental interference, PPPs schemes are evolved, and it could not be ignored on quality service and management of infrastructure services of any country. The fundamental principle to establish the PPPs scheme is that the public and private sectors respectively obtain the resources which are advantageous in specific service areas and the delivery of services.

Whilst, the literature on PPPs is diverse in definition and there is not any single definition of what a PPPs is. Also, it does not have a legal meaning and could not be used to describe a wide variety of arrangements involving the public and private sectors working together in some way (Farquharson et al,. 2011, 9). While increasing the public demand in infrastructure services, both developed and developing countries have actively been inviting private sector partnerships to be involved in constructing infrastructure projects (Tserng et al,.2012). According to the World Bank 2014, PPPs is defined as, "PPPs as a long-term agreement between the private sector (typically a consortium) and the government body to provide public assets or services, in which the private sector is responsible for dealing with significant risks and management duty and the payment is related to performance". Respectively, the Organization for Economic Co-operation and Development (OECD) report 2008, has defined "PPPs, as an agreement that takes place between the government and one or more private partners; and the service delivery it should be aligned with the profit objectives of the private partners" (OECD, 2008). Further, scholars and researchers started to explain, PPPs as a model to the procurement approach where the infrastructure project is executed with a broader span of contractual relationships between the public and private sectors to provide an asset and/or a service (Tang et al,.2013).

While exploring the literature on PPPs it exists in various shades and forms. The fundamental principle to establish the PPPs scheme is that the public and private sectors respectively obtain the resources which are advantageous in specific service areas and the delivery of such services. The underpinning principle of the notion of partnership is thus collaboration and mutual support among participants, and the sharing of resources, risks, responsibilities, and rewards among the actors involved. But on the importance of PPPs in

economic development, they are needed in the face of fiscal and other constraints, like governments and private sectors. Therefore, most emerging economies have been turning towards the private sector as a means of financing infrastructure development. And these projects usually need a huge investment which is a heavy financial burden for most of the developing countries. Concentrating on the financial burden, several developing countries had started to welcome private financiers and investors to take participate in specific PPPs projects. Where these projects are especially motivated in improving the efficiency and performance of the projects, having the characters of the maximum utilization of private-sector technologies, know-how skills, and private capital. While, focusing on the maximum utilization of the private sector, Leibenstein, (1966) empirically verified the argument on a monopoly situation in the provision of goods and services may lead to welfare loss and that competition in providing goods or services which enhances the efficiency. Also, he strongly subscribes to the PPPs model to expand competition between the private sector which, in turn, leads to an improvement in various economic efficiencies.

According to the several definitions, it is believed that PPPs are to provide benefits to the public sector, private sector, and the consumers by involving the healthy participation of the government and the private financing initiatives. Whilst, the definition of PPPs is not academically completed, where the PPPs schemes or models play a vital role. The schemes in PPPs model is giving various characters and attractive structures e.g. from the combination of traditional government procurement to complete privatization, of infrastructure asset design, construction, possession, and operation with several schemes such as DBM(Design-Build-Maintain), BOOT (Build-Own-Operate-Transfer),BOO (Build-Own-Operate), BOT (Build-Own-Transfer) among others (Ito, 2018). These models are established in various forms including the involvement of the private sector in financing, design, construction, operation, maintenance, and in some cases concessional ownership of major facilities (Li et al,.2005).

In this way,(Dailami and Klein, 1998) argues that the governments can attract private sector funds in infrastructure projects in two ways, first by providing financial assistance in the forms of grants or guaranties or cheap loans, secondly, by rendering the required policy support. Where they strongly argue and protects the private sector concerns by ensuring macroeconomic stability and sound regulatory setups for facilitating and ensuring private

sector investment in the infrastructure build-up. This means, while forming the PPPs, the private sectors are reciprocal to the country's legal, political, and economic stability. Otherwise, the conflicting opinion starts to evolve in considering negotiation efficiency, service quality, and accountability, etc. (Song et al,. 2016). Therefore, for the successful procurement of PPPs projects the governments and the private sector needs to exert major efforts in terms of preparation, procurement, management, and operation, leading to high transaction costs, etc., which need attention to attract private investors to participate in the public infrastructure construction(Vandana,2015).

Nowadays, there is a trend of public sector reform in India which is opening doors for the application of the PPPs scheme. Such forms of PPPs, Outsourcing, licensing, concession, Build Operate Transfer [BOT], Design-Build-Finance-Operate [DBFO], etc. provide a broad portfolio of opportunities for different societal actors to overcome structural limits in the provision of public services. Therefore, in this paper, the author argues that the Indian way of PPPs could be tackled in the current trends and policies.

4. APPLYING THE PPPS SCHEME TO INDIA

4.1 Background of Public Service Reform in India

Public infrastructure in India has long been regarded as a social-welfare issue with the government taking full responsibility for financing and operation. However due to the speedy urbanization and improvement of living standards, conventional sources of financing such as governmental transferring payments and borrowing from banks can no longer meet the fast-growing demands of Indian citizens. At this point, funding is one of the key issues in meeting this increasing demand. One-sided government funding is insufficient most of the time, which makes way for cooperation with the private sector to remove the financial burden on the government budget (Gurgun &Touran, 2014). While researching the issues of PPPs in India, at first PPPs appear conceptually hard to apply in a region that does not lend itself readily to a western analytical perspective. The diffusion of policy ideas and innovations assumes the receptive development of legal environments (Common, 2000). Therefore, this section seeks to provide an understanding of the context of the Indian way

of PPPs which has profound implications for the development of numbers of PPPs projects in current days. Historically, there is no exact date and year which could speak of the beginning of PPPs activities, but it could be said that the PPPs story began with an investment of private sterling investments in Indian railroads in the latter half of the 1800s(Singh, 2017). The framework of development that underpins the process of transformation of the Indian public sector undergoes may be traced back to the Industrial Policy Resolution of 1956 and would continue to innovate and lead in strategic areas of national income.

Additionally, the new wave in PPPs was felt after the new Industrial policy of 1991(K.Mathur &N. Mathur, 2017). Several policies were made by the central government and it was decided to invest in infrastructure sectors like power, road, education, health, etc. In this direction, the fiscal budget of GOI, 1996-97, announced several incentives for private sector involvement in domestic infrastructure. Which includes fiscal incentives such as 'five-years tax holiday' for companies engaged in developing, managing, maintaining, and operating infrastructure facilities (Nagesha, 2018). Theincome tax exemption was extended to dividends, interest, or long-term capital gains earned by funds or companies set up to develop, maintain, and operate infrastructure facilities. In this way for long term finance for infrastructure development. The GOI established the Infrastructure Development Finance Company (IDFC) in 1997from government support. Respectively, many legal administrative procedures related to foreign investments in the infrastructure sectors were allowed foreign equity participation up to 74% in total investment. Also, for the strong financial assistance, the GOI could obtain a loan of $300 million from the Asian Development Bank (ADB) to help develop a long-term debt market and to support private sector infrastructure investment projects.

Table 1: Infrastructure Regulatory Institutions in India and Respective Acts

Sectors	Current Nodal Agency	Existing Acts
Roads and Highways	National Highways Authority of India (NHAI)	The National Highways Act, 1956 NHAI Rules, 1957 NHAI Rules, 1964 The National Highways Authority of India Act, 1988
Railways	Indian Railway Stations Development Corporation (IRSDC)	The Railways Act, 1989
Ports	Ministry of Shipping Indian Ports Association (IPA) National Shipping Board (NSB)	The Indian Ports Act, 1908 The Major Port Trust (MPT) Act, 1983 Guidelines of PPP Port Sector, 1996 Indian Maritime University Act, 2008
Airports	Airports Authority of India (AAI) Airports-Economic-Regulatory Authority of India (AERA)	The Airports Authority of India Act, 1994 Airports-Economic-Regulatory Authority of India Act, 2008
Power	Central Electricity Regulatory Commission (CERC)	Electricity Supply Act,1948 The Electricity Act, 2003

Source: Compiled by Author

4.2 Developing PPPs Policy, Institutional and Regulatory framework

Since the 1990s, the PSP has started to boost up its activities in public infrastructure which helped to boost the Indian economy (Verma, 2018). The policy is to encourage private participation in economic and social infrastructure for "on-time and within cost". The decade of the 1990s to 2000s shows the result that the Indian economy also has the potentiality to compete with the leading world economies (Bhandari & Kale, 2019). Again, the rising industrial and tertiary sector activity exerted further pressure on the insubstantial infrastructure. Hence, PPPs appeared to emerge the exclusive channel through which demand for huge investment could be met with public investment initiative together with funds and expertise injected by the private sector agents. In this context, it seems imperative to undertake a study in following points: (a) focusing on the dynamics of development phases ofPPPs in Indian infrastructure scenario (b) analyze the factors underlying the opportunities and problems (c) suggest policy recommendations in terms of

institutional, finance and regulatory framework.In this way GOI has conceptualized and enacted PPPs projects at two distinct levels 1) at the national level by the central government or its affiliated agencies and 2) at the state and urban levels by the respective state governments and their associated nodal agencies.

The development phase of the current institutional structure in the form of the Public-Private Partnership Appraisal Committee (PPPAC)isin table 2. Table 2 tries to trace the policy impacts of government and to critically analyze various vital policies both at the center and the sates levels. GOI has attempted, from time to time, with several fiscal measures through the formulation of special policies, the establishment of institutions to address issues related to various infrastructure inadequacies to encourage the PSP activities in the public sector.

Table 2: **Major Timelines for Promotion of PPPs**

Periods	**Established committees**
1996	Rakesh Mohan Committee on infrastructure financing
1997 -2002	Exclusively focused on infrastructure-private sector participation through PPPs
2004	Committee on Infrastructure (COI)
2005	Public-Private Partnership Approval Committee (PPPAC)
To address the construction time cost overruns- all NHAI's from phase III started development through BOT PPPs	
2006	VGF Viability Gap Funding (VGF)
Empowered Institution (EI)/ Empowered committee- To approve VGF	
2006	India Infrastructure Finance Corporation Limited (IIFCL)- for innovative, cost-effective methods for financing infrastructure projects
2009	Cabinet Committee on Infrastructure (CCI)
2011	National Public-Private Partnership Policy (draft)
2014	PPPs institute proposed in the 2014 union budget for promoting PPPs in the country by the Finance Ministry
2015	Vijay Kelkar committee to revisit and revitalize the infra PPPs
2015	NITI (National Institution for Transforming India) Aayog (Infrastructure and PPPs Division)

Source: (Nagesha & Karnam, 2015)

After the establishment ofPPPAC in 2005, the GOI has established IIFCL in2006for the financial formulation. IIFCL is to provide long-term debt up to 20 percent of the project costs in infrastructure projects. For the financial viability of PPPs projects, the VGF scheme was notified in 2006. Under the VGF scheme up to 20 percent of the project cost is available for both central and state level PPPs projects (DEA, 2020).

Further, in the implementation of the PPPs model, the National Public Private-Partnership Policy 2011 is drafted. It defines PPPs as "arrangement between the government/statutory entity/government-owned entity on one side and private sector entity on the other, for the provision of public asset and /or public services, through investments being made and/or management being undertaken by the private sector entity, for a specified period time" (GOI, 2011). It has also defined allocation of risk between the private sector and the public entity. To support social important projects and make it viable, the GOI has established the Vijay Kelkar committeein 2015. The Vijay Kelkar committee works on, policy, institutional, and regulatory frame work. In this way, GOI has introduced, various fiscal measures through the formulation of special policies, and the establishment of institutions to address issues related to various infrastructure inadequacies to encourage the private sector participation in the promotion of infrastructure PPPs. After the wrap of 5th-year development policies the current government has proposed the NITIA ayog, under the chairmanship of Prime Minister Shri Narendra Modi. The NITI Aayog is the premier policy 'Think Tank' of GOI, providing both directional and policy inputs in public infrastructure inside India. While designing strategic and long-term policies, and programs of PPPs infrastructure the NITI Aayog provides relevant technical advice to the Central and the State governments (NITI Aayog, 2020).

4.3 Discussions on theremarks of PPPs National Highway projects

India has embarked on a rapid pace of road development following the policy change in the late 1990s that gave a high priority to road development. The National Highways Act, 1956 was amended in 1995 to enable private investment in development, maintenance, and operation of highways. The NHDP was launched in 1997 to develop road access in urban and rural areas.In this way, GOI initiated several measures such as the declaration of the road sector as industry to facilitate borrowing on easy terms and reduction in the customs duties on construction equipment (Haldea, 2013). To remove the deficiencies and upgrade the road network to world-class standards, the governments at the union and state levels have

initiated two PPPs model that have been used in procuring the National Highways projects include Build-Operate-Transfer (BOT), (Toll) and BOT (Annuity) models. With about 5.2 million Km of the road network, India has the second-largest road network in the world, comprising National Highways, State Highways, and other roads. As of 2015-16, the National Highways covered 1,00,475 km and carried and carried about 40% of the national road traffic(Kumar and Chakrabarti 2017). In the Fiscal Year 2019-2020, NHAI has accomplished the construction of 3,979 km of national highways (Soni 2020). This is the highest ever highway construction achieved in a financial year. Also, it has launched a major road development project in the form of the NHDP connecting the four major cities [Delhi-Mumbai-Chennai-Kolkata] golden Quadrilateral Project (NHDPPhase) which connects the North-South and East and West. Under the budget of 2020-21 GOI has allocated Rs 91,823 crore (US$13.14 billion) under the Ministry of Road Transport and Highways, the Ministry has allocated Rs 3,150 crore (US$ 450.71 million) for maintenance of roads and highway sin Fiscal Year 2020.

4.4 Discussions on the remarks ofPPPs Airports

The government of India's Ministry of Civil Aviation (MoCA) is responsible for the formulation of national policies and programs for the development and regulation of the Civil Aviation sector in various legislations. MocA has recognized exercises administrative control over attached and autonomous organizations.The Airports Authority of India(AAI) established in 1994 by merging the International Airports Authority of India and the National Airports Authority, of India. The major work of AAI is to accelerate the integrated development, expansion, and modernization of the operational, terminal, and cargo facilities in line with current international standards. The idea was to bring in the private sector through a long- term PPPs concession by setting up a Joint venture (JV) of a private player with the AAI. The AAI is a public sector entity owning and managing all the airports in India, excluding Cochin airport (Pandey, et.al 2010). These days there is a heavy demand for investment in the aviation infrastructure in India. Both passenger traffic and cargo traffic are expected to grow at a compound annual growth rate (CAGR) of 15% to 20% respectively during the next few years. The Civil Aviation is responsible for the formulation of national policies and programmed for the development and regulation of the civil aviation.

Table4: PPPs in Major Airports

	Project Name/ Time Period	Operator Company	State	Cost Indian Currency (crore)	Status of the Project
1	Hyderabad International Airport (2003)	GHIAL: GMR Hyderabad International Limited	Andhra Pradesh	24780	Under operations
2	Modernization of Delhi Airport (2006)	DIAL: Delhi International Airport Limited	NCR	8600	Construction
3	Modernization of Mumbai Airport (2006)	MIAL: Mumbai International Airport Limited	Maharashtra	5800	Construction
4	Bangalore International airport (2008)	BIAL: Bangalore International Airport Limited	Karnataka	12690	Under operations
5	Cochin International Airport (1999)	CIAL: Cochin International Airport Limited	Kerala	303	Construction

Source: Compiled by Author Indian Rupees 100 = 1.32231 US Dollars

Table 5: Share Holding Patterns on PPPs Airport

	Airport, Location, BOT type,	**Private sector**	**Public Sector**
1	GHIAL, Hyderabad- Greenfield, BOOT-(Build-Own-Operate-Transfer) Equity Pvt: GMR group 63%, MAHB 11%, AAI 13% Govt of Andhra Pradesh 13%	74%	26%
2	DIAL, Delhi Brownfield, LDOT-Lease-Develop-Operate-Transfer, Equity: Pvt: GVK Group 50.1%, Fraport AG 10%,	74%	26%

	Malaysia Airports 10%, India Development Fund 3.9% AAI 26%		
3	MIAL, Mumbai- Brownfield, LDOT- Lease Develop-Transfer, Equity: Pvt: GVK Group 50.5%, BSDM 13.5%, ACSA Global 10% AAI 26%	74%	26%
4	BIAL, Bangalore- Greenfield, BOOT-Build-Own-Operate-Transfer, Equity: Pvt: GVK Group 43% Siemens 26% Unique Zurich 5% AAI 13%, Govt of Karnataka 13%	74%	26%
5	CIAL Kochi-Greenfield, BOO-Build-Own-Operate, Equity: Pvt: NRIs (Non-Residence Indians &others + Airport Service Providers 57.9% Govt of Kerala + Public sector units 42.1%	57.9%	42.1%

Source: (Gupta 2015)

4.5Discussions on the remarks of PPPs Ports of India

According to the Ministry of shipping, about 95 percent of Indian trading by volume and 70 percent by value is done through maritime transport (IBEF, 2020). The port sector in India offers tremendous scope for international maritime transport both for passenger and cargo handling. Since the 1990s, economic liberalization, the number of projects under PPPs have increased exponentially, to intending to redefine performance through capacity augmentation, efficiency, and productivity enhancement as well as increased competition. While the GOI has introduced several policies, measures designed to encourage growth in the port sector, certain policy reforms are needed to accelerate the PPPs port sector. The reforms are aimed at upgrading infrastructure at Indian ports, implementing new land policy for major ports establishing a port regulator at all ports to monitor and regulate services and technical performance standards.

Table 6 shows the parameters of PPPs in both major and minor ports. The GOI has sought to accelerate port infrastructure through the model of PPPs. The report of the Taskforce on the financing plan for ports, while pointing out the important role of the quality of port infrastructure in enhancing international competitiveness and spurring trade, recommended the development of ports primarily through PPPs, to ensure the requisite investments as

well as the creation of world-class (Jayakumar, 2016). Until these days India has 12 major ports and 205 notified minor and intermediate ports (The Economic Times, 2019).The applied schemes such as BOT, BOOT, BOOST (Build-Operate-Own-Share-Transfer), and BOLT (Build-Operate-Lease-Transfer) schemes enable private players to participate in port/port terminal development. To fill the gap of investment the GOI has regulate investment from the private sector, encouraging PSP through FDI, 100% FDI is eligible especially in BOT Port projects (Kulkarni & Prusty, 2007).

Table6: PPPs Parameter at Major and Minor Ports

	Parameter	Major Port	Minor Port
1	Typical Nature of PPP	Terminal Development and Operation	Development of Green Field Ports
2	Bidding Methodology	2 stage Bidding -RFQ and RFP	Bidding/Nomination
3	PPP Model	Revenue Share	Revenue Share/Per MT Royalty
4	Tariff Regime	Regulated by Tariff Authority for Major Ports (TAMP)	No Regulator
5	Cargo Guarantee	Minimum Guarantee Throughput (MGT) Required	MGT Not Required
6	Concession Period	30 years	40 years
7	Financial Closed	180 days	270 days

Source: (BRIEF Empowering Growth, 2017)

5. Opportunities and challenges of the PPPs model in India

The PPPs schemes in Indian infrastructure is still new and recent. With the rapid economic growth and urbanization, it is obvious that the current public infrastructure cannot meet the demand of citizens without the public and private sectors participations in public infrastructure development. To reduce the financial burden the GOIis inviting foreign companies and domestic private capital to participate in infrastructure construction and provision. As an opportunity many important policy steps have been taken to change the management framework from the top to the lower levels in the public sector. However, there is no doubt that the application of the PPPs requires certain internal and external conditions, Although the number of implications is increasing in highways, ports, airports,

and power sectors. The policy and legal environment for private participants are on the way of mature, the PPPs schemes are regulated in BOT and PFI (Public Finance Initiative) acts. Further for the whole project life cycle the National Public-Private Partnerships Policy, 2011 is a framework in principle. Since PPP projects need to undergo extensive due diligence, the guideline for their appraisal and approval have been devised. Under the guidelines of PPPAC the Ministry of Finance is responsible for the appraisal of PPPs projects. The sponsoring ministry identifies the projects to be taken up through PPPs and undertake the preparation of feasibility studies, project agreements, etc. with the assistance of legal, financial, and technical experts, as necessary. Major infrastructure projects are conducting the projects under the related ministry. In practical terms, the selective application of the PPPs model in highways, railways, airports have stimulated similar other areas, with the introduction of the PPPs model in the areas of solid waste treatment, urban water supply, health, and education.

However, on the implication level, there remain high risks for both the government and the private sector to engage in such a framework. Many initiatives cannot be identified or pursued. Thus, to reduce risk, the legal and economic frameworks need to be improved. Recent experiences in India indicate that the following, challenges should be confronted:

- **Attraction and rewards:**

The GOI are still somewhat reluctant to allow profits in the public infrastructures. It is because the poor population cannot afford to pay for those services if the public infrastructure is fully operated by private investors.Whether or not the private sector is attractive depends on whether the PPPs projects offer benefits to them. The private sectors are oriented to get profit and the governments have the responsibility to ensure that investors gain proper rewards.

- **Corruption**:

Investments in infrastructure are large, long-term, irreversible, and domestic market dependent. Any change in government policies related to these factors may adversely affect profitability. Every private actor interest in investing and operating in public infrastructures and services, and it has also deal with complex relationships with local authorities. This

creates high entry costs as a big disincentive for the private sector. The corruption in the process of competitive bidding is a greater barrier forfair transactions and equal cooperation. According to the Corruption Perception Index (CPI) prepared by Transparency International, India ranks 80th position among 180 countries (PTI, 2020). Therefore, for the healthy bidding, negotiations, on infrastructure projects the GOI must address urgently the corrupting role of big money in thepolitical parties.

- **Lack of Information:**

In the current stage the PPPs program lacks a comprehensive database regarding the project's studies to be rewarded under PPPAC. An online database, consisting of all the project documents including the feasibility reports, concession agreements, and the status of the various clearancesshould be disclosed to public and the related researchers in the field.

- **Long term Financing**:

As mentioned,above the private sector is dependent upon commercial banks to raise debt for the PPPs projects. The available commercial and development banks are not inenough condition. For the commercial banks, construction projects are major risk factor.

- **Land acquisition:**

Land acquisition is the forcible takeover of privately owned land by the government or private companies for developmental projects in the larger interest of society (Pratap & Chakrabarti, 2017). It has been the single largest roadblock for the development of infrastructure in India. The land acquisition process for PPPs projects is no doubt the most challenging predevelopment activity in India. In large infrastructure projects such as road/highway, airports will involve loss of land, forests, and wildlife, GOI has passed the Land Acquisition and Rehabilitation & Resettlement Act (LARR) 2013, to resolve disputes relating to land acquisition. This law now promises to pay landowners four times the existing market price for their land and requires the approval of 80 percent of the landowners in the affected area, making it much more difficult for private sectors to acquire land. This could be detrimental to private investment in the long-term since the viability of projects may be affected.

- **Independence regulatory institutions:**

To achieve the success ofeach of the infrastructure projectsan independent and autonomous regulatory institution is needed. In terms of administrative autonomy, all the regulators should have a fair degree of autonomy in selecting its staff and the remuneration, compensation, etc.

- **Stability and Transparency:**

Thesuccessof the PPPs implemented infrastructure projects depends on a stable political environment, which is often absent in many emerging countries, including India. At the central and local level, the institutional framework is changing quickly and still immature. Whilst, the changes often take place in a non-transparent way, posing great restraints for the private sector.

- **Political Risk:**

Most of the PPPsprojects have anelementof political risk about them. Still, these days the tradition of a decision to adopt PPPs project is inevitably political. The GOI must consider the political and social implications of PPPs and for enough political will to implement PPPs.

- **Communication and Management**:

For the success of any infrastructure ahealthy partnership is necessary.For a good partnership, a good communication among the participating actors is inevitable. The inter-organizational relation is important to promote the project smoothly. The PPPs project managed by contract is a new issue in most of the state governments. Still there is lacking enough experience in this field. In this context, the GOI must enhance the capacity of communication from top to bottom.

- **Improve and Strengthen the conditions and terms of the Contract:**

The conditions and terms of the contract need improvement especially with the company's responsibility in guaranteeing project design, building, and complete facilities. There should be investment insurance for investors to make them easy to invest in the public sector.

Similarly, the conditions and terms of the concession contract need further research and renegotiations in protecting the interest of the parties. There is a need to avoid unnecessary financial burdens like payment level of indebtedness and compensation to the concessionaire if the estimated return, profit, and traffic volume for a certain period. Thus, there is still a long way to go for the Indian Government. Many barriers prevent the foreign private sector to invest in public sector such as inhibiting regulatory frameworks, and policy conflicts between different state governments.

CONCLUSION

The present paper has tried to analyze the trends and patterns of PPPs applied infrastructure in the Indian infrastructure market. The study assessed Indian experience with private participation in infrastructure from a broader economic perspective using PPPs literature. In the Indian context, the term PPPs is used very loosely comparing with developed countries. The PPPs model is adopted and welcomed in various infrastructure sectors explained above it is too early to give the conclusion statement regarding the success of the PPPs model in India. To succeed in this India has an ambitious PPPs portfolio to be realized soon. The Indian experience suggests that emergingcountries should initiate new infrastructure investments and improve aging facilities using PPPs contracts under certain circumstances. Indian experience supports the view that an emerging country with a need for huge infrastructure investment to boost growth and productivity can aggressively use PPPs without considering value for money. Though a mixed economic approach is followed by India which is reliant on public and private involvement in economic activities. As an innovation governance framework, the advantage of the PPPs model is obvious. On the background of the PPPs model in India, the author can draw the following conclusions:

1. With many public infrastructures and services in demand and to meet the need of the people in parallel with Indian economic development. The PPPs model is suitable to the current public service reform process for mitigating financial burden of the public sector and opening the private sectors. Therefore, in Indian context this model offers good prospects which can facilitate the development of the public service provision in India.
2. A Comprehensive understanding of the PPPs model remains limited in both the academic and government circles despite the partial introduction of the PPPs scheme to

India. However, the PPPs scheme is merely seen as the new way of financing projects. The role of non-profit organizations as agents for service delivery remains weak in India and is not manageable.

3. The Number of problems remain concerning applying the PPPs model in India concerning to the policy environment (investment and financing system), the legal environment, governmental credibility, role changing of the central government, capability-building and the prevention of corruption.
4. PPPs in several sectors should be studied separately such as the policy, implications, and results of projects should be monitored by related monitoring authority. In current situation only the PPPAC is the one organization in India, which monitors the several PPPs projects, that is not sufficient.

In this way, the government of India needs multidimensional strategies to promote the public service reform, which should include a reorganization of the investment and legal systems, enhancing the participation of the private sector. The road of reform remains hoc, with the PPPs model offering an important step to improve the public service provisions in India.

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