

PROJECT REPORT

On

“Study on Critical Success factors of PPP in India”

Submitted for the partial fulfillment of the requirement of the degree of

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In

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By

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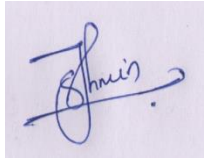
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DECLARATION

The project work titled “A study on Critical Success factors of PPP in India” has been carried out by me under the direction of DrLekha Ravi in partial fulfilment of the requirements for the award of the degree of Master of Business Administration in Port and Shipping Management to be submitted to the School of Maritime Management, Indian Maritime University, Chennai Campus. This work is my own and due references have been quoted.



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Executive Summary

India has 12 major ports and 148 minor ports. Major Ports are owned and managed by the Central Government and Minor ports are owned and managed by the State Governments. PPPs in the ports sector in India have been witnessed in the operations and management of ports, and construction of deep water ports, container terminals, shipping yards and bulk ports. While ports were traditionally viewed as infrastructure and services to be provided by the public sector, past decades have seen a global shift to greater private sector involvement, both in port operations and in financing of port infrastructure. Private operators and investment have changed the standards of acceptable performance for these crucial gateways to trade.

Recently there have been many steps taken towards capacity building, modernization and development in the Vizag Port. The projects have been cleared with Public Private Partnership (PPP) model for operations. The idea behind this was quick development and resource handling to address competition and competence. It has not happened that way in entirety. Disadvantages accrued due to market conditions and levy of rigid tariffs have ailed the PPP projects.

There are various terminals of major ports are operated by the private operator for long period of time. And there's a huge competition from the non-major ports like Krishnapatnam port, Kakinada seaports and Gangavaram port. Private models in the Gangavaram port are affecting the PPP projects in Vizag Port because of their favourable tariffs and terms. Vedanta had taken up the 10 million tonnes capacity, coking coal and steam coke handling berth. 640 crores was the building cost of this project and it is ailing now. TAMP or Tariff Authority for Major Ports has enforced an inflexible tariff structure on the port. Not just Vedanta group but other players like Adani group operating in the same model are suffering because of differential terms of business.

It is found that PPPs in all infrastructure projects suffer certain inherent faults in design due to which they get stalled often. The key flaws identified were - absence of re-negotiation terms; unfair risk allocation and dearth of emphasis on efficient service provision. It was strongly felt by stakeholders that inclusion of a Renegotiation clause and a workable Dispute resolution mechanism combined with a proactive government policy would help the PPP in Indian Port sector to thrive healthily

CHAPTER 1: INTRODUCTION

INDIAN PORT BUSINESS Maritime transport is an essential component of a country's social and economic development. It displays the speed, structure, and pattern of the country's water transportation development. All parts of the shipping and port industries, as well as building and repair, major ports, national waterways, and inland water transport, are blamed on the Ports Industry, Transportation, and Waterways.

MARKET SIZE: In FY20, India's major ports had a potential of 1,534.91 million tonnes per annum (MTPA). In FY20, India's major ports handled a total of 704.93 million tonnes (MT) of cargo. Merchandise exports destroyed US\$ 255.92 billion in FY21 (until Gregorian calendar month 2021). The government has taken numerous initiatives to improve operational efficiency, including mechanisation, deepening the draught, and quick evacuations. According to the Maritime Bharat Summit, there are twelve large government-owned ports, one non-government-owned major port, and 205 non-major ports spread throughout a 7500km long coastline, with half of the 12 major ports located on the western coast and the rest on the coast.

1.1 RECENT GOVERNMENT INTERVENTIONS

- The government has mandated a slew of activities aimed at fostering and supporting the sector's development. A slew of business-friendly policies have been implemented as part of the government's attempt to boost investment in the sector. These include everything from updating existing port infrastructure to building new ones, as well as fostering green energy, IT development, and, most crucially, training talent to keep the structure running. The following are some of the government's significant measures to boost shipping in India:
- The Sagarmala (string of ports) project, is a strategic and customer-oriented ₹8 trillion (US\$120 billion or €100 billion) investment initiative of the Government of India entailing setting up of 6+ mega ports, modernization of several dozen more ports, development of 14+ Coastal Economic Zones and at least 29 Coastal Economic Units, development of mines, industrial corridors, rail, road and airport linkages with these water ports. 'Sagarmala- Concept and Implementation' were approved by the Union

Cabinet on March 25, 2015 under a National Perspective Plan (NPP) for the Sagarmala Program.

- Karwar port is being developed for infrastructural development as part of the Sagarmala program's Coastal Berth Scheme. The initiative intends to give financial assistance to ports or state governments for the construction of infrastructure for freight and passenger transportation by sea or on national waterways. Between New Mangalore Port and Mormugao Port is Karwar Port. It is regarded as one of the best natural all-weather ports on the west coast, and it offers ocean-going vessels all-weather berthing. 6.40 percent coastal, 0.60 percent inland, 60 percent road
- Jal Marg Vikas Project: The Project entails development of fairway with 3 meters depth between Varanasi and Haldia (Phase-I) covering a distance of 1380 km at an estimated cost of Rs. 5369 crore with a target for completion in six years to provide an environmentally friendly, fuel efficient and cost-effective alternative mode of transportation, especially for bulk goods, hazardous goods, captive cargo and over dimensional cargo.
- Initiatives in e-governance: Registration of ships, application, processing, and issuance of chartering licence, and issue of the registration certificate to transport operators are now all available online. Candidates can use the e-platform to apply for and book seats for written and oral examinations, to apply for and process Continuous Discharge Certificates (CDCs), to renew and replace/duplicate CDCs, to apply for and process Certificates of Competencies (CoCs), and to apply for dangerous cargo, GMDSS, and Cookery certificates. Recent occurrences Incentives to support the indigenous shipbuilding industry were recently authorised by the government. This consist of :
 - (i) financial assistance to domestic shipyards for any vessel built by them subsequent to its delivery and
 - (ii) (ii) relaxation of eligibility criteria for procurements or repair of vessels done by Government departments or agencies including PSUs for government purpose or for their own purpose to grant Right of First Refusal to domestic shipyards.

- A Special Purpose Vehicle (SPV) will provide effective rail connectivity to major ports in the last mile. An SPV comprising equity from 11 major ports and Rail Vikas Nigam has been formed under the Companies Act to enable efficient last-mile rail connectivity to major ports. The Indian Port Rail Corporation Limited, a special purpose vehicle, began operations in July 2015 and has subsequently completed 23 projects that are important for last-mile rail connectivity to major ports..
- Converting 78 lighthouses into tourist attractions In the first phase of a Public Private Partnership, the Ministry of Shipping and the Directorate General of Lighthouses and Lightships (DGLL) have devised an ambitious plan to transform 78 lighthouses across the country into tourism hotspots (PPP).
- In terms of total contribution to GDP, India's travel and tourism sector is ranked seventh in the world. In 2016, the travel and tourism sector generated Rs 14.1 trillion (USD208.9 billion), making it the world's seventh largest in terms of absolute value; it accounts for 9.6% of India's GDP. As a result, any investments in this area will undoubtedly contribute to the growth of India's GDP through fostering tourism.

1.2 CORPORATE DEVELOPMENTS

- Shreyas Shipping and Logistics signed an initial agreement with Yokohama-based Suzue Corporation of Japan to form a joint venture for exploring business opportunities in the logistics space in the Indian sub-continent and Japan.
- The state-run Shipping Corporation of India (SCI) is expected to purchase five vessels from the state-owned Cochin Shipyard. It is also likely to issue tenders to buy two used liquefied petroleum gas (LPG) carriers as it looks to re-start ship purchases that were frozen after the poor financial performance.
- Great Eastern Shipping has decided to voluntarily strike off the name of its subsidiary GESCO London from the Companies Register in the UK. The entity would cease to exist officially once its name is struck off from the Register. Currently, the entity does not conduct any business activities.

- Adani Ports & SEZ has sought government's approval for clubbing its three notified special economic zones (SEZs) in Gujarat to form a mega multi-product export zone spanning over the 8,500-hectare area.
- The ministry also urged the government to cut logistics cost in the country and streamline the taxation structure, including the implementation of the crucial goods & services tax (GST) in the upcoming budget, to give a much-needed boost to the shipping industry.
- The government recently introduced the Major Ports Bill to provide greater autonomy to port boards so that decision-making is quick and transparent.
- It has finally granted infrastructure status to shipyards. This will enable shipbuilders to avail cheaper long-term financing for Indian shipbuilding and ship repair industry. • A Foreign Direct Investment of up to 100 percent and an augmented shipbuilding and ship repair policy will provide huge investment opportunities. • A 70 percent abatement of service tax on coastal shipping brings the fares at par with road and rail. Additionally, central excise duty has been exempted on capital goods, raw materials, and spares used for repair of ocean-going vessels.
- 'Project Green Ports' focuses on sustained growth from an environmental perspective. It aims to install 160.64 megawatts of solar and wind-based power systems at all the major ports across the country. The government has also signed several MoUs with countries such as Korea and Egypt for cooperation in the development of ports, sharing of technology, manpower training and stimulating the steady growth of maritime traffic. These initiatives clearly show the priority the government has given to the maritime sector and the expectation that it will be a key driver of the Make in India programme.

1.3 TECHNOLOGY IN PORT SECTOR

As a crucial differentiator, new age technology has revolutionized the port sector. According to the World Economic Forum, by 2025, digital transformation of the ports sector could result in a value of USD 1.5 trillion for participants and an additional USD 2.4 trillion in societal benefits. Technology will be used by logistics startups to provide smart solutions and make a change in brick & motor logistics. Market leaders in this domain would use Internet of Things (IoT), Automation technology, Block chain technology, Cloud Computing, Advanced / Big Data Analysis, Artificial Intelligence (AI), and Robotics to include end-to-end lean and smart logistics solutions, improve efficiency, reduce costs, and minimize human involvement. Autonomous cars, wearable devices, and factory digitization / autonomous will help to achieve more efficiency.

1.4 OPPORTUNITIES IN THE PORT & SHIPPING INDUSTRY

- The market is saturated, and businesses are competing for market share. Smaller players are being squeezed out by the race for market share, which has sparked a new round of price wars. Shipping firms are abandoning their pricing guidelines, both in terms of spot prices and general cost rises, and opting not to implement consumer contracts.
- Service offerings are inconsistent in their innovation. Regardless of need, most carriers provide the same or similar service to all customers. Carriers are unable to monetize technologies and are losing out on opportunities to charge premiums for value-added services (such as intermodal and guaranteed delivery times).
- Automatic identification system (AIS) data can be invaluable to the analytics team; some leading shipping lines are developing AIS-based models of utilization and other measures of productivity.
- China's initiative of "building the 21st century Maritime Silk Road" and infrastructure construction, as well as "docking national policy and growth plan," would significantly stimulate the economic vitality of East Asia, South Asia, West Asia, Africa, Europe, and other countries. The rapid development of China's shipping industry has also provided a strong opportunity for Asia-Africa trade.

- The benefits of national policy guidance, the resource market, and other opportunities are external causes of the shipping industry's growth. The internal element, which determines the success or failure of enterprise strategy transformation, is the endogenous competitive advantage of shipping companies.
- A plan to double the recycling capacity to about 4.5 million Light Displacement Tonne (LDT) by 2024 was also made.
- A 100% FDI is allowed in Indian Port Sector.

1.5 WHAT IS PUBLIC PRIVATE PARTNERSHIP?

A public-private partnership (PPP) enlists the help of the private sector to supply infrastructure assets or new or current infrastructure services that were previously provided by the government. PPPs are long-term, contractual partnerships between public and private sector agencies with the goal of financing, developing, executing, and operating infrastructure projects and services that were previously delivered by the public sector. These joint ventures are founded on a contractual arrangement that ensures a suitable and mutually agreed division of resources, risks, and rewards depending on the project participants' expertise and capacity.

1.6 Private Ports

The outcome of complete privatization of the port facility mandates that the facilities retain their maritime role. The port authority is entirely privatized, with most the port functions below non-public control, with the general public sector holding a regular regulative oversight. Still, public entities are shareholders and so gear the port towards ways that are deemed to be of public interest.

1.7 WHY PPP?

- Induct Additional Resources
- Bring in private sector efficiency
- Client-Port Symbiosis for Port development and diversification
- Strong Global networking
- New business opportunities

1.8 OBJECTIVES OF THE STUDY

- A critical analysis on success factors of PPP in Indian Ports.
- This study is to find out possible reasons that encourage public and private sector to go for PPP mode.
- Study also embarks upon identifying underlying benefits/advantages arising out of PPP mode over other alternative modes delivering infrastructure projects.
- At the end, study tries to figure out strategies that should be adopted by different entities to guarantee success for a PPP project.

1.9 Research Methodology

- The study is based on extensive Secondary data. Most of the research is taken from PPP Book 2009-2015 published by Bappenas. The book lists 203 PPP projects, 59 of which are categorized as “success”, where as the other 144 are “fail”. Six variables analyzed are government contracting agency , investment value , financial internal rate of return or FIRR , and types of infrastructure (toll road, port, railway, airport, water supply, waste processing facility, electricity, or others). Discussions with stakeholders also added perspective to Findings

1.10 LIMITATION OF THE STUDY

- Secondary data analysis has its limitations. The information and data may not be accurate.
- The PPP model is not yet fully established which can have a skewed impact on the findings of study

CHAPTER 2

LITERATURE REVIEW

1. The Success Factors Of Public Private Partnership Implementation For Infrastructures Development: New Evidence From The Indonesian Experience

Dominicus S. PriyarsonoRisman M. Rizal &Heny K.

This paper reports the results of an econometric analysis (i.e. logistic regression) to identify the factors that are responsible for the success of the infrastructures development plan under PPP scheme in the years of 2009-2015. It was found that government supports, results of cost-benefit analysis (i.e. financial internal rate of return), and the economic sector to which the infrastructure belongs were the significant factors for the success of PPP scheme, in which government support was identified as the most significant factor among the others. Based on these findings and the results of a literature review on related topics, some suggestions are proposed.

2. PRIVATE PARTICIPATION AT INDIAN PORTS

It is a brief study about privatization of Indian ports in 1999.This gives a detail study about instruction and steps to be followed for the privatization of port.

3. A Study On Public-Private Partnerships With Reference To Indian Infrastructural Projects

TharunShastry

This research article is a conceptual study with explorative methodology. The study examines various types of partnership projects at work for Infrastructural development in India. The paper aims at providing an insight about PPP in Indian infrastructural projects while the second part of the study evaluates the positive or negative impact of the present

Infrastructural projects on the Overall development of the nation in order to suggest an efficient PPP Policy

4. Issues of PPPs In Ports In India

Raghuram, G. Shukla Niraja

This paper analyses the issues behind this, to evolve the way forward. The issues which the port authorities or private parties have faced so far should be of interest to stakeholders wanting to leverage the PPP mode of investment. While there are arguments for and against this mode, the overall outlook for PPPs has been positive in terms of bringing about competition, fairness in operations, efficiency and quality of service.

5. Public Private Partnerships In India (An Overview of Current Scenario)

Dr. VidyaTelang Dr. VishakhaKutumbale

This study concludes that The Indian PPP scenario as it stands today presents an optimistic picture. However several bottlenecks and challenges have been encountered in PPP model development. Some of the major challenges also relate to regulation and availability of finance for the private sector. The Government of India on its part has been fully aware of the benefits that such partnerships can offer to our country and has been taking steps to remove some of these problems. This study is also an attempt to peek into the scope, future growth and risks that such partnerships may hold for our country.

6. A Holistic Review Of Public-Private Partnership Literature Published Between 2008 And 2018

It is literature based study. The overview of the prevailing literature in PPP found out that there were inadequate systematic method in summarizing the studies subjects and providing new studies tendencies in PPP-associated mission management. It turned into similarly indicated that sustainability and innovation in PPP will be similarly studied, along with integrating constructing statistics modeling with PPP. Factors associated with limitations in PPP implementation could keep growing. Future studies instructions in PPP have been

additionally proposed following the systematic overview, for example, comparative research of PPP exercise among growing and advanced countries. The present day look at presents a complete method via way of means of integrating bibliometric evaluation, technology mapping, and qualitative evaluation within side the trendy PPP studies. It well-known shows the present day studies issues in PPP and presents instructions for near-destiny instructions of PPP studies in mission management.

7. Bibliometric Analysis of PPP & PFI Literature: Overview Of 25 Years Of Research

Dimas De Castro e Silva Neto

The objective of this paper is to undertake a comprehensive literature review of papers relating to PPPs and private finance initiatives (PFIs), using a bibliometric analysis. More than 600 papers published between 1990 and 2014 were examined. None of the previously existing studies analyzed such a large sample of papers. The research found that PPP studies appear to have a steady momentum toward growth. Engineering journals (and engineering as a research area) have been particularly active in this field. Authors based in Europe and Asia had written almost two-thirds of the papers, with transportation and health sectors at the top of sector-based papers. Most of the existing work is focused on aspects of contract design, risk sharing, and analyzing the contract performance and benefits, and neglects areas such as contract termination and renegotiation. The management of PPPs will be the next big challenge for PPP scholars and professionals.

8. The Determinants of Tendering Periods For Ppp Procurement In The UK: An Empirical Analysis

E Reeves, D Palcic, D Flannery, R.R. Geddes

The study suggests that the procurement of infrastructure initiatives through public–personal partnerships (PPPs) is growing globally. PPPs are, however, regularly characterised through prolonged tendering durations, described because the distinction among agreement be aware and monetary close. Tendering durations are essential due to the fact they account for a great percentage of normal assignment transport time. Slow tendering deters bidders and for that reason reduces opposition for contracts. Study supply statistics on 670 PPP initiatives in the

United Kingdom and use a period evaluation version to empirically study elements that effect tendering length period. Our results reveal great sectoral variant with initiatives in the fitness and housing sectors taking drastically longer to attain monetary close. Study additionally display that, after controlling for different elements, initiatives with better capital values and initiatives that overlap with the timing of well-known elections are related to drastically longer .

9. Getting back on track: the expanded use of PPPs in Ireland since the global financial crisis

Eoin Reeves, Dónal Pálcic

The Sub-prime crisis that took keep in late 2008 ended in a major slowdown of hobby in the worldwide marketplace for public-personal partnerships (PPPs). Ireland became one of the international locations maximum affected with over 20 primary infrastructure PPP initiatives postponed or abandoned. Since 2012 however, the Irish authorities has followed some of tasks to make PPP greater appealing to bidders and personal re assets of finance. This paper describes those tasks and suggests that they have got been related to a renewal of PPP hobby. It shows that a number of the followed measures may also contain trade-offs among encouraging PPP funding and reaching trendy PPP targets which include financial performance and higher innovation. However, the appeal of public re assets of finance from re assets which include the European Investment Bank ought to bring about a noticeably decrease fee of finance and decorate price for money.

10. Performance Indicators of Public Private Partnership in Bangladesh: An Implication for Developing Countries

The reason of this paper is to develop weights of key overall performance areas (KPAs) and performance signs for public non-public partnerships (PPPs) in Bangladesh. Since quite a few PPP arrangements is observable, one of a kind overall performance dimension methods exist within side the literature. However, analyzing the relative significance of signs influencing the overall performance rating of specific tasks using the angle of growing nations stays unexplored. Feasibility evaluation lifestyles cycle assessment and monitoring and premier danger allocation “are the most sizeable overall performance signs in Bangladesh. Financings the maximum vital KPA, accompanied by making plans and

initiation and transparency and accountability. Interestingly, not like the cost, time and quality measures of the general public region comparator evaluation utilized in maximum evolved countries, a extraordinary set of indicators and KPAs are determined dominant.

11. A review of emerging trends in global PPP research: analysis and visualization

Jinbo Song

The study present all research focuses in a scene to metric way and arrive at the following findings. First, the most significant developments and progress in PPP research have occurred primarily in China, the US, the UK and Australia. Second, the existing studies in the field of PPP research focus primarily on Engineering, Business and Economics, and Public Administration. Third, the emerging trends in PPP research have shifted away from concession pricing and concession periods, PPP legislation, procurement management, critical success factors, value for money and PPP project governance toward risk allocation, performance evaluation, renegotiation of concession contracts, real option evaluation and contract management, which are likely to define the new research frontier in the field of PPP research.

12. The Transaction Costs of Public-Private Partnerships: Implications on PPP Governance Design

S. Ping Ho

The study specifically, we perceive 3 principal re assets of transaction fees in PPPs, namely, the major-major problems, renegotiation and hold-up problems, and gentle price range constraints. The earnings shape of the personal promoters in PPP initiatives is specially analyzed to focus on the inner conflicts of hobbies amongst numerous stakeholders. A procedure framework primarily based totally on sport idea attitude is in addition proposed to discover the interplay dynamics among authorities and venture promoters uneven information This paper contributes to the principle and exercise via way of means of supplying a framework for know-how how the PPP governance may be higher designed and for inspecting whether or not PPPs are a appropriate governance shape for a selected project.

13. Public-Private Partnerships in developing countries

Ministry of Foreign Affairs London

The study provides insights in the wide variety of PPP arrangements and the sometimes rather diffuse contractual framework under which PPPs take place. Due attention is given to the motives and rationale for relying on PPPs and the expected outcomes of PPP arrangements. A major conclusion derived from this review is that PPP evaluations focus more on resource sharing but pay little attention to the risk-sharing and revenue distribution dimension of partnerships. The Policy and Operations Evaluation Department (IOB) of the Netherlands Ministry of Foreign Affairs commissioned a research team from APE (Aarts De Jong WilmsGoudriaan Public Economics bv) to undertake a systematic review of available professional literature

14. "Ports face inadequate capacity, efficiency and competitiveness in a developing country: Case of India"

Prakash Gaur

Study states that Government of India is making efforts to growth the ability of Indian ports to satisfy the developing demand, since, the Indian exports/imports are normally carried via trans-cargo facilities in Colombo, Singapore and Dubai. The take a look at evaluation that the important ports feature below common choice maker due to their institutional shape resulting in no opposition among them.

Though important programs and measures were initiated to growth the ability of ports, however the on the spot want to growth the performance in port operations is lacking. This paper highlights that how the ports in growing country have to growth their ability from Effective Capacity to Potential Capacity and in addition to Absolute Capacity. Indian ports want to beautify their efficiencies at par with their worldwide opposite numbers on all of the parameters. This paper develops a performance index for Indian ports and recommends institutional cooperation amongst ports to attain Potential Capacity and analyze from best worldwide practices to attain Absolute Capacity.

15. Port Privatization, Efficiency And Competitiveness: Some Empirical Evidence From Container Ports/Terminals

WU HENG

The study helps to identify both the relationship between the ownership structure and port efficiency, and the relationship between port efficiency and port competitiveness. The results display that any other maximum critical thing figuring out port competitiveness is the adaptability to the clients' demand. Since the port enterprise is a sort of carrier industries, it's miles affordable that port government and port operators have to properly recognize the requirement in their clients and make efforts to fulfill and exceed clients' expectation. Therefore, seaports with a purpose to be triumphant in the twenty first century could be people who are "client-oriented", who actually recognize client needs.

CHAPTER 3: OVERVIEW OF PUBLIC-PRIVATE PARTNERSHIP IN INDIA

3.1 Public Private Partnership:

In the pre-privatization era, the development and management of transport infrastructure was the prerogative of government. This allowed for interventions through the direct provision of funds and resources, in order to protect the public good or interest. Profound changes in economic and spatial policy however, have led to a re-orientation of the position of government as the sole provider and financier of transport infrastructure. A move towards corporatization, privatization, deregulation and decentralization, has had a profound impact on the modes of interaction between public and private actors, and forms of cooperation that are put in place, in order to provide sufficient transport infrastructure. This trend is reinforced by recent developments in terms of public budget deficits, and the global financial and economic crisis.

When looking at private investments in seaports between 2011 and 2020, figures show that on average US\$ 4.2bn have been invested yearly in port development projects, particularly in developing regions, either through concession, Greenfield projects, divestiture or management and lease contracts. Despite the increase of private investments in seaports, the definition of what public-private partnership entails is still debated. This lack of a common definition complicates the debate on the true meaning of the phenomenon, and the obstacles and conditions involved. Seen as a family of concession types, the public-private partnership (PPP) phenomenon is far from new, and quite common in the context of port and shipping infrastructure. The Suez Canal for instance, is a very well known example of a concession built using a long-term concession. Today, and especially in the containerized part of the shipping industry, a trend towards greater private participation in port activities is present, focusing particularly on those activities with a commercial nature. In North-West European landlord ports for instance, the most common financial structure is one in which the government pays for access to the port, whilst a port authority funds basic infrastructure such as quay walls, and private container terminal operators fund the superstructure. These concessions do however differ greatly in terms of their forms, and inclusiveness. Some have an integrated design, integrated planning shared or transferred construction-risk, and in some cases even the maintenance and utilization of the infrastructure is also transferred to the private sector. Amongst the more common forms of

terminal concessions are the BOT: build-operate-transfer concessions and BOO: build-own operate concessions

In the ports sector, the thrust is on the public-private partnership (PPP) model. The objective of privatization is to upgrade and modernize the port infrastructure. The terminals founded through the PPP model have achieved performance levels that match the best internationally in terms of efficiency and cost-effectiveness. In the last ten years, approximately 40 private concessions were awarded to major ports, while over 60 minor port PPPs were planned. The concessional document in major ports is fairly standardized and well accepted. However, the pace of PPP implementation has been slower than expected.

Hammami et al. (2006) provide an extensive overview on the characteristics of the different types of PPPs. These include the mode of entry, and the public and private obligations concerning (1) operation and maintenance responsibility, (2) investments, (3) ownership, and the average years of duration of different PPP models. These models can range from management contracts, build-own-transfer (BOT) or build-down-operate (BOO) up to full privatization agreements as shown in the table below. The inclusion of full privatization into the PPP concepts, however, remains a topic of discussion and diverging opinions

3.3 TYPES OF PPP

Types of PPPs	Mode of Entry	Operation and Maintenance	Investment	Ultimate Ownership	Duration (years)
Management Contract	Contract	Private	Public	Public	3-5
Leasing	Contract	Private	Public	Public	8-15
Rehabilitate, Operate and Transfer (ROT)	Concession	Private	Private	Public	20-30
Rehabilitate, Lease/Rent and Transfer (RLRT)	Concession	Private	Private	Public	20-30
Merchant	Greenfield	Private	Private	Public	20-30
Build, Rehabilitate, Operate and Transfer	Concession	Private	Private	Public	20-30
Build, Own, Operate and Transfer (BOOT)	Greenfield	Private	Private	Semi Private	30+
Build, Lease and Own (BLO)	Greenfield	Private	Private	Private	30+
Build, Own and Operate (BOO)	Greenfield	Private	Private	Private	30+
Partial Privatization	Divesture	Private	Private	Private	30+
Privatization	Divesture	Private	Private	Private	Indefinite

3.4 BASIC CHARACTERISTICS OF PPP

- It is a medium to long-term relationship; not a “fly-by-night” relationship. Sharing of resources, risks and rewards between the partners; is not a “fair-weather relationship”.
- A relationship in which both public and private sector partners aspire to achieve a common objective; is not an “inverse relationship”.
- Tends to fully exploit the skills and expertise of the partners for delivering the desired policy outcomes and public services; it is a “positive relationship”.

3.5 How to achieve value for money in PPP

- The size of the project should be big enough to justify transaction and management costs.
- Service delivery parameters should be capable of being defined accurately for determining performance standards and their constant monitoring.
- Risks associated with the project should be identified, evaluated and allocated to the private party on a reasonable basis and in a transparent manner.
- Scope for the private party to introduce value addition through innovation and cost reduction measures.
- There should be several players in the field who are prepared to compete for getting the project.

3.6 BENEFITS OF PPP

There are various benefits of handling of the PPP projects various sector are financial, economic and social benefits are clearly described below. The PPP reduces the financial risk from the

Financial

Budgetary Constraints

- PPP enables the government to construct a project without public financing.
- Even if some funds need to be contributed by the government as capital cost or subsidy, the amount will be much lower.
- Helps the government to leverage its limited finances better.
- Even for the operation of the project, government expenses not involved, since the cost of services is often transferred to users by charging rates like the cost of toll roads.
- Financially profitable projects may generate enough revenue to be shared by the private operator with the government on mutually agreed terms.

This way highly capital intensive service-oriented projects can be developed in the country without increasing the government's debt exposure or raising money from the general public by increasing its tax burden.

Improved value for money

- Projects implemented under PPP result in higher profitability. Such an improved value for money is generated by the private sector in the following ways
- Better coordination in all phases related to the design, construction and operation, since there is a single party to address these aspects
- A constant effort towards efficient management technique
- To provide quality service, this is under close supervision constantly by the regulatory authority or contractual obligations of the private operator

Cost-Effectiveness

- Under the PPP model, it's the competitive process that determines the cost of the project since the project was opened to the private entities for bidding
- Realistic cost is the hallmark of transparent competition. PPP ensures the minimum cost of the project
- PPP also relieves the government of carrying the liability of huge manpower for operating the project
- The government gains both on the capital and revenue cost fronts

Recovery of User Charges

- Public utility services serve a large customer base. Power, water and transport are a few such examples.
- Public sector managed utilities are not in a position to arrest disproportionate leakages in the recovery of user charges.
- The private sector with a decentralized network of collection mechanism and its direct control and supervision on such recovery is often in a better position to plug these leakages and maximize the revenue.

Economic & Social benefit

Boost to the economic benefit

A strategically developed PPP program me acts as a catalyst for economic growth. The private sectors free from the shackles of budgetary constraints, inflexible bureaucracy and political interference can achieve accelerated execution compared to a conventional project executed under government control.

Implementation of the project under a contractual framework is instrumental in quickening the pace of execution.

A fixed tenure contract inclusive of construction and operation provides impetus to the private operator to complete the construction at the earliest and accelerate the start-up of revenue-generating services.

Incentives and penal provisions enshrined in the contract also propel the private sector to complete the project in a short time frame.

Modernization of economy

PPP paves the way for embracing optimum technologies.

The private sector, as an important ingredient of its corporate philosophy, hunts for appropriate technology for improving the project's quality reducing its cost to maintain an edge over competitors.

Mega business houses spend large amounts of money on research and development (R&D) activities as well.

All these factors help in the modernization of the economy when a PPP project is implemented in the country.

Developments of social sector infrastructure

- By deploying private sector financing in remunerative sectors, such as power, transport and ports, the government frees itself of heavy upfront capital costs, which otherwise it is required to sink for the building of highly capital intensive projects in these sectors.
- The funds saved can be utilized for investment in critical projects in sectors like health, education and social welfare. The government can thus, concentrate and channel more vigorously its resources and energy into its social sector missions.

Environmentally compatible development

- In the present era of public awareness, the major domestic and international corporation very conscious of their image of an environment-friendly business house.

- They now invest a large sum of money in environment-related issues like noise control, and air pollution and are apt to adopt strict measures to mitigate the dangers of environmental hazards.
- Building a partnership by the public authority, more so in a developing country with private operations, enables the designing of solutions that can be adopted in other PPP or non PPP projects as well.

3.7 PPP IN INDIAN PORT

The country's port sector requires an investment of Rs 550,000 million. Out of this, Rs 340,000 million is expected from private sources, mainly in commercially viable projects like the development and operation of berths and terminals, among others. Private participation within the sector is slow due to issues like land acquisition, litigation, clearances to policy issues and even poor initiative from the port trusts.

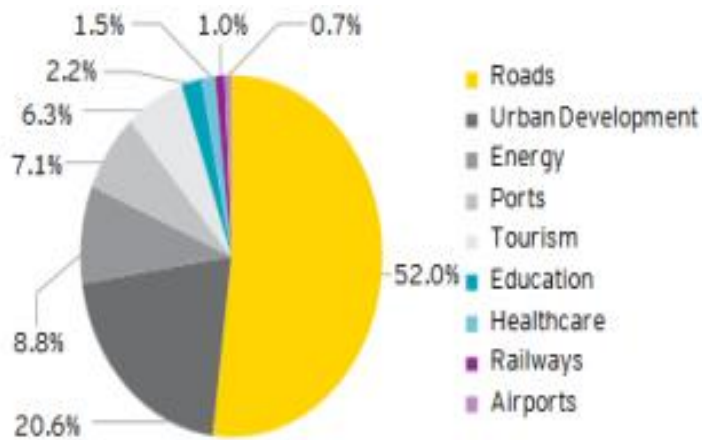
The shipping ministry made a policy statement: "If there's just one private terminal/berth operator during a port for a selected cargo, the operator of that berth or his associates shall not be allowed to bid for a selected for the next terminal/berth for handling the identical cargo within the same port." The investor felt that the government is imposing instructions on them. This suggests that if there are more players active in one particular cargo at a given port, there wouldn't be any restriction on the operators when another project for the same cargo at a given port, there wouldn't be any restriction on the operators when another project for the same cargo comes up at the port

Table 3.1: Year Wise Summary of Projects recommended by the Public-Private Partnership Appraisal Committee

Financial year	No. of projects	Total investments (in crores)
2019-20	4	5,014.00
2018-19	8	9730.38
2017-18	4	7,851.78
2016-17	9	12,401.28
2015-16	17	28,674.10
2014-15	18	29,070.77
2013-14	25	55,326.29
2012-13	25	25,641.53
2011-12	52	53,248.60
2010-11	33	26,010.24
2009-10	53	57,854.97
2008-09	48	53,381.78
2007-08	13	11,227.46
2006-07	15	6,533.54
<i>Total</i>	324	381,966.72

Table 3.2 shows the sector-wise summary of projects recommended by the Public-Private Participation in India. The road sector having the highest projects with 257 projects with a total cost of Rs302,388.00 Crore followed by the Port sector with 37 projects with a total cost of Rs51,911.30 Crore.

Sector	No. of projects	Total project cost in (Rs Crore)
Roads	257	302,388.00
Ports	37	51,911.30
Railways	2	9,796.00
Airports	10	9,017.00
Tourism	4	1,220.87
Housing	9	7,633.55



Source PPP Database Fig 3.1

Sector wise classification of PPP

3.8 PPP IN ROADS

The government has launched a new cooperative venture for the construction of infrastructure in order to gain access to specialised skills and patented technologies, as well as to share risks and capital investments with the private sector, and to save money on the project. In order to move toward PPP, NHAI has used a number of contractual forms.

Public Private Partnerships are alternative public agencies can utilize to construct large transportation infrastructure projects when they lack the capital themselves. However, as seen in the case studies mentioned previously, these types of arrangements do not come without risks.



Fig 3.2 PPP roads Collecting tolls for meeting expense

3.9 PPP in Power Sector

Another notable breakthrough in the realm of power sector reforms is the public-private partnership. Ultra Mega Electricity Projects, which are built on a Public-Private Partnership, are seen as forerunners of transformation in the power sector.

PPPs are employed mostly in generation and transmission in the energy industry and exist in a variety of shapes, sizes, and structures. The process employed differs depending on the location, the government, and the characteristics of the operation; as a result, each partnership is suited to the needs and circumstances present at the time of formation.

Other significant factors that require public sector control include environmental and safety compliance, as well as employment consequences. In most situations, the development of national electrical sectors necessitates a careful restructuring exercise with clear regulations that allow for a cooperative process in which the government and the private sector may work together to achieve a favourable outcome for the country and the user.



Fig 3.3 PPP in Power Sector

3.10 PPP in Airports

Airports connect regional, national, and worldwide markets and give access to them. As a result, investing in current or new airport infrastructure is critical for economic growth. Historically, governments owned, controlled, and operated airports, but there has been a global trend toward private sector involvement, with varied degrees of private ownership and responsibilities, including the adoption of public-private partnership (PPP) models.

A Public-Private Partnership (PPP) is a collaboration between the public and private sectors to deliver a project or service that would otherwise be provided by the public sector. When adequate cooperative agreements between the public and private sectors are employed, the advantage of a PPP is that the management abilities and financial acumen of private enterprises could offer better value for money for taxpayers.

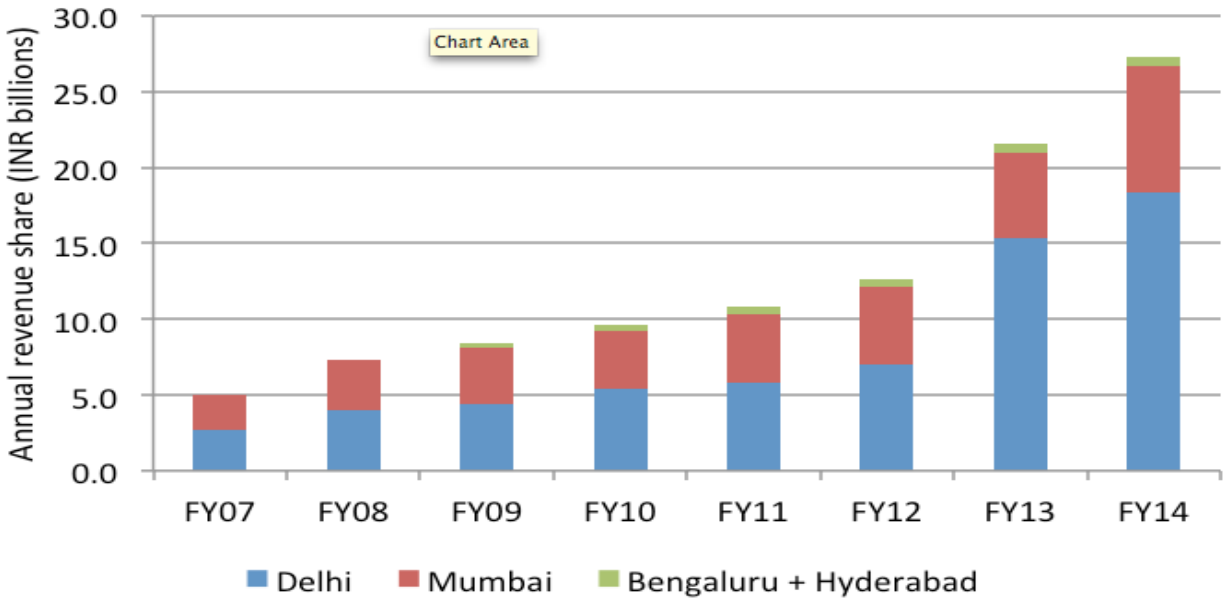


Fig 3.4 Changes in revenue after introducing PPP

Source : Airport Authority of India

3.11 PPP in tourism

Tourism and Public-Private Partnerships looks at how partnerships have worked in the past. Contributors also emphasize the need of transportation and access for emerging economies with tourist attractions, with a focus on low-cost carriers and pedestrian cities. Tourism thrives when governments and private businesses collaborate to create jobs, help communities, and raise a country's profile.

In the last two decades, there has been a surge in global interest in sustainable tourism. This increased focus on sustainability is pushing changes in product creation as well as tourism marketing and promotion, posing a new challenge for national tourist agencies (NTAs) already battling to preserve or grow market share in an increasingly competitive global market. Both NTAs and subnational tourist agencies, not surprisingly, are looking to the private sector as a partner in developing and maintaining sustainable tourism initiatives.

This publication is directed toward those working in the cultural heritage sector. While it is not a guide to the use of public-private partnerships (PPPs), it aims to foster an understanding of their underlying concepts and demonstrate how and where they have been used to create successful heritage conservation outcomes.

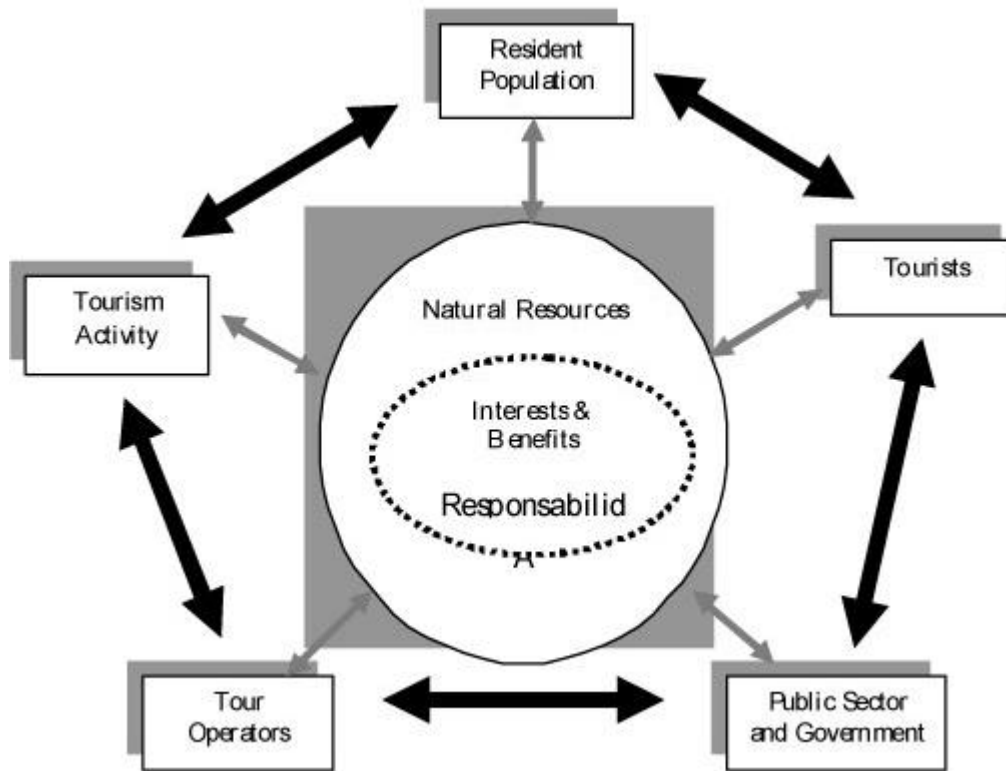


Fig 3.5 Relationships in PPP in Tourism Sector

Public-private partnerships can improve the quality, efficiency, and competitiveness of government services. In a budget-constrained environment, it can supplement limited public sector capacities and raise additional funds. The most effective application of operational efficiency in the private sector

3.12 PPP in Housing

Affordable housing faces a variety of difficulties. One of the most significant obstacles is the high cost of land, which is the result of a variety of reasons. Financing the land is a challenge. Another significant problem that Developers/Builders encounter in creating affordable housing is the availability of land. The lack of a clear title is therefore a major impediment for financial participants.

Institutions and real estate developers in new and redeveloped real estate projects estate. Land stays undeveloped and undeveloped in the absence of redevelopment and densification of available areas underutilized, resulting to the scarcity of land and skyrocketing land costs.

However, the success of public-private partnerships as a programme implementation technique and a governance intervention hinges on the proper distribution of risks, duties, incentives, and penalties among the many parties. This danger exists.

Allocation is the defining aspect of any Public Private Partnerships for Affordable Housing in India approach. The golden rule is that risks should be assigned to the entity that is best suited to handle them. It is expected that such a risk allocation will not only result in the greatest potential programme and project outcomes, but also at the lowest feasible cost. This should result in high-quality outcomes during the operation.

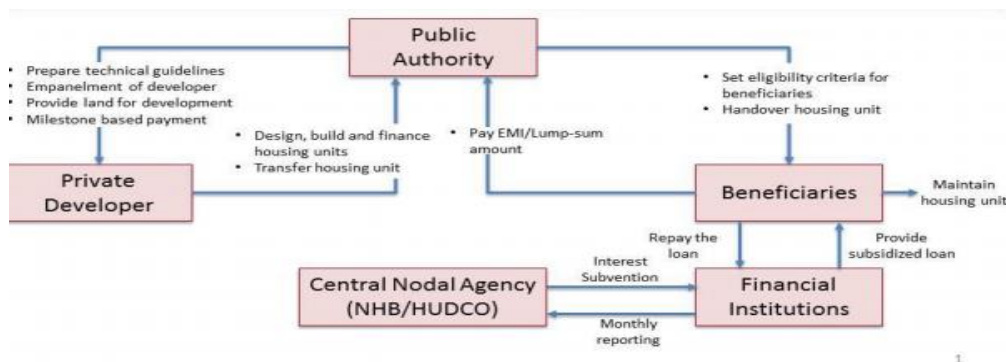


Fig 3.6 Responsibility of PPP stake holder Source: PPP in India

3.13 PPP in Agro Products

Agriculture and allied industries have a direct impact on the lives of the majority of the world's inhabitants. Over 40% of the population works in the sector, including 70% of the "bottom billion." Agriculture also consumes more than 70% of the world's fresh water and produces around 30% of global greenhouse gas emissions. Developing suitable infrastructure and increasing efficiency along the agriculture value chain has a direct positive influence on the lives of the poor and aids in the fight against climate change-causing behaviors.

While food consumption is anticipated to rise by 70% by 2050, supply is being strained by changing weather patterns and pressures on land availability, as well as low productivity and worrisome rates of losses or wastage. Globally, almost a third of the food produced for human use is lost or squandered. Poor harvesting techniques, storage and cooling facilities in tough climatic conditions, and other infrastructural inadequacies cause losses mostly in the early and middle phases of the food supply chain in low-income nations.

To overcome these concerns, an extra \$83 billion in annual spending is necessary. Improving productivity is the most common way to boost output.

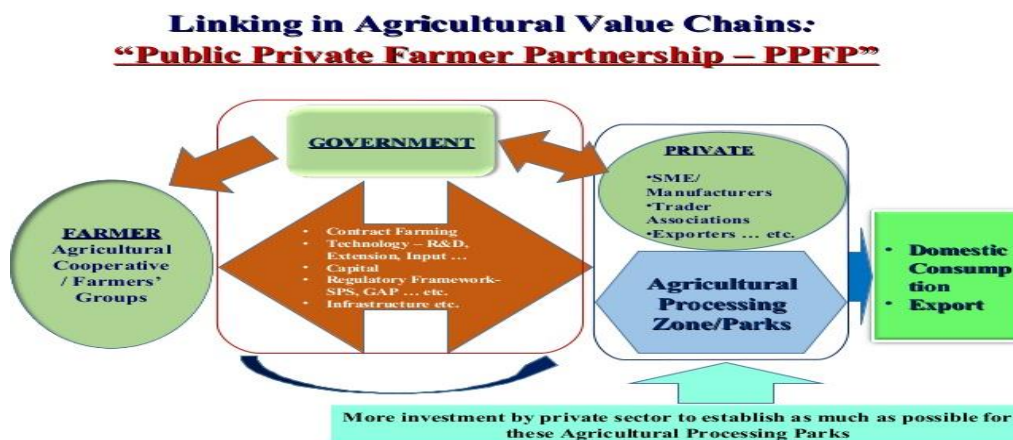


Fig 3.7: Working of PPP in Agriculture Sector Source:
<https://support.google.com/legal/answer/3463239?hl=en>

3.14 DOMESTIC PLAYERS PARTICIPATION IN PPP PROJECTS

A review of successful projects indicates that they have clear boundaries and measurable performance for the private party, sufficiently large scale of operations, competitive market for provisioning of the services, significant service delivery, and ability for the private sector to control factors for which it is responsible. On an aggregate level, the domestic players have dominated the PPP projects both in terms of numbers and investment. The road sector has dominated investment by domestic players with an aggregate investment of Rs. 51,911.30 crore. The port sector with a total domestic player investment of Rs. 23931 crore comes second and airports at Rs. 19,111 crore. The energy space that includes hydro based power plants is dominated by domestic private players Rs. 17,802 crore. Leading among big domestic players is Larsen & Toubro with a total investment of, existing and under-construction projects, totalling Rs. 3498 crore mostly in road projects. It is followed by GMR Infrastructure with a total investment of Rs. 1288 crores

The State Governments have been making all efforts for attracting capital inflows into the infrastructure sector. The most important step in this direction has been the initiation of the 'Public-Private Partnership (PPP)' programme. The State Governments have identified a whole range of sectors for public-private partnership, including roads/highways, tourism, industrial infrastructure, shipping, etc. Some of the key infrastructure initiatives undertaken by the States using PPPs are:-

ANDHRA PRADESH

The various major projects in the state of Andhra Pradesh is the Tuni – Anakapalli annuity Road Project was road expansion project undertaken by NHAI and one of the several projects of the Golden Quadrilateral programme. The project was awarded to the consortium of GMR group with United Engineers Malaysia (UEM) Berhad group under BOT (Built, operate, transfer) model. The other projects are Gangavaram port, Kakinada Deepwater port and terminal in Visakhapatnam port trust were also awarded to the various private entities under the BOT model

TELANGANA

The PPP project in the state of Telangana is Rajiv Gandhi International Airport, being executed under the built own operate (BOO) model. The concession agreement signed between the Telangana govt and the Airport Authority of India (AAI) as concessionaire and GMR group and Malaysia airports Holding Berhad as a consortium. The other PPP project was the Hyderabad Metro concession agreement was signed between Telangana Govt and L&T Pvt ltd.

KARNATAKA

The major PPP project under implementation in the State is the 'Bangalore International Airport. This is the first airport in the country to be executed through the PPP pipeline. The airport is being developed through a joint venture of the Airports Authority of India (AAI), Karnataka State Industrial Investment and Development Corporation Ltd. (KSIIDC) and private promoters (Siemens, Zurich Airport, and Larsen & Toubro). Some of the other such projects are the Hassan–Mangalore Rail Line for Rs 310 crore (completed); the elevated expressway to E-City (Rs 600 crore, under construction).

KERALA

The major PPP initiatives underway in the State are the 'Trivandrum City road improvement project' and the 'Vizhinjam International Container Trans-shipment project'. The former encompasses ten city road corridors and three National Highway bypasses of around 42 km as well as one underpass and two flyovers at junctions of strategic importance. The project is being implemented under the build-operate-transfer (BOT) scheme on an annuity basis and its total cost is estimated at Rs 145 crore

MADHYA PRADESH

The State is a pioneer in PPP projects in the road sector. It has developed 1500 km roads under BOT. Other sectors with PPPs are water supply, city bypass, mobile medical units, bus stands,

etc. The major PPP projects are the Dewas town bypass; Dewas industrial water supply project; mobile medical units and a special economic zone (SEZ).

GUJARAT

The concept of PPP was introduced in the State in the early 1990s when the Gujarat Maritime Board commenced construction of the Pipavav port. Since then (as per the available information), twenty-one projects amounting to Rs 13,672.50 crore have been implemented through private sector participation. The State has proposed several projects under the Viability Gap Funding (VGF) scheme, namely, Ahmedabad Bus Rapid Transit system; Rajkot–Jamnagar–Vadinar Road; Ahmedabad Convention Center; Dashes SEZ; Four-laning of Halol–Godhra–Shamlaji Road and Ahmedabad–Viramgam Road; etc. The PPPs also plays role in e-Government for longer-term contracts between the public contracting authority and private provider for delivery of specified outputs” (typically combining investment and service provision). Electronic processing enables easy handshake amongst partners and different models outsourcing discreet tasks. The Risk transfer to the private sector, commercial know-how and managerial skills. The Best-practice technologies and innovation can be made PPP into successful infrastructure project for our country.

¹ References for this chapter: <https://pppknowledgelab.org/>
<http://mohua.gov.in/upload/uploadfiles/files/PPP%20Models%20for%20Affordable%20Housing.pdf>

CHAPTER 4: CRITICAL SUCCESS FACTORS OF PPP

4.1 Critical Success Factors

In total, more than CSFs have been identified by this research. However, only a few dominant CSFs have been researched extensively. This is due to the fact that the concept of project success is difficult to define, and remains somewhat elusive. Project success is often defined as the ability to finish within time, cost and quality constraints.

4.2 Cluster of CSFs identified:

Economic: Investment climate and stability of the economy, future demand and degree of monopoly

Financial: Availability of Financing options, Acceptable Tariff, a reasonable Debt equity ratio, VGF option and a favourable CB analysis

Legal and procedural: MCA terms, Renegotiation channels, Dispute resolution and favourable laws of the land.

Political & Social: Government stability and support, community support and acceptance, environmentally acceptable operations, jobs generated

Technical & Structural: Project feasibility, Strong Consortium of investors, Clarity in risk sharing and responsibilities and Technology quotient

These clusters were drawn from the several studies deliberated during Review of literature. Instead of summarising the findings based purely on secondary data, it was decided to collect primary data from a cross-section of Port stakeholders to gain their perception of CSF in Port led PPPs and to elicit a ranking of the same. A Questionnaire to measure the perception of Port stakeholders was drafted with options to scale the response.

To structure the numerous CSFs, success factors can be categorized according to the type of value or intended goal:

NO.	Critical Success Factor	Cluster
1.	Stable economic situation	Economic
2.	Stable economic situation	Financial
3.	Attractive financial package and acceptable tariff Levels	Financial
4.	Special guarantee by the government	Financial
5.	Reasonable debt/equity ratio	Financial
6.	Concrete and precise concession agreement	Legal
7.	Stable political situation	Political
8.	Political Support	Political
9.	Sound economic policy	Political
10.	Open communication	Procedural
11.	Proper stakeholder management	Procedural
12.	Competitive tendering system	Procedural
13.	Realistic cost/benefit assessment	Procedural
14.	Knowledge transfer	Procedural
15.	Community support	Social
16.	Strong private consortium (organizationally and financially)	Structural
17.	Clear definition of responsibilities	Structural
18.	Shared authority between public and private sectors	Structural
19.	Commitment of partners	Structural
20.	Project technical feasibility	Technical

From the reviews the five dominant CSFs are

- Risk allocation and risk sharing,
- A sound economic policy,
- A stable economic situation,
- An attractive financial package and
- Acceptable tariff levels as well as a realistic cost/benefit assessment.

4.3 PPP process:

- Phase 1: PPP identification, covering strategic planning, project pre-feasibility analysis, PPP suitability checks, and internal clearance to proceed with PPP development
- Phase 2: Full feasibility, PPP preparation and project clearance, covering project appraisal including a full feasibility study, PPP preparation including draft documents, and in-principle clearance
- Phase 3: PPP procurement, covering procurement, final drafts of bidding documents, final approval and project award
- Phase 4: PPP contract management and monitoring, covering project implementation and monitoring over the life of the PPP

4.4 The tools of PPP are:

- PPP family indicator tool, to show typical options for PPP mode in the sector, and to give a starting indication of which PPP ‘family’ might be right for the particular project.
- PPP Mode Validation tool, to use a risk allocation analysis to help decide further which PPP mode the project is best suited to. The PPP Suitability Filter, to test how well suited the project is to being a PPP. Used in Phase 1 during the selection of projects for PPP development.
- PPP Financial Viability Indicator Model, to analyse the key questions of financial viability and test these using ‘what-if?’ scenarios. Used in Phase 1, Phase 2 and Phase 3.
- VFM Indicator Tool, to help check how likely the project is to provide value-for-money to the public sector. This is used in Phase 2 and Phase 3.
- Readiness Filter, to check that all the important steps have been followed and that the project is suited to further PPP development. Used in all Phases during the Readiness Checks.

4.5 ANALYSIS:

- The value for money assessment takes into consideration the costs over the life cycle of a project.
- The value for money assessment takes into consideration the risk allocation and focuses on the impact of the risk transfer on the costs to the government or society.
- The value for money assessment is based on the principles of discounting i.e it present a net present value of all future cash flows taking into account that future cash flows are less attractive than current cash flows as reflected by the use of a discount rate;
- The value for money assessment. Upon review of bids the value for money assessment is to be updated based on the actual bids.
- Choice of the tender strategy, most notably competitive bidding versus direct negotiations or unsolicited proposals;
- Nature of the tender strategy, in particular the difference between values for money driven tender procedures versus accelerating investments driven tender procedures.
- The coherence of the contract, most specifically the relation between risk allocation specifications and payment mechanism

² PPP in India-The story so far', Business Standard- May 14,2012
[www.mbaskool.com/business articles /'How to improve PPP projects in India: learning from the past'](http://www.mbaskool.com/business_articles/'How_to_improve_PPP_projects_in_India:_learning_from_the_past')

CHAPTER 5: FINDINGS SUGGESTION & CONCLUSION

5.1 Findings

- PPPs have certain inherent flaws in design due to which they have been stalled eventually- no re-negotiation structures; wrongful risk allocation; lack of focus of efficient service provision. Emphasis was on fiscal benefits rather than efficient service delivery with no procedures to penalise the providers for poor service. Bidders were giving highest revenue share to government to win the contract. There were no options for renegotiation and many botched projects had no mechanism where administrators were taken to task.
- Reviews depict financial factors and Economic factors as the two top critical factors to ensure successful PPP projects in Ports. It was universally felt that those projects which promised revenue and had suitable tariff rates were attractive to investors as they assured returns. Predictability of demand and economic stability of the region also played a significant role.
- Regulation under Legal and procedural cluster was a key CSF though they had ranked in order of significance. Interestingly majority of direct interactions with several industry experts revealed that the biggest challenge according lay absence of a grievance resolution body and a milieu of litigation ate into their time and money.

5.2 CONCLUSION

As regards challenges of PPP, it is found that PPPs in all infrastructure projects suffer certain innate faults in design due to which they get stalled ultimately. The key flaws identified were - absence of re-negotiation terms; unfair risk allocation and dearth of emphasis on efficient service provision. It was strongly felt that inclusion of a Renegotiation clause and a workable Dispute resolution mechanism combined with a proactive government policy would help the PPP in Indian Port sector to thrive healthily.

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