"A STUDY ON PUBLIC PRIVATE PARTNERSHIP IN PORT INFRASTRUCTURE"

PROJECT REPORT

Submitted to the school of Maritime Management, Indian Maritime University in partial fulfilment of the requirements for the award of degree;

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Submitted by

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CERTIFICATE

This is to certify that the MBA Project report entitled "**A STUDY ON PUBLIC PRIVATE PARTNERSHIP IN PORT INFRASTRUCTURE**" is a bonafide record of project done by Mr. **AKHIL JOSEPH** and is submitted in fourth semester of **MBA Port and Shipping Management**. It is also certified that the above work has not previously formed the basis for the award of any degree, diploma association ship, fellowship or other similar titles, and it is an independent work done by the candidate.

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INDEX:

LIST OF ABBREVIATION:

1.	JNPT	Jawaharlal Nehru Port Trust
2.	NSICT	Nhava Sheva International Container Terminal
3.	MCA	Model Concession Agreement
4.	DIA	Diameter
5.	SPM	Single Point Mooring
6.	ISPS	International Ship and Port Facility Security
7.	VFM	Value For Money
8.	PSC	Public Sector Comparator
9.	SBM	Single Buoy Mooring
10.	RFQ	Request for Quotation
11.	RFP	Request for Proposal
12.	PPP	Public Private Partnership
13.	ISO	International Organization for Standardization
14.	RTGC	Rubber Tyred Gantry Crane
15.	RMGC	Rail Mounted Gantry Crane
16.	RMQC	Rail Mounted Quay Crane
17.	SPV	Special Purpose Vehicle

GLOSSARY OF TERMS

- **Availability:** The period when the facility (or the relevant part thereof) is able to provide the service as required under the PPP Contract.
- **Bond:** A debt instrument that is tradable.
- **BOOT (Build, Own, Operate & Transfer):** A PPP Mode under which the Concessionaire builds the assets, owns them, operates and maintains them and at the end of the Concession, transfers the assets back to the Sponsoring Authority. (eg – Real Estate projects)
- **BOT (Build, Operate & Transfer):** A PPP Mode under which the Concessionaire builds the assets, operates and maintains them and at the end of the Concession, transfers the assets back to the Sponsoring Authority. (eg – Road projects)
- **Concession Agreement:** The contract document for the project, specifying every element of the project in detail, to be signed between the Concessionaire and the Sponsoring Authority
- **Concession Period:** The duration of the PPP contract
- **Commercial Operations Date (COD):** The stage when project construction ends and commercial operations start
- **Debt:** Finance provided by the lenders
- **DBO (Design-Build-Operate):** A form of long-term contract for construction and operation of a Facility, in which funding is provided by the Public Authority
- **Equity:** The portion of the project's capex contributed by the investors to the Project Company, either as share capital or subordinated debt

- **Externalities:** Economic, social, environmental or other effects of a project, the benefit or cost of which cannot be charged to users of the facility
- **Lease:** A form of debt in which the asset being financed is owned by the lessor; also used to refer to the right to use a Facility or other property for a specified period of time, and a Franchise (q.v.)
- **PPP: (Public Private Partnership):** in which the Government contracts a private sector enterprise for providing a public asset or a service (roads, water supply, etc.), usually at a user charge.
- **Privatisation:** Complete transfer of public infrastructure to the private sector, as compared to PPPs, where it remains in the public sector.
- **Risk Assessment:** The determination of the likelihood of identified risks materialising and the magnitude of their consequences if they do materialise.
- **Risk Identification**: The process of identifying all the risks relevant to the project.
- **Risk Management:** The identification, assessment, allocation, mitigation and monitoring of risks associated with a project. The aim is to reduce their variability and impact.
- **Risk Mitigation:** The attempt to reduce the likelihood of the risk occurring and the degree of its consequences for the risk-taker.
- **Viability Gap Funding (VGF):** A Government-initiated scheme, wherein projects with low financial viability are given grants of up to 40% of the project cost, making them financially viable under PPP. This is an important bidding parameter, if applicable.
- **Transferable Risk:** The risks that are likely to be allocated to the private party under a PPP arrangement.

CHAPTER 1

INTRODUCTION

Maritime transport is the backbone of globalization and lies at the heart of cross-border transport networks that support supply chains and enable international trade. An economic sector in its own right that generates employment, income and revenue, transport – including maritime transport – is cross-cutting and permeates other sectors and activities. Maritime transport enables industrial development by supporting manufacturing growth; bringing together consumers and intermediate and capital goods industries; and promoting regional economic and trade integration. From shipbuilding to cargo routes to the future of seafaring, the maritime sector continues to evolve in response to economic, political, demographic, and technological trends. Understanding these trends is critical to improving the performance of the industry's capital investment as well as operational efficiency and provides the backdrop for successful long-term maritime trade strategy. So private investments have been welcomed all over the world in every sector.

INDIAN PORT SECTOR

Port, the gateway to a country, is a facility for receiving ships and transfer ring cargo. This is a unique infrastructure, which requires both marine and land-related equipment for its operation, since it is usually situated at the edge of a sea, river or lake. A port, which handles ocean-going vessels, is known as a "sea port" or "port", while a port which handles river traffic such as barges is known as a "river port" and a port on a lake, river or canal having access to the sea is known as an "inland port". In addition, the term "dry port is used to describe a yard or depot for the placement of containers or conventional bulk cargo. A dry port is linked to the seaport by rail or road for inward or outward journey of the cargo.

The Indian ports and shipping industry play a vital role in sustaining growth in the country's trade and commerce. India is the sixteenth-largest maritime country in the world with a coastline of about 7,517 kms. The Indian Government plays an important role in supporting the ports sector. It has allowed Foreign Direct Investment (FDI) of up to 100% under the automatic route for port and harbor construction and maintenance projects. India's key ports had a capacity of 1,534.91

million tonnes per annum (MTPA) in FY20. In FY21, all key ports in India handled 672.61 million tonnes (MT) of cargo traffic.

As India opened its economy towards liberalization, privatization and globalization in the year 1991, government policies were formed to develop export potential and improve trade and commerce. Development of Special Economic Zones (SEZ) and allowing foreign enterprise participation has helped India in achieving high trade growth over the period. India's top export destinations are the US, UAE, Saudi Arabia, Hong Kong, China, Germany and Republic of Korea. Key commodities handled at the Indian ports are petroleum products, coal, automobile, iron ore, engineering goods, chemicals and electronics.

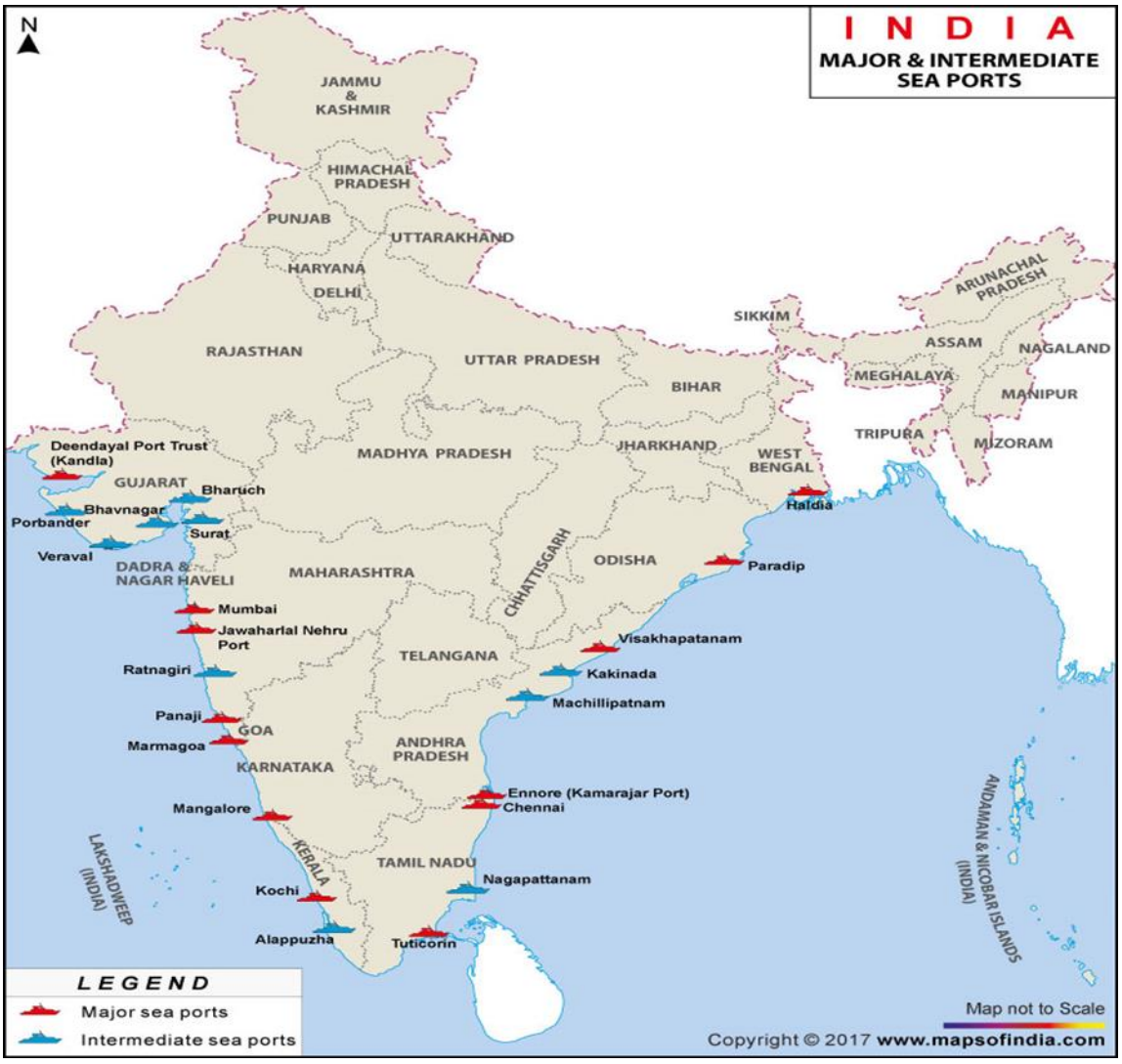
MAJOR PORT AUTHORITIES ACT, 2021

The Major Port Authorities Act, 2021 aims to provide for the regulation, operation and planning of Major Ports in India and to vest the administration, control and management of such ports upon the Boards of Major Port Authorities and for matters connected therewith or incidental thereto.

Major Port Authorities Act 2021 was enacted after Major Port Authorities Bill received the assent of the President and replaced the previous Major Port Trusts Act, 1963. A Board of Major Port Authority to be created, for each major port. These Boards will replace the existing Port Trusts under the 1963 Act, which is comprised of members appointed by the central government. The act is more compact in comparison to the Major Port Trusts Act, 1963 as the number of sections has been reduced to 76 from 134 by eliminating overlapping and obsolete Sections

- **Aims & Objectives of the Act:**

- It aims to promote the expansion of port infrastructure and facilitate trade and commerce
- Its objective is to decentralize the decision making and to infuse professionalism in the governance of major ports
- The act is aimed at reorienting the governance model in central ports to landlord port model in line with the successful global practice
- It imparts faster and transparent decision making benefiting the stakeholders and better project execution capability



- **<u>Deendayal Port Trust (Kandla, Gujarat):</u>**

Kandla, also known as the Deendayal Port Trust is a seaport in Kutch District of Gujarat state in western India, near the city of Gandhidham. Located on the Gulf of Kutch, it is one of major ports on west coast. Kandla was constructed in the 1950s as the chief seaport serving western India, after the partition of India from Pakistan left the port of Karachi in Pakistan. The Port of Deendayal is located on the Gulf of Kutch on the northwestern coast of India some 256 nautical miles southeast of the Port of Karachi in Pakistan and over 430 nautical miles north-northwest of the Port of Mumbai (Bombay). It is the largest port of India by volume of cargo handled. Kandla history Deendayal Port Trust, India's busiest major port in recent years, is gearing to add substantial cargo handling capacity with private sector participation.

- **Mumbai Port Trust (Mumbai, Maharashtra):**

Mumbai Port has long been the principal gateway to India and has played a pivotal role in the development of the national economy, trade and commerce and prosperity of Mumbai city in particular. The port has achieved this position through continuous endeavor to serve the changing needs of maritime trade. Though traditionally designed to handle general cargo, over the years, the port has adopted to changing shipping trends and cargo packaging from break bulk to unitization/ palletisation and containerization. Besides, it has also developed specialized berths for handling POL and chemicals. For decades, Mumbai Port was India's premier port. Even today, with the development of other ports, it caters to 8.61 percent of the country's sea-borne trade handled by Major Ports of the country in terms of volume. Mumbai Port is today facing challenges posed by competition from adjoining ports and private ports, changing traffic patterns, inherent physical constraints and continuing labour intensive operations, etc. However, Mumbai Port is taking various measures to render cost effective and quality service to the trade.

- **Jawaharlal Nehru Port Trust (Navi Mumbai, Maharashtra):**

The Jawaharlal Nehru Port Trust (JNPT) at Navi Mumbai is the biggest container handling port in India, accounting for around 50% of the total containerized cargo volume, across the major ports of India. Commissioned on 26th May 1989, in three decades of its operations, JNPT has transformed from a bulk- cargo terminal to become the premier container port in the country. JNPT is connected to over 200 ports in the world and is ranked 33rd in the list of top 100 Container Ports globally. Currently JNPT operates five container terminals: The Jawaharlal Nehru Port Container Terminal (JNPCT), the Nhava Sheva International Container Terminal (NSICT), the Gateway Terminals India Pvt. Ltd. (GTIPL), Nhava Sheva International Gateway Terminal (NSIGT), and the newly commissioned Bharat Mumbai Container Terminals Private Limited (BMCT). The port also has a shallow Water Berth for general cargo and another Liquid Cargo Terminal which is managed by BPCL-IOCL consortium. The Fourth Container Terminal is being developed in two phases of which Phase-I is operational and Phase-II is expected to be fully operational by 2022-2023 with a quay length of 2,000 metres adding an annual capacity of 4.8 million TEUs. JNPT has developed a multi-product SEZ in its owned free hold land of 277 hectares to attract international capital and global giants in manufacturing. In addition, the JNPT is also developing satellite port at Vadhvan and 4 Dry Ports – Jalna, Wardha, Sangli and Nashik to promote industrialization of

the hinterland. JNPT has firmly anchored itself as the major catalyst for the trade and commerce in the country and is strongly committed to providing seamless services to the world those docks here.

- **Mormugao Port Trust (Goa):**

Mormugao Port Trust (MPT) is a port on the western coast of India, in the coastal state of Goa. Commissioned in 1885 on the site of a natural harbour, it is one of India's oldest ports. The port employs around 2,600 employees and has about 4,000 pensioners. The Mormugao Port Trust, which operates the port, is the largest employer in the Vasco region and has a complete mini-township in Headland Sada which includes schools, residential complexes and amenities (like a hospital) for employees of the Port. The port of Mormugao was now poised for a dramatic growth. It would no more be a sleepy port importing table wines from Portugal and exporting oil cakes from Hubli. The exploitation of iron ore mines in Goa on a commercial scale since 1947, brought about revolutionary changes in the pattern of Mormugao Port traffic. Today the iron exported through Mormugao constitutes 39 percent of the total iron ore exports from India, and the port occupies a prestigious position amongst the major ports of the country.

- **New Mangalore Port Trust (Karnataka):**

New Mangalore Port is a small water af, all-weather port at Panambur, Mangalore in Karnataka state in India, which is the deepest inner harbour on the west coast. It is the only major port of Karnataka and the seventh largest port in India. It was formally inaugurated on 4th May 1974 by the then prime minister Indira Gandhi. The port serves hinterland of Karnataka state and to some extent state of Kerala. The major commodities exported through the port are iron ore concentrates and pellets, iron ore fines, manganese, granite stones, coffee, cashew and containerized cargo. The major imports of the port are crude and petroleum products, LPG, wood pulp, timber logs, finished fertilizers, liquid ammonia, sand, and other liquid chemicals. Over the years the Port has grown from the humble beginning of handling less than lakh tones of traffic to the present level of handling 39.15 million tons during the last financial year 2019-20. The Port is providing all the facilities for handling the cargo of mega Industries like MRPLONGC, OMPL, KIOCL, TOTAL GAZ, MCF, HPCL, IOC, UPCL, etc.

- **Cochin Port Trust (Kerala):**

Cochin Port or Kochi Port is a major port on the Arabian Sea – Laccadive Sea – Indian Ocean sea-route in the city of Kochi and is one of the largest ports in India. It is also the first transshipment port in India. The port lies on two islands in the Lake of Kochi: Willington and Vallarpadam, towards the Fort Kochi river mouth opening onto the Laccadive Sea. The International Container Transshipment Terminal (ICTT), part of the Cochin Port, is the largest container transshipment facility in India. The transformation of Cochin from a mere roadstead into a modern harbour is credited to Sir Robert Bristow, the harbour engineer who implemented the decision of the then rulers by creating a proper shipping channel by cutting the sand bar at the mouth of the harbour, during his two decades stint at Cochin(1920-1941). The first ship entered the Cochin harbour on 26th May 1928. Thereafter, road-rail networks were introduced to Cochin, connecting important inland trading points, making the harbour the important trading hub on the Kerala coast. The Mission of the Cochin Port Trust is to provide dependable, cost-effective Port services through modern and efficient infrastructure coupled with high quality, customer friendly services. The Port shall manage its assets and resources for optimal economic use to the Nation and the community. The Port shall strive to be the main catalyst for the economic development of the region, with a strong commitment to environmentally sound policies and safe practices. The Board of Trustees, the employees and all stakeholders of the Port shall work as a team in an open, positive, collaborative and cooperative manner. In pursuit of this Mission, the Port Trust shall be guided by the principles of integrity, ethical behavior, professional excellence, service to the community and respect for every individual. A draft of 30 ft is maintained in the Ernakulam channel along with berthing facilities, which enables the port to bring in larger vessels. In the Mattancherry channel a draft of 30 ft is maintained. The port provides round-the-clock pilotage to ships subject to certain restrictions on the size and draft. There is an efficient network of railways, roads, waterways and airways, connecting the Cochin Port with the hinterland centers spread over the states of Kerala, Tamil Nadu and Karnataka. Facilities for supply of water and bunkering to vessels are available.

- **V.O. Chidambaranar Port Trust (Tuticorin, Tamil Nadu):**

V. O. Chidambaranar Port Trust is one of the 12 major ports in India. It was declared to be a major port on 11 July 1974. It is second-largest port in Tamil Nadu and fourth-largest container terminal in India. V. O. Chidambaranar Port Trust is an

artificial port. Thoothukudi has been a centre for maritime trade and pearl fishery for more than 2000 years. The natural harbour with a rich hinterland activated the development of the Port, initially with wooden piers and iron screw pile pier and connections to the railways. The V. O. Chidambaranar Port Trust in Thoothukudi is located strategically close to the East-West International sea route on Coromandel Coast. Located in Gulf of Mannar, with Sri Lanka on South East and large Indian Landmass on the West, the Port is well sheltered from storms and cyclone winds. The port is operational round the clock all through the year. The inner harbour consists of 14 berths including two container jetties and three coal and oil jetties. The port handles both containers and cruise ships. The container terminal is currently managed by PSA Sical. The container terminal has 3 quay cranes with 44 m reach and four RTG cranes for stacking the containers. The port also has vast area for storage facilies. It has 5,530,000 Sq m of storage area in its premises. The port also has a passenger terminal for cruise ships. Due to its strategic location in the southern peninsula and assured round-the-clock operations, the port has been the nerve centre of economic activity in south Tamil Nadu.

- **Chennai Port Trust (Tamil Nadu):**

Chennai Port, the third oldest port among the 12 major ports, is an emerging hub port in the East Coast of India. This gateway port for all cargo has completed 137 years of glorious service to the nation's maritime trade. The Port now with three docks, 24 berths and draft ranging 8.5 m to 16.5 m has become a hub port for Containers, Cars and Project Cargo in the East Coast. Chennai Port is one among major ports having Terminal Shunting Yard and running their own Railway operations inside the harbour. The port is having railway lines running up to 41 Kms, 8 sidings to handle wide range of cargo like Granite, Food grains, Dry Bulk, etc. For handling containers separate sidings are available. The Port has handled 51.88 Million Tonnes of cargo volume for 2017-18 via-a-vis 50.21 Million Tonnes of Cargo in 2016-17. Container Volume increased to 1549457 TEU's against 1494831 TEU's in 2016-17. Physical performance parameters like Pre-Berthing Detention, Turnaround Time and Ship Berth day Output continued to improve. The existing Cruise Terminal was being upgraded to International Standards as a part of Cruise Shipping Policy. The induction of Mobile Harbour Cranes 100T - 2 Nos is expected to improve the productivity of Cargo Handling of the Port. Aggressive marketing initiatives are being undertaken to improve the Port Trade, Logistics and also to attract new Cargoes.

- **Kamarajar Port Limited (Ennore, Tamil Nadu):**

Kamarajar Port, located on the Coromandel Coast about 24 km north of Chennai Port, Chennai, it is the 12th major port of India, and the first port in India which is a public company. The port was declared as a major port under the Indian Ports Act, 1908 in March 1999 and incorporated as Ennore Port Limited under the Companies Act, 1956 in October 1999. The Kamarajar Port is the only corporatized major port and is registered as a company. Today, the landlord port is the dominant port model in larger and medium sized ports. KPL is one of the fastest growing Indian Sea Port. Surpassing our own standards of excellence has been a consistently occurring phenomenon in KPL. A humble journey started with a Port Capacity of 12 MMTPA has now grown as 38 MMTPA and projected to be 96 MMTPA by 2020-21 through Development of State of the Art New Cargo Terminal under Public Private Partnership or Captive models. Kamarajar Port was originally conceived primarily to handle thermal coal to meet the requirement of Tamil Nadu Electricity Board (TNEB) and was endowed with large chunks of land (about 2,000 acres). The scope was expanded taking into account subsequent developments such as the plan of Government of Tamil Nadu to set up a 1,880 MW LNG power project in association with a private consortium, a large petrochemical park and a naphtha cracker plant. Kamarajar Port designed as a world-class port, with two breakwaters & mdash one in the north measuring 3080m and the other in the south measuring 1070m it has the capacity to develop 20 berths for handling a variety of bulk, liquid, automobile and container cargo. The port is an artificial port with features including all-weather, round-the-clock operations, a large back-up land, eco-friendly environment, state-of-the-art navigational facilities, well-organized logistics systems and transport interface.

- **Vishakhapatnam Port Trust (Andhra Pradesh):**

Visakhapatnam Port is one of the leading major ports of India. The Port is located on the east coast of India in between Chennai and Kolkata at a latitude of 17042′ 00” North and longitude of 83023′ 00” East and the time zone is GMT + 5:30. The Port has three harbours viz., outer harbour, inner harbour and the fishing harbour. The outer harbour with a water spread of 200 hectares has 6 berths and the inner harbour with a water spread of 100 hectares has 18 berths. Bestowed with natural deep-water basins, the outer harbour is capable of accommodating vessels up to 200,000 DWT and draft up to 18.1 meters. The inner harbour is capable of accommodating fully laden Panamax vessels with draft up to 14.5 meters, with tide advantage. The

hinterland of the Visakhapatnam Port extends to north eastern Andhra Pradesh, Chhattisgarh, and southern Orissa. Iron ore, manganese ore, steel products, general cargo, coal and crude oil are the main commodities handled at this port. It also handles over 70% Nepal foreign trade as of 2019. Visakhapatnam Port is undergoing a modernization and expansion program aimed at increasing its capacity to 130 million tonnes by 2016–17, entailing an investment of ₹13,000 crores. The inauguration of the Gangavaram Port, located 15 km away from the Visakhapatnam Port, has led to a significant diversion of traffic away from the Visakhapatnam Port. As part of its modernization program, the port is also upgrading its general cargo berth in the outer harbour to accommodate vessels of 2 lakh DWT, deepening its inner harbour entrance channel and strengthening five berths in the inner harbour to admit vessels with 12.5 meter draft. Other steps being undertaken include the development of a truck parking terminal and a multimodal logistics hub, the procurement of two 50 tone tugs and the installation of mechanical handling facilities in the inner harbour for dry bulk cargo. The Visakhapatnam Port Trust plans to develop a satellite port at Bheemunipatnam to decongest traffic at Visakhapatnam. The project is expected to cost ₹2,000 crores and is to be undertaken through a Public- Private Partnership (PPP) venture.

- **Paradip Port Trust (Odisha):**

Paradip is one of the Major Ports of India. Late Biju Patnaik, the then Chief Minister of Odisha, is the founder father of Paradip Port. It is the only Major Port in the State of Odisha situated 210 nautical miles south of Kolkata and 260 nautical miles north of Visakhapatnam on the east coast on the shore of Bay of Bengal. The Port of Paradip, an autonomous body under the Major Port Trusts Act, 1963 functioning under Ministry of Ports, Shipping & Waterways is administered by a Board of Trustees set up by the Government of India headed by the Chairman. The Trustees of the Trust Board are nominated by Government of India from various users of the Port such as shippers, ship owners, Government Departments concerned and also port labour. Paradip Port is strategically situated so as to serve a vast hinterland spreading over the states of Odisha, Jharkhand, Chhattisgarh, Madhya Pradesh, Uttar Pradesh, Bihar and West Bengal. Paradip Port enjoys the advantages of soft underwater soil, so that it can be deepened to any depth depending upon the need. At present Paradip Port is handling various cargo like Crude Oil, POL products, Iron Ore, Thermal Coal, Chrome Ore, Coking Coal, Manganese Ore, Charge Chrome, Ferro Chrome, Ferro Manganese, Limestone, Hard Coke, Ingots and Moulds, Billets, Finished Steel, Scrap, Fertilizer, Fertilizer Raw Material, Clinker, Gypsum, Project

Cargo and Containers. The Port is now equipped with 16 berths, 3 Single Point Moorings (SPM), 1 Ro-Ro Jetty, a well maintained Approach and Entrance Channel having 17.1 Mtrs minimum depth to handle a wide range of vessels up to maximum LOA of 260 Mtrs. Paradip Port has its own Railway System having a route length of about 7.4 Kms and track length of 84 Kms with 19 full rake length railway sidings and 6 half rake length railway sidings to handle rail borne traffic efficiency. The rated capacity of port is 277 MMT per annum. The cargo handling capacity of the port is 164 million metric tonnes at desired berth occupancy. With a slew of capacity augmentation programme on the anvil, the Port is getting ready to have a capacity of 325.00 MMT per annum by 2020.

- **Syama Prasad Mukherjee Port Trust (Kolkata, West Bengal):**

Port of Kolkata, officially known as Syama Prasad Mukherjee Port Trust, is the only riverine major port of India, located in the city of Kolkata, West Bengal, around 203 kilometers (126 mi) from the sea. It is the oldest operating port in India and was constructed by the British East India Company. Kolkata is a freshwater port with no variation in salinity. The port has two distinct dock systems — Kolkata Docks at Kolkata and a deep water dock at Haldia Dock Complex, Haldia. Kolkata Port has a synergistic linkage with the city of Kolkata with an array of road, railway and inland waterway network connecting all parts of the country. The Port is well connected with national and state highways, railways and national waterways. KDS is connected with NH-6, NH-2 and NH-34 through city roads. NH-41 connects Haldia with NH-6 and rest of the country. KDS is connected to Eastern Railway through Sealdah and Budge Budge Sections. HDC is connected to the South Eastern Railway via Panskura.Kolkata Port is connected to National Waterway No.1 (Ganga), National Waterway No.2 (Brahmaputra) and Waterways through Sundarban. Kolkata Port has a vast hinterland, comprising the entire Eastern India including West Bengal, Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Punjab, Haryana, Rajasthan, Assam, North Eastern States and the two landlocked neighboring countries viz. Nepal and Bhutan. The industrial development, commerce and trade of this vast hinterland are inseparably linked to the life and development of Kolkata Port and vice-versa.

SAGARMALA PROJECT

The concept of Sagarmala was approved by the Union Cabinet on 25th March 2015. As part of the programme, a National Perspective Plan (NPP) for the comprehensive development of India's 7,500 km coastline, 14,500 km of potentially navigable waterways and maritime sector has been prepared which was released by the Honarable Prime Minister, on 14th April, 2016 at the Maritime India Summit 2016. Sagarmala is an ambitious national initiative aimed at bringing about a step change in India's logistics sector performance, by unlocking the full potential of India's coastline and waterways. The vision of Sagarmala is to reduce logistics cost for both domestic and EXIM cargo with optimized infrastructure investment. Sagarmala aspires to reduce logistics costs for EXIM and domestic cargo leading to overall cost savings of INR 35,000 to 40,000 cr. per annum. The concept of "port led development" is central to the Sagarmala vision. Port-led development focuses on logistics intensive industries (where transportation either represents a high proportion of costs, or timely logistics are a critical success factor). These industries can be structurally competitive if developed proximate to coast/waterways. They would be supported by efficient and modern port infrastructure and seamless multi modal connectivity. The population in adjoining areas would be sufficiently skilled to participate in economic opportunities on offer. The synergistic and coordinated development of the above four components, namely logistics intensive industries, efficient ports, seamless connectivity and requisite skill-base - leads to unlocking of economic value.

Components of Sagarmala Project

- Port Modernization & New Port Development: De-bottlenecking and capacity expansion of existing ports and development of new Greenfield ports
- Port Connectivity Enhancement: Enhancing the connectivity of the ports to the hinterland, optimizing cost and time of cargo movement through multi-modal logistics solutions including domestic waterways (inland water transport and coastal shipping)
- Port-linked Industrialization: Developing port-proximate industrial clusters and Coastal Economic Zones to reduce logistics cost and time of EXIM and domestic cargo
- Coastal Community Development Promoting sustainable development of coastal communities through skill development & livelihood generation activities, fisheries development, coastal tourism etc.

- Coastal Shipping & Inland Waterways Transport Impetus to move cargo through the sustainable and environment-friendly coastal and inland waterways mode.

Meaning and Definition

A public-private partnership (PPP) involves the private sector in aspects of the provision of infrastructure assets or of new or existing infrastructure services that have traditionally been provided by the government. While there is no single definition of PPPs, they broadly refer to long-term, contractual partnerships between the public and private sector agencies, specifically targeted towards financing, designing, implementing, and operating infrastructure facilities and services that were traditionally provided by the public sector. These collaborative ventures are built around the expertise and capacity of the project partners and are based on a contractual agreement, which ensures appropriate and mutually agreed allocation of resources, risks, and returns.

The Government of India defines a Public Private Partnership as:

"Public Private Partnership (PPP) Project means a project based on a contract or concession agreement, between a government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges."

The term "public–private partnership" describes a range of possible relationships among public and private entities in the context of infrastructure and other services. Other terms used for this type of activity include private sector participation (PSP) and privatization.

OBJECTIVE OF THE STUDY

The main objective of studying Public Private Participation is to know how these policies and decisions taken by the government could affect the general public, employees of the organization, regional development, economic development, competitors related to that particular sector and also other sectors, benefits, limitations, regulations, reasons for implementing these policies, opposition from the public, criticism, risks involved, and relating them to Visakhapatnam Port Trust, Visakhapatnam.

NEED AND SCOPE OF STUDY

The private investment in India has been in large amount is being flowing into the port sector even among the transport sector. This shows even among many sectors that need investment in India, port as a center for import and export needs more focus. And, the investment returns they can expect from investing in particular infrastructures of some ports can be very profitable for the private parties such as investing in terminals, in India about 21 terminals alone have been built under the private investment and the terminals is the most invested upon area also. In this itself the investment has been in found to be at large with the major ports than the minor ports, this may be due to the already established background and advantage they may have in this field, example most of the major ports will be the first option for any exporter, exporting to India because most of the lines will be connected to this port and these ports would be having extensive hinterland connections and other basic facilities.

LIMITATION OF THE STUDY

- The study was done on the basis of secondary data
- The private sector investment is ongoing, and it cannot be same in every situation, since different situation calls for different judgement
- The study is taking only a limited time period.
- Study considered only PPP mode of investment

CHAPTER 2

REVIEW OF LITERATURE

Determinants of Port performance' by Dr Rajasekhar and Dr MalabikaDeo in 2006. In this study an attempt was made to investigate the factors determining the efficiency of Indian Major Ports during the study period 1993 – 2011. In this part of analysis, the three panel data models i.e., a) Pooled OLS regression b) Fixed affect model and c) Random effect model regression were used. For identifying the determinants of ports efficiency, total traffic was considered as dependent variable and the independent variables like turnaround time, idle time, berth occupancy, berth throughput, operating surplus per ton, rate of return on turnover, number of employees, operating expenses, net state domestic product, net state domestic product in agriculture, net state domestic product in industry and net state domestic product in services were considered based on the correlation matrix analysis. From the above analysis it was found that Berth throughput, Number of employees and Operating expenses showed a positive influence under all the models. The variables like idle time and cargo equipment showed negative coefficient indicating a reverse influence of them on the dependent variable improving the port efficiency. Housman test was applied to choose the appropriate model. It strongly supported the Fixed Effect model.

The hypothesis tested in this study is that outside factors also equally affect the port performance. From the analysis it was seen that, the variables that have shown significant effect on the efficiency of ports were all inside factors like Berth throughput, Number of employees, Operating expenses, idle time and Cargo equipment. Thus, it can be concluded that both factors inside and outside affect efficiency of a port as they have significant relationship. But conspicuous factors are mostly inside factors, because the variable inside the ports were having significant coefficient, thus indicating more influence than outside factors where the regression coefficients were not significant. This result was the outcome of fixed effect model. Housman test suggested the fixed effect model application for better interpretation of result.

The overall inference from the result is that the efficient port operations depend heavily on independent variables like Berth throughput, Number of employees and

Operative expenses as these variables are having significant positive influence on the port efficiency. This shows that every increase in these variables have positive effect on the growth of total traffic. The variables like idle time and Cargo equipment available in the ports were found negatively and strongly effecting port efficiency. This shows that any percentage decreases in the above variables will lead to increase the growth of total traffic. The result indicate that the port efficiency is affected by the above variables, and the port management should give more importance to these variables for getting better efficiency and also to overcome operational inefficiency if exists.

L Lakshmanan, Assistant Advisor, Department of economic Analysis and Policy, Reserve Bank of India, in his paper Public Private Partnerships in Indian Infrastructure Development: Issues and Options in Summer 2008. This paper is looking at issues and options revolving around India's Public-Private Partnership (PPP). Interestingly, unlike many other papers, it discusses the private and PPP models implemented in different sectors in an attempt to find out the bottlenecks in infrastructure sector. The paper throws light on some of the issues faced by the PPP projects such as, transparency in procedure, risk allocation, improper project appraisal, cost and time overruns, overlapping regulatory independence & lack of good governance.

Hemalatha Sharma, Asst Prof, Kurukshetra University, published in International Journal of Marketing, financial services and mgt research ISSN 2277 36 22 vol, of 3 march 2012 an article 'Private Financing of Infrastructure in India: Outlook and Prospects'. Discusses the private financing of infrastructure in India, the paper is also discussing reasons led to the shortfall of infrastructure facilities, factors such as inadequate funding, failure of public sector in mobilizing funds and significance of private financing. The author points out that PPP is the most desirable model for funding infrastructure in India despite the policy regulations.

Geethanjali Nataraj, Senior Fellow, OBSERVER RESEARCH FOUNDATION, New Delhi, ORF OCCASIONAL PAPER #49 on Infrastructure Challenges in India:

Role of Public Private Partnerships, February 2014 says that once again, the Public-Private Partnership and its role in India when the country faces major challenges in its infrastructure development is being analyzed. Despite being the fourth largest economy, lack of infrastructure reduces GDP growth by 1-2 per cent every year in India. In that context, the paper is looking at the issues of budgetary allocation, tariff policy, fiscal incentives, private sector participation, and public-private partnerships (PPPs) in India's infrastructure development.

T Rajasekhar, Ph.D. Scholar, Department of commerce, Pondicherry University published in Mexican journal of operational research, vol 2, no 2, Dec 2013 an article on measuring the operational efficiency of selected major ports in India. In this research it examines the operational efficiency of selected major ports in India during the study period of 1993-2011 through data envelopment analysis. The hypothesis tested in this study is, size is not a determinant factor for port efficiency. For its study out of several major ports taken for study, four major ports, Mormugao and Jawaharlal Nehru Port Trust (JNPT) and comparatively smaller port Kamarajar, V.O Chidambaranar. In this it was found that all the ports were having efficient port operations. And also, through the results through super efficiency analysis it was found that JNPT port was rated as super-efficient port among the selected major ports in India.

Public Private Partnership in India, M.Sathana Priya and P.Jesintha, Sep 2011.The article discussed the Public Private Partnership among the domestic and foreign players. The main objective is to assess the Public Private Partnership project in India and relationship between the foreign player and domestic player in PPP. So, the paper concludes that the foreign players are investing with domestic player in PPP

projects. Malaysian companies are leading investors in public private partnership (PPP) projects in India, with this observation both foreign and domestic players join together and developing good relationship among the world with the help of PPP project. MEANING OF PPP Agreement between government and the private sector regarding the provision of public services or infrastructure. The social priorities with the managerial skills of the private sector, relieving government from the burden of large capital expenditure, and transferring the risk to the private sector. The public assets are transferred to the private sector as privatization, so the Government decided to work together with the private sector to provide services. Public-Private Partnership (PPP) describes a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies. These schemes are sometimes referred to as PPP, P3 or P3. These PPPs aim to achieve the twin objectives of high growth and equity on a sustainable basis.

Investments in Container Terminals: Public Private Partnerships in Europe, Bart Wiegmans, Barry Ubbels, Piet Rietveld, Peter Nijkamp. The desire to create a more competitive, market-based transport system has led to the involvement of the private sector in infrastructure investments. However, there are still distinct aspects that often make investment in transport infrastructure unattractive to private parties. This paper elucidates the characteristics of investments in infrastructure in general, with the aim to clarify the hesitation of private investors. One specific category of infrastructure investments, viz. container terminals, is discussed here as an interesting case. European container terminals are mostly financed with a strong involvement of private parties. From a comparative study between investments in container terminals and other investments in infrastructure, we argue that the terminal market has several

features (such as imperfect competition), which lead to a lower risk for private parties. Because of these characteristics, public-private partnerships occur rather often and seem to be attractive. A situation of a fully competitive terminal market without government intervention is in the long-run possible and clearly more realistic than in other infrastructure markets. It should be realized however, that a common European policy is required to avoid distortion of competition among ports due to different subsidy regimes.

A study on public-private partnerships with reference to Indian Infrastructural Projects, **TharunShastry L,** International Journal of business and management invention,2014. In this article, the researcher has done an in-depth analysis of the PPP projects at work in India. The paper uses a conceptual study with explorative methodology. The paper aims at providing an insight into PPP in 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. The study has done a good analysis of the advantages and disadvantages of PPP in India and found many findings where in India it's lacking. The study has taken into consideration several fields such as transport sector like airport, ports, roads and energy sector etc. into its consideration

Research Methodology

In this research, researchers have used secondary data available from the Ministry of Shipping. The data was mainly available from reports and article. The researcher will be using all data in the forms of graph diagrams, and bar diagram to show the current growth statistics. Researchers have taken few supportive documents from industry experts to back his analysis

CHAPTER 3

UNDERSTANDING PPP

Public private partnership (PPP) is a coalescence of the public and private sector for the purpose of delivering a project or a service traditionally provided by the public sector. The PPP approach recognizes that both parties, generically different, possess certain unique traits relative to the other and by obligating each other one to do what it does best, public services can be provided in the most effective and efficient manner. Successful partnership draws on the strengths of both public and private sectors to establish a complementary association leading to collective success.

PPP, is inherently based on a risk sharing relationship with a shared aspiration between the public and private sector and its core lies harnessing the best of both worlds in a win-win format. According to Northern Ireland Executive, the executive arm of the Northern Ireland Assembly, "A public private partnership is generally a medium to long term relationship between the public and private sector (including the voluntary and community sector) involving the sharing of risks and rewards and utilization of multi-sectoral skills, expertise and finance to deliver desired policy outcomes that are in the public interest."

PPP aims at evolving cooperation between public sector and private sector to finance, design, construct, operate and maintain public infrastructure projects and services. It develops an on-going business relationship between the two, dully chartered by a long-term contract. Typically, like any business partners, they decided to share investment costs, risks and rewards on mutually agreed base.

Governments the world over, and particularly in developing countries are plagued by budgetary constraints and finding it increasingly difficult to meet the growing demands of infrastructure services. PPP represents a new and innovative a financing method in which private sector investment is utilized through a mutually beneficial arrangement. Since huge financial requirements of infrastructure cannot be met either by public sector or private sector alone, PPP has become a logical, viable and necessary option for the two to work together.

Perception prevails that excessive reliance on the public sector for providing infrastructure services fosters inefficiency due to flaws inherent in its more bureaucratic less business-like functioning. PPP creates a commercial setup within

which skills and resources of the private sector can be mobilized to provide high quality and efficient public services at a cost that represent Value for money. It is essentially about leveraging limited government resources and drawing upon accountable efficiency of the private sector.

Focusing on public services, PPP offers a more sophisticated and cost-effective approach to the management of risks by the public and private sectors. The private sectors own risks which it is best able to manage in return for earning profit from running the business. Equally, the public sector too carries its basket of risks for which it is best suitable. Equitable risk sharing is at the core of a successful PPP sector. The aim is to optimize sharing so that the partners synergize their strengths to withstand the vagaries of business uncertainties and people get the best of both the worlds.

PPP elevates a public authority from being an operator to a policy framer and regulator. Relieved from day-to-day management of the venture, the public authority can concentrate on the role which it best suited to perform; constantly monitoring the provision of satisfactory services, which the private sector is obliged to deliver.

Investment in infrastructure is characterized by large upfront and, usually, sunk costs with long gestation periods before revenues are generated. These aspects necessitate long- term commitments from both the parties to the documented in a well-structured contract. The public sector is required to articulate its long-term service needs. The private sector, on the other hand, would not be willing to put its heavy investment unless it is satisfied about the projects long term sustainable performance. PPP thus, can be an effective antidote to the temptation of thinking short term in the both the public and private sector.

Respective Roles of Public and Private Sectors

- **Role of Public Sector**

At the outset it should be clear that PPP is one of the many ways of delivering public services. It is not a substitute for strong governance and decision making by government or, for that matter, the public sector, which remains accountable for delivery of services to the public at large.

The role of the public sector starts at the conceptualized stage itself. The project is first conceptualized and after satisfying that test of value for money, or public Sector

Comparator (PSC) developed through planning mechanism, the pertinent PPP model is formalized taking into consideration appropriate risk allocation, output specification, operational efficiencies and contractual tenure. The fundamental of selection process for protecting the public interest through probity and transparency are then defined and designed and the project is then opened for competitive bidding.

- **Role of the Private Sector**

The private sector's role is defined and bounded by the public sector. There are instances where the public sector has associated the private sector at the planning stage itself to develop a project to be implemented as a public private partnership. Nature and size of the infrastructure project, quantum of finances, allocate risk profile are some of the determinants of the specific role of private sector. Though the precise scope of its role depends on the PPP model selected, in general the private sector is required to build the project and provide efficient day to day management with the ultimate objective of yielding cost-effective quality service to the users. However, in order to exploit the full potential of private sector expertise and skills, the defined role should permit it to function independently with the least government interference. It should provide incentives to the private sector to excel its virtues but restrain it from adopting monopolistic behavior.

BENEFITS OF PPP

A successful marriage of public and private sectors based on private sector ethos and public sector mission is the basic motto of PPP. The government looks forward for socio economic benefits for the society from such a setup. The private operator rightly so, aims at maximization of his return on investment within the same mechanism. The concept not only signifies reliance upon the private sector for financing capital investment of the project but also incorporates use of private sector skills and managerial expertise in creating and operating a public service in an efficient manner which ultimately leads to the development of infrastructure and economic growth of the country the approach provides commercial orientation to the provision of services as an activity of corporate governance which was masked by a notion that services of such nature are provided by the government without reference to their cost as part of its administrative governance.

By developing an optimal business relationship with the private sector, the public sector can in addition to much needed funds secure significant benefits through

qualitative risk transfer to the private sector and also tape the private sector management skills, innovations and efficiencies. These benefits can be divided into three parts financial, social and political.

Financial and Budgetary Benefits

The PPP approach can be justified even if it is assessed purely from the commercial and financial standpoints. Minimum cost, Optimization of resources, providing relief to the government from fiscal pressure and above all, improved VFM are some of the advantages that prompt the government to attract private investment.

- **Easing Budgetary Constraints**

PPP enables the government to construct a project with none or little public financing. It helps the government to leverage its limited finances. Equally, even for the operation of such a project, government expense is not involved, since the cost of services is often transferred to users by charging rates close to the real cost, e.g., the cost of toll roads. Some financially profitable projects may even generate enough travel new 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 governments that exposure for raising money from the general public by increasing its tax burden. Even if some points need to be contributed by the government as capital cost for subsidizing the operational revenue, the amount will be much lower than what the government needs to spend for building an Operating the project under conventional methods exclusively through the public sector.

- **Improved Value for Money**

Projects implemented under PPP are capable of resulting in higher profitability for a given level of investment in comparison with project developed under a public procurement system. 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. Such coordination is likely to develop a synergical impact through innovative designs and applications of reengineering principles.
- A constant effort towards efficient management techniques.

- To provide quality service, which is under close supervision constantly by the regulatory authority or as contractual obligation of the private operator.

- **Cost Effectiveness**

Under PPP mode, it is the competitive process rather than any administrative authority, which determines the cost of the project since the project is thrown open to private parties for bidding. Realistic cost is the Hallmark of transparent competition. The bidder who has offered to undertake the project with least cost for subvention to the exchequer is the winner. Thus, due to selection of the private operator under a competitive environment PPP ensures minimum cost of project. PPP also relieves the Government of carrying the liability of huge manpower for operating the project. The government gains both on capital and revenue cost Fronts.

- **Generation of Additional Revenue**

The private operator is more inclined to make a "zero based review" of various potential sources of revenue. Additional revenue may be generated through the use of spare capacity for disposal of surplus asset. He can even tread beyond this established sources and venture into any other potential avenues, such as property development, which may be risk prone but remunerative. It is capable of taking risk since unlike its public sector counterpart private management has the "freedom to fail" if it is unsuccessful.

- **Recovery of User Charges**

Public utility services serve a large customer base. Power, water and transport are a new such examples. There are experiences aplenty that public sector managed utilities are not in a position to address disproportionately leakages in the recovery of user charges. The private sector with 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.

- **Optimal Allocation of Risks**

A PPP project is exposed to high level of risk due to the magnitude of financial Stakes involved, uncertainty over construction and operating cost and revenue related risk. PPP is a set- up, which provides opportunities to allocate risk between two generically different partners based on the Cardinal principle that the risk should

be borne by the party which is better suited to bear and mitigate the same. Thus, neither of the futures is exposed to the full basket of uncertainties.

Economic and Social Benefits

At the core of PPP rationale, particularly from the public sector's point of view, is the socio-economic motive of obtaining for the public, quality services at the most competitive price. It is a fact that despite the obtrusive interface of the private operator with the public as a provider of services, the overall responsibility for providing quality services at reasonable prices remains with the government. It thus, becomes imperative for the government to ensure that the PPP projects yields the expected social and economic benefits, some of which are explained below.

- **Project Stability**

Once approved and legalized through a contract a PPP project remains immune to direct and indirect "electoral" impacts. A PPP contract is typically for a longer term than the tenure of bureaucrats and elected politicians of the day. Once signed, the private operator performs the functions as per the Contract and remains insensitive to the whims and fancies of the changed Bureaucracy or polity, unlike in a conventional public sector project where the situation may undergo a sea change with the change of "masters". The first independent power project developed under PPP model in India was that 216 MW Jegurupadu project in Andhra Pradesh. The process was started in 1992 in right earnest and commissioned in 1997.

- **Boost to Economic Development**

Strategically developed PPP program act as a catalyst for economic growth. The private sector, which is 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 project under contractual framework too, 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 provision enshrined in the contract also propel the private sector to complete the project in a shorter time frame.

- **Modernization of the Economy**

PPP paves the way for embracing of optimum technologies. Private sector, as an important ingredient of its corporate philosophy, hunts for appropriate technology for improving the project's quality reducing its cost in order to maintain an edge over competitors. Mega business houses spend large amount of money on research and development activities as well. These factors help in modernization of economy when PPP project is implemented in the country.

- **Development of Financial Markets**

Reliance on private sector financing has a decisively beneficial impact on the development of domestic financial markets including those for long-term capital long-term capital, particularly in a developing country. The major private players have access to International financial markets and can mobilize funds on the strength of their on corporate standing. The integration with the international market helps in growth of the domestic financial market. Additionally, it is a well-known fact that financing under a PPP model has a complex project configuration and requires innovative instruments to cater to its special financing requirement. Creating such instruments enhances the market depth and encourages innovation at all levels of the market.

- **Development 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 cost, which otherwise it is required to sink for the building of highly capital-intensive project in these sectors. The funds saved can be utilized for investment in critical project in sectors like health, education and social welfare. The government can thus, concentrate and channels 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 corporations are very conscious of their image of an environment friendly business house. They now invest 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 public authority, more so in a developing country with private operators, enables designing of solutions which can

be adopted in other PPP or non-PPP projects as well. Besides, and important areas of infrastructure attracting private sector is sewage and waste treatment which contributes towards clean environment.

- **Technological Developments**

The public sector is not expected to have expertise in all the diversified fields of infrastructure. Partnership with the private sector ensures deployment of high-level experts equipped with international experience in the respective fields as project managers or consultants. Once introduced to the project, the expertise becomes accessible in the country directly through an arrangement of transfer of Technology or indirectly through retaining such specialist by the local firms. Also, instead of relying exclusively on foreign experts, former foreign firms tend to hire local personals who can be suitably trained for the job and who also come at a lower cost compared to their overseas compatriots. Thus, transfer of technology takes place by default. Besides, once benchmarking of the industry-wide high standard is established in one project, it is followed in another also.

Political Benefits

PPP yields political benefit in a significant manner. Infrastructure caters to the needs of the masses. Lack of services in these utilities is vulnerable to severe criticism affecting even the political stability in the country. Conversely, improvements in services with the assistance of private sector heightens the satisfaction level of the masses. Thus, political benefits of PPP initiative are as follows

- **Refocusing and Enhancing the Role of Government**

In the conventional infrastructure project implementation, the public sector becomes the planner, builder, operator and regulator of the services. In doing so, the government often faces the dilemma of conflicting interest. PPP allows the government or public agency to regain and strengthen its role and function as a policy framework and facilitator, which because of its sovereignty or delegated authority it is most capable of performing. In this way it is in a position to access and achieve the optimal level of service provision desired by the society. To reach an appropriate trade-off between economic and social efficiency it can judge for example, the “ability to pay” and/or “willingness to pay” threshold of the users of services and decide about the price of the services and also, if required the need for and the quantum of subsidy.

- **Asset Ownership Not Abdicated**

At times the term partnership falls prey to a different kind of connotation, the feeling being that a national asset owned by the general public is allowed to owned by a few wealthy people to exploit the common man. PPP assuages this feeling. People are made aware that since the government is not in a position to mobilize required resources, the private sector has been followed to bring in supplementary finance to create and operate the utility for a fixed tenure. Ownership of the assets so created is not abdicated by the government. At the end of the day, the asset come back to government. PPP thus, allows retaining the "public essence" of these infrastructure services, steadfastly refuting all allegations of "selling" the national asset to the private party.

- **General Feeling of Well-Being**

A successful PPP program is able to instill a feeling of well-being among people at large. Two factors are responsible for such a feeling. First, relieved of physical pressure to create capital intensive Infrastructure projects, government can use the funds for social sector projects. And secondly often quality of public services improves when the private sector is allowed to run the show. Users get more VFM and contentment. A satisfied lot brings social and political stability to the country

TYPES OF PPP'S:

- Build-Own-Operate (BOO)
- Build-Own-Operate-Transfer (BOOT)
- Build-Operate-Transfer (BOT)
- Design-Build-Finance (DBF)
- Design-Build-Finance-Operate (DBFO)
- Design-Build-Operate (DBO)
- Design-Build-Operate-Transfer (DBOT)
- Design-Build-Finance-Operate-Transfer (DBFOT)

Build-Own-Operate model:

For example, M/s ABC Pvt. Ltd. is a construction company acquired a contract from National Highways Authority of India (NHAI) for laying 400 kilometers of road connecting various regions to the Visakhapatnam Port Trust on BOO basis. Here the construction is road is done by M/s ABC Pvt.

Ltd., owning and operation of the road is also done by that firm, but the rules, regulation, quality and measurements of the road are to be followed as per NHAI. According to this, BOT means Building of the project, owning and operation of the project is under one hand i.e., the private firm. Here the government has provided some land to the private firm for development and receives a share from the charges collected from the public/vehicles who are using the road.

Build-Own-Operate-Transfer model:

For example, M/s ABC Pvt. Ltd. is a construction company acquired a contract from NHAI for laying 400 kilometers of road connecting various regions to the Visakhapatnam Port Trust on BOOT basis. Here the construction, owning and operation of the road is under M/s ABC Pvt. Ltd. and monitored by NHAI for a period of 30 years. After 30 years the ownership and operation of the road will be transferred to NHAI as they are the persons who owned or acquired the land. During this period the profits are shared by both NHAI and M/s ABC Pvt. Ltd. and after the term completion NHAI based on the circumstances can give the project on lease or operate on its own.

Build-Operate-Transfer model:

According to BOT model, the project is constructed and operated by the private firm for a specified period and after completion of the period the project will be taken over by the authority. The ownership of the project lies only with the authority during the construction and operation and the project is transferred to the authority without removing the infrastructure. The BOT model is different from BOO model and BOOT model as in the both the cases the ownership lies with the private firm whereas in case of BOT model the ownership lies with the authority at all times.

Design-Build-Finance model:

According to DBF model, for example the authority issues a tender to a private firm for the construction of quay in a port, say Visakhapatnam Port Trust (VPT). Here the private company designs a plan of the quay and after approval from VPT constructs the quay and the private company will bear the cost partially or fully as per the contract signed and handover the completed project to VPT and contract price during or after the completion of the project on instalment basis.

Design-Build-Finance-Operate model:

According to DBFO model, for example Visakhapatnam Port Trust (VPT) issues a tender for the construction of a berth on east quay for handling dry bulk cargo and a private company has acquired the tender. The private company has to make a design of the berth, machinery and equipment to be positioned and takes approval from VPT and has to finance the project and during a period of time the private company operates the project and is repaid by VPT.

Design-Build-Operate model:

According to DBO model, the project or contract is given to a private firm by the government authority to design, construction responsibilities along with operations responsibilities.

Design-Build-Operate-Transfer model:

According to DBOT model, the project is designed and constructed by the private firms as per the instructions of the government and operated by that private firm for a certain period of time and transferred back to the government.

Design-Build-Finance-Operate-Transfer:

According to DBFOT model, the responsibility of designing and construction of the project lies with the private firm and financing of the project is also done by the firm partially or fully. The project is operated for a period a time and transferred back to the government.

INITIATIVES BY GOVERMENT

With the implementation of New Economic Policy of 1991 i.e., Liberalization, Privatization, Globalization, in the year 2011 the Government of India has defined PPP (3P) as "an arrangement between a government / statutory entity / government owned entity on one side and a private sector entity on the other for the provision of public assets and public services through investments being made and management being undertaken by the private sector entity, for a specified period of time, where there is well defined allocation of risk between the private sector and the public entity and the private entity receives performance linked payments that confirm to specified and pre-determined performance standards, measurable by the public entity or its representative".

The most commonly used PPP models in India are BOT and BOOT models in the development of infrastructure like roadways, ports, water for consumption, waterways, buildings for government offices, residence and also for commercial purposes.

Examples: Four and Six lane highway roads under the authority of NHAI in the name of National Highways Development Project (NHDP); building of terminals in Jawaharlal Nehru Port Trust, Mumbai, Chennai Port Trust, Chennai; Nagpur Municipal Corporation Water Supply; Inland waterways system for transporting goods at a less freight.

CHAPTER 4

RISK- IDENTIFICATION, MITIGATION AND ALLOCATION

The success of PPP happens when both the parties -- public authority and private investor-enter into a "WIN-WIN" relationship. It is obvious that both the parties enter the arrangement with highly distinct motivations but gain individually only if they jointly pool their resources to make the PPP a successful venture. Effort to win at the cost of the other will be self-defeating, robbing the potential benefits of the project. Success can only be achieved if both parties endeavor to maintain a well-balanced partnership pilloried on equitable risk sharing. For this a number of coordinated efforts are required by the parties to limit the overall project risk. It may include the screening of suitable projects having strong fundamentals, the appropriate financing model with optimal cost and thorough research of the market potential. Once these issues of overall risk profile are appropriately addressed the parties then jointly set the agenda for negotiations of their individual portfolio of specific risks keeping long-term perspective in view. The precursor to such negotiation is a detailed analysis of the risk profile by the parties covering risk identification, impact on the risk occurrence, risk mitigation and equitable risk allocation. Such an analysis alone can determine true viability of the project and in fact can be the deciding factor for the initiation of PPP concept for the assigned project.

Risk Identification

Risks are endemic to doing business. All commercial ventures entail risks. PPP however, has an additional basket of them because of the long gestation period, heavy upfront capital cost, marriage of public and private sector ethos and ethos and political vulnerability of utility services. Some of the basic features of these risks are:

- Risk need not arise from a single cause but may rather stem from a number of causes known or unknown, direct or indirect, immediate or remote.
- Risk can arise both from exogenous as well as internal factors.
- Risk has no identified period of occurrence. Infrastructure projects have long life span of, say 15-30 years or even more. As such, the risk horizon of PPP projects in the infrastructure arena too, has a long range with age-wise

category of infancy", "adolescence and "grown up stage. All stages have their own associated risks.

In this background, risk analysis can be studied by categorizing them as risks occurring during construction, operation phases and risks arising from other project-related areas.

Construction Phase

Design and construction stage lays the foundation of the project. This phase sponges almost the whole or substantial part of the private investor's funds in creating an immobile asset. The emergence of risk during this period requires a careful scrutiny to insulate against cost and time over- runs, which have a serious impact on the overall economics of the project. These risks emerge from the confluence of various technical disciplines like geotechnical, civil, mechanical and electrical, among others, and from their associated designs. In addition to these, risks associated with project management also need to be addressed. Needless to say, there are some pre-construction stage risks as well.

Design Risks

Design formulates the blueprint of construction cost. The challenge is to provide a design, which perfectly meets the requirements. The risk of over designing of the structure leads to edifying the unwarranted cost, which is to be remunerated from the future streams of revenue necessitating higher price charge, in turn bloating the revenue risk. The risks of under- designing too, must not be overlooked. It may result in lower initial cost during construction but the hidden cost may crop up subsequently, which may turn out to be much more than the cost avoided at the initial stage. Another important factor for risky outcome at the design stage is the hasty adoption of untested technology. A careful study is required to examine that such new techniques fully match those in vogue. Any mismatch may throw the construction programme totally out of gear resulting in time stifle innovation, which remains cost overruns. However, an overcautious approach in this regard may self-innovation, which remains an integral part of the private sector participation in the PPP set-up. An optimal balanced approach needs to be followed.

Construction Related Risks

These risks can stem from various sources. Geological conditions may differ from the pre-construction surveys like soil investigations and utile. ties, including electricity, telephone cables, etc. Land acquisition, a risky and costly affair,

generally runs into trouble due to political interference and/or public outcry. Delay in approval from government agencies like municipal authorities, p0or selection of contractors or suppliers and inter facing problems among the various contractors operating at the same time at the same work front are some of the breeding avenues of construction risks. In addition, there is the risk of non-adherence to formulated sequencing of schedules necessitating revision in CPM and PERT resulting in time Overrun. Quite commonly it is observed that the approvals, technical or otherwise, do not flow from the public authorities as agreed mutually due to one reason or the other. The situation becomes worse when some variation becomes necessary during the currency of construction. All these result in delays and time overrun. A natural fallout of time overrun is cost overrun. The consequences of such risk occurrence can be quantified in monetary terms by measuring factors, such as extra cost of acceleration, enhanced interest burden due to delay, price escalation during the extended period, swelling of overhead costs and delay in revenue receipts scheduled to be earned from operation of the project once completed.

Project Management Risks

The risk profile under this head covers, in addition to risks arising from design and technical factors, the firm's managerial competence to handle a huge complex project. A multi-disciplinary project necessitates charting of minute interface programmes among the various sub-contractors. Any infirmity may disturb the scheduled sequencing thereby exposing the firm to risks, such as payment of damages. Proper selection of contractors in terms of their technical capability and financial strength is an important aspect of mitigating project management risks.

Operation Phase

Operation phase has a much longer span than construction phase and accordingly is exposed to a longer risk horizon. Some of the vital risks are as stated below:

Revenue Risks

These risks reflect uncertainties in income generation. Revenue risk is a product of volume/demand risk and price risk. Revenue risk commands Considerable importance in infrastructure and weighs heavily on the minds of private investors before they decide to participate in the project. In the case of normal industry, these risks depend on demand and the ability of the user to determine the estimated figure of revenue generation. Infrastructure provides necessities to the common man. Thus, while evaluating the revenue risks an additional important determinant is the

willingness of the user to pay the price, particularly when the services were provided earlier by the government agency, which for many considerations was providing these services at cost or below cost.

The estimate of income generation is a very complex exercise despite the availability of advanced statistical techniques. Such estimates need to be provided not only for the requirements of the initial stages but also for future growth spanning the entire duration of the operative period. Such estimates are prone to various intricacies of the assessment. Many factors have their interplay stretching the canvas of risk exposure. For example, a greenfield project, particularly in the transportation sector, is prone to a higher revenue risk profile. Revenue estimates of a new highway on toll basis are likely to be more erroneous than the one involving upgradation of the existing highway and its conversion into a toll road. Availability of the other competitive players also enhances the risks and possibilities of wrong estimation. The patronage of the newly constructed metro rail will depend considerably on the other competitive modes of transport like buses, scooters, taxies, etc.

The revenue generation of sensitive services like power and water poses another kind of risk- the risk of equitable tariff. There are many ramifications in the determination of their price structure. The risk of political interference and resistance from other influential quarters is very high in such services in view of their large consumer base compelling the operator to charge lower prices.

Collection of approved tariffs though duly enforceable as per contract or enactment is also not free from its own share of risks. The huge percentage of transmission and distribution losses of power in Delhi is one such example despite the fact that power distribution has been privatized in the city now.

Operating Cost Overruns Risks

Many factors may contribute to the increase in cost of operations. Once so increased such cost overruns continue to move northwards with a cascading effect.

Risks, which induce such overruns, may pertain to various areas that may be controllable or uncontrollable. Some of these are:

- Unprecedented increase in the cost of basic input
- Possibility of accidental omission of a category of cost cannot be ruled out
- Poor management control due to lack of monitoring network

- Ineffective interfacing among sub-contractors of portions of service operations
- Uncontrolled maintenance cost peaking much higher than estimated
- High component of imported spare parts adversely affected by currency devaluation
- Spiraling inflation, increase in interest rate, etc.
- Steep increase in technical manpower cost due to its scarcity

Social Acceptability Risks

Risks of social and cultural acceptability of the private operator providing basic utilities often loom large, more importantly in a developing country. Non-acceptability may stem from various reasons e.g., trade unions agitating against public assets falling into the hands of private operators. In a project providing basic necessity of life, such as water, the amount to be charged for its supply, particularly to the low-income population segment, is fraught with risks of political interference or pressure from NGOs

Other Risks

Other important risks include:

- Interruption in service due to faulty technical design
- Risks associated with obsolescence
- Risks related to non-compliance of pre-determined standards of performance
- Risk of non or delayed receipt of annuity, subsidy, etc.
- Non or poor recovery of recoverable against the services rendered or supplies made
- Sub-optimal productivity of employees
- Poor personnel policies, frequent strikes, etc.
- Legal risks, more particularly changes in law in respect of work permits, tax laws and sector-specific regulations
- Risk of force majeure, etc.

Financial Risks

Financial risks emerge from financial parameters external to the contract. The impact of these risks results in the escalation in project cost and substantial reduction in overall profitability. These risks are commonly known as exchange rate risk, convertibility risk, transferability risk, interest rate risk, refinancing risk and

inflation risk. These risks primarily originate from government action taken to correct the imbalances and/or needs of the economy. Explained below are financial risks sampled with one associated causative factor, which spur the relevant financial risks.

- **Exchange Rate Risks**

Exchange rate risks are the outcome of unexpected movement of ex- change rate, the primary source being an international transaction. Such a transaction can be direct or indirect. The private investor raises funds from foreign markets and finds its repayment obligations spiraling high in the event of devaluation of the local currency. The investor is exposed to this risk in an indirect way also when a sizeable amount of imported material is sed during the construction stage. Under the operation phase as well, some infrastructure services, such as telecom are adversely affected in terms of profitability if there is devaluation of the local currency resulting in the rise in prices of international calls.

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- **Refinancing Risks**

Refinancing risk reflects the scarcity in the availability of credit. It may be both for the long term and short term. In the former case, the long-term instruments may not be available in the market and in the latter case short term instruments cannot be rolled over. The refinancing risks are more common in a developing country where as part of monetary policy, systems of administered interest rate and exchange rate control, are prevalent normally. In such countries the private investor in infrastructure has to study in detail the outcome of these risks before taking any decision to participate in a PPP project.

- **Inflation Risks**

Creation of infrastructure facility has a much longer span, both in terms of construction and operation periods. Inflation during these phases at a than the expected benchmark can result in a severe blow to the fundamental economics of the project. Unprecedented increase in the prices of basic raw materials like steel and cement can affect the construction cost to an unbearable extent for the private investor if the price escalation formula is not inbuilt in the contract, which is often the case in a con- cession contract. Conversely, in the event of a suitable escalation clause provided for in the contract, the government may find it difficult to fund the cost of the project.

In addition to the above referred risks, weak financial position of the contractors may also become a causative factor. Any infirmity in the solvency, profitability or liquidity position of the firm will diminish the capacity of the contractor or operator to manage cost overruns or losses put ting a question mark on the success of the PPP project.

Political Risks

Political risks concern government actions that affect the ability of the project to generate earnings. These arise from the direct or indirect actions taken by the government to provide effective and efficient governance to the country or from some political considerations. These include traditional political risks and regulatory risks, e.g., risks associated with expropriation, regulated tariffs and quality standards. The risks related to currency convertibility and transferability may also be considered as political risk, since they all surface from the government actions. However, these have been considered under a separate section related to Financial Risks.

- **Traditional Political Risks**

The risk of expropriation is the most dominant and universally accepted risk under this category. This is the risk that the government will nationalize the activities of an enterprise in an arbitrary manner without paying a fair compensation. The expropriation or nationalization may be the result of one single action of the government in the form of a promulgation, notification, decree or a series of actions hostile to the interests of the private operator. The latter course of action achieves the objective of bidding farewell to the private entrepreneur without any visible action of issuing a decree, as the private entrepreneur is put in a situation of having no other alternative except to quit. It is often referred to as "creeping expropriation.

The risk of appropriation is not unique to the infrastructure sector. In India there are many instances in various industries where the pos has opted for this action--airlines, banks and insurance companies to quote a few. It is a different matter that the government now prefers private investment in these disciplines in a complete paradigm shift. However, the infrastructure sector is more vulnerable because of its inherent traits and legacy background. Two important characteristics of the infrastructure industry --one, it is normally in the realm of monopoly, either public or private, and two, it provides essential services to the population at large are good enough to attract interference from the political set-up. Another important point worth considering is that in earlier days such facilities were owned and controlled by the public sector where as a result of various considerations government was providing such services at cost or less than cost. These factors render the risk of expropriation much higher than in other industries, since any such action by the government has a strong potential for winning votes. While evaluating the risk of expropriation the private investor has to depend primarily on his subjective judgment, which may be based on the history or track record of the government and his own evaluation of the factor’s deterrent to expropriation. The track record can be examined by reviewing factors like political stability, economic scenario, bureaucratic hold and independent judiciary, among others. Deterrent factors are those, which make the possibility of expropriation difficult. The burgeoning budgetary deficit, for example, may provide some assurance that it may not be possible for the government to nationalize the utility and swell its deficit further. Also, the extent of globalization and inflow of foreign capital in the economy is a source of optimism. The government may not like to earn the distrust of the

international community by indulging in an uncalled-for action. Nevertheless, the fact of the matter is that the risk remains intact and it has to be evaluated in the background of the soci0 economic and political situation present in the country at a particular point of time. This is truer in the case of a developing nation.

- **Regulatory Risks**

Regulatory risks are the risks that flow from the regulatory actions of the government. They cover all the laws, rules, regulations, notifications and decrees concerning the country's business operations. These also include government regulatory interventions made from time to time. These regulatory laws may be economy wide or sector specific.

- **Indirect Risks**

The rubric of indirect risk covers all the risks which do not pertain to either of the parties but strongly impact the implementation of the project irrespective of the source of origin. Generally, these are applicable to the enable to the industry at large. Some of the prominent indirect risks are explained below:

- **Force Majeure Risks**

These risks spring from the unforeseeable events or circumstances and block the execution of the project. The event can be a natural disaster or a man-made one. Normally, a cooling period is provided in the contract and should the event continue beyond that specified period the contract gets foreclosed. Since such events absolve the parties from fulfilling their contractual obligations and little can be done to avert or control such events, it is imperative that provisions related to force majeure are clearly spelt out in the contract. For example, the mere mention of war may not be adequate. The correct wording should be "war whether declared or not" and strike and lockout" should be substituted by the term "illegal strike and legal lockout". It is becoming increasingly important to put "terrorism also in the list of events arrayed for this purpose.

- **Legal Risks**

These risks emanate from legal issues, more particularly commercial laws like taxes, banking, corporate enactments, etc. Such risks have the potential to prejudice the project's commercial viability. These may arise due to changes in the existing laws, new enactments or variant interpretations of the issues by the judiciary.

- **Environmental Risks**

Lately, environmental issues are gaining justifiable importance in all the countries to mitigate their hazardous effects. In fact, one of the vital clearances required before undertaking the project is environmental clearance separately for construction and operation activities. Detailed investigation of such requirements is necessary, since non-compliance may culminate in the contract's termination at a later stage. The risk may arise not only from the faulty or non-compliance of existing laws but also from the new enactments introduced during the currency of the project. In one such instance the cost of the raw material in a construction project, known as "aggregates", soared as the Supreme Court of India banned quarrying around Delhi pursuant to a Public Interest Litigation (PIL) petition. This resulted in an enormous transportation cost of carrying the material to t faraway places-a risk not envisaged earlier.

Risk Mitigation

Risks are of multifarious nature. So are risk mitigation measures, covering both macro and micro tools.

Design and Construction Stages

Efforts should be made to select a single party, which can undertake construction and operation of the project. It will result in the development of appropriate synergies to reduce the overall costs and increase the profit. ability of the project. At times a slight increase in design and construction cost results in substantial reduction in the operating cost. Such a prudent decision can be taken only if both the activities are obligated to a single party

Design Risks

The services of a reputed design-drawing consultant should be availed of to arrive at appropriate specifications at the bidding stage itself and avoid frequent changes at the implementation stage. A tried and tested technology should be relied upon, yet without total rejection of technical innovation. Whatever be its worth the contract with the consultant should contain a design defect liability clause.

Construction Related Risks

The contractor chosen must be a technically and financially sound one. It is better to have a consortium of contractors each specializing in its own field with a lead member for interfacing with the public authority. A detailed study should be conducted for drawing accurate geological details like soil investigation, utilities like sewerage, electricity cables, telecom cables, etc. to mitigate the risks of their surprise manifestations. A strong monitoring mechanism must be in place, preferably by independent consultants. All decisions including variations in the contractual provisions should be put on a fast-track system so that construction does not suffer on account of delay in the decision-making process. Introduction of an "Early Warning System" in contract management will go a long way to complete the project on time. Efforts should be made to acquire requisite land before the start of hart of the construction activities. Necessary clearances should be in place with regard to land use changes, environmental, archeological, traffic police and other such requirements.

The contract between the public authority and the private operator should have clear and unambiguous provisions to carry out construction of the technical parameters along with the requisite timeframe and provisions for penalties if the construction gets delayed. The fixed price contract is a safe bet from the point of view of the public authority. The private investor is expected to Jack up the quoted price suitably to take care of potential inflation. Provisions regarding testing and commissioning., warrantees and guarantees need to be clearly spelt out to avoid any unambiguity during execution.

Project Management Risks

Implementing a huge project, in addition to technical and financial competency, warrants efficient project management skills. Selecting a capable consortium leader who is professionally capable can only bring all members of the consortium together and iron out inter se differences, which are bound to crop into such a complex project.

Operation Phase Risks

Apt handling of operation phase risks and their mitigation is very important to sustain the project's profitability.

Revenue risks

Three basic uncertain ingredients, which germinate revenue risks, are inaccurate estimation of revenue, inequitable fixation of tariff and infirm enforcement of recoveries. The mitigation of revenue risk requires in-depth study of these risk-breeding areas.

Estimation: An accurate estimation presupposes a thorough feasibility study supported by detailed market research. It may include analysis of the consumer base covering the localization of potential uses, income profile, standard of living and the likes. The project catering to the general public like transport, water, electricity and telecom has to consider willingness as well, for the payment of these services. In case of electricity, the requirements of bulk buyers can be isolated from those of the general public and an agreement for the bulk off-take can be these buyers. The toll road project having an unorganized and widespread consumer base can mitigate risks of revenue by negotiating with the agencies having concentrated demand, such as truck unions and resident welfare associations which are in the near vicinity and are likely to patronize the toll road. With these measures some accurate estimates can be arrived at

Tariff: Equitable and affordable tariff fixation is a very sensitive issue. Any attempt to fix tariffs at a higher rate may diminish the demand, ultimately reducing the revenue, particularly in a transport sector project where other established modes of transport are already in operation. A low tariff structure, in any case, will make the project unviable. The Calcutta Metro is one such example, which is not in a position to compete with the abysmally low fare structure of the buses plying on the same' routes and, as such, is generating 45per cent of its operating cost only, through fare box collections. Existence of a regulatory authority 1s a welcome sign in this regard, since such a regulator is expected to function independently and look after the interests of all the stakeholders including the private operator. In the absence of such a regulatory authority, the private operator must insist on a clear-cut authority for the fixation and enhancement of tariffs based on a blueprint mutually agreed upon and unambiguously stipulated in the contract with the public authority. Should this right be meshed with the burdensome bureaucratic procedures, the risk of delayed and unremunerative tariff structure cannot be ruled out.

Collections: Regarding the enforcement of collections the statutory enactments or contractual provisions must provide unhindered right to the private operator to recover the dues and levy penalties. From his own side he must ensure proper and

accurate billing mechanism to infuse confidence in the minds of the consumers. A fool-proof system should be put in operation to arrest leakages in recoveries. In some specific cases an escrow account mechanism will ensure confidence in recoveries.

In addition to the above, the private operator should wherever possible be allowed to exploit other areas of revenue generation. In the transport sector commercial use of the adjoining areas stretching along the highways can be commercially exploited to supplement toll road collections. Similarly, for the urban metro rail, property development in and around stations and depots can provide a big safety cushion in a scenario of less-than-estimated fare box collections. To that extent the revenue generation risk

Operating Cost Risks

The optimal maintenance cost is the life- time optimal cost. The biggest contributor to operating cost overruns is the maintenance cost, which if unchecked has a tendency to continually rise. To arrest such cost and peg it at the optimum level a detailed budget should be drawn up based on the pre-determined performance parameters agreed upon with the public authority. All items of expenditure along with possible escalation should be provided for. Actuals should be compared with such provisions at definite periods and variances duly analyzed. An important prerequisite in this exercise is the existence of clear specifications of standards of performance in the operating contract to rule out any possibility of dispute. To make the contract meaningful, a provision to suitably remunerate the private opera- tor, should it exceed such prefixed performance standards and be subject to fines and penalties if it falls short of achieving them, be inserted in the contract. In the event of engagement of sub-contractors for some portions of service operation a robust mechanism should be put in place to iron out interfacing issues and the ultimate responsibility should rest with the main concessionaire.

Social Acceptability Risks

Any change, particularly concerning the masses, invites opposition more so when it affects the basic necessities of daily life like power, water and transport. There is need to educate the public of the inherent benefits of private participation in the sector. This is more important in view of the fact that the public is hitherto used to tariff structures, which may be less than the cost of providing the utilities. Any tariff enhancement will unplug anger against the private investor. The public needs to be made aware of the improvement in quality and the increase in the availability of

utilities for which it should be prepared to pay more than what it has been paying for inefficient and erratic services.

Other important measures include:

- A well-experienced operator with strong financial muscle should be selected for operation.
- An effective monitoring mechanism should be developed to m cost and revenue streams continuously and consistently.
- An ingenuous incentives scheme for employees should be formulated as part of the transparent personnel policies.
- Contract with public authority should contain compensation clauses the event of changes in the legislative framework specific to the project.
- Provisions to ensure that in the event of non-receipt of due annuity and subsidy the operator should be duly compensated should also figure in the contract.

Financial Risks

Developing suitable back-up arrangements for each category of risks can best mitigate financial risks. Exchange rate risks can be covered through hedging mechanism but hedging comes at a cost. To avert interest rate risks, loans can be raised on a fixed interest basis and swap arrangements can also be resorted to. Convertibility and transferability risks can be eliminated from the scene through suitable guarantees from the government. The impact of inflation risk can be diminished considerably if sub- contractors and suppliers agree upon identical terms. However, as explained in the previous section of Financial Risks (under Risk Identification), such risks mostly arise due to macro factors of general economic Scenario and government actions. In order to reduce the overall impact of these risks a few measures are needed to encourage private participation, particularly in a developing country.

Stable Economic Policies

Stable economic policies are a pre-requisite for the growth of commerce and industry, more so in the infrastructure sector, which warrants hug capital and risk bearing capacity. Stable economic environments reduce the chances of large-scale changes in exchange rates and interest rates. The much-assured private investor, thus

is in a better position to forecast the future scenario in terms of project's financial viability.

Liberalized Capital Market

A liberalized capital market can provide a boom to the highly capital-intensive infrastructure sector. It ensures free movement of capital, both inward and outward, in a country. Many advantages follow when such free movement of capital is permitted. The local market gets aligned to international markets and thus the cost of funds becomes cheaper. The biggest advantage however, is that risks are diversified and redistributed to a large spectrum of risk bearers resulting in mitigation of risk and lowering of the cost of the project.

Supportive Insurance Back Up

Insurance is increasingly becoming important in terms of volume, tenor and scope of coverage, particularly after the liberalization of this sector. Insurance covers are available today from national schemes, private insurance and international treaties like the Multilateral Investment Guarantee Agency (MIGA). The share of infrastructure insurance has increased in view of the liberalized environments. However, much more needs to be done. Incentives from the government encouraging insurance coverage in infrastructure will have a direct impact on the risk profile and the cost of the project.

Government Guarantee

Government guarantee goes a long way in shielding the private investor from financial risks. It is a reassuring investment by virtue of which the credibility of public authority for commitments like subsidy and annuity is replaced by the government. Also, it is the government alone which can measure the possibilities of restrictions of convertibility and transferability since foreign exchange is fully controlled by it. Guarantees provided for these risks boost private participation as the operator is absolved of their risky outcomes.

Political Risks

Political risks are the most complex, sensitive and unpredictable in nature. Political decisions often result from a confluence of diverse influences. The particular influence that turns dominant and affect the decision pends upon its intensity at a particular point of time. Political instability coupled with a wide gap in the ideology of various political parties a weak bureaucracy, are some of the factors, which

magnify these risks. However, world over governments constrained by their exchequers is increasingly recognizing the new realities and wooing private capital transform their infrastructure. This can be achieved in a much better way if steps are taken by the government to mitigate political risks so as to boost the confidence of the private investor. Some of the measures required in this direction are explained below.

Empowered Regulatory Institutions

Lately governments have started appreciating the need for independent regulatory institutions. An independent central bank acts as a catalyst in implementing good macroeconomic policies. Institutions like the Competition Commission ensure the emergence of fair and strong competitive forces and its positive cascading effects in the economy. Similarly, the existence of an independent sectoral regulatory authority promises transparent fair play in the infrastructure sector, according a boost to private in- vestment. The degree of confidence of the private investor often depends upon the level of freedom provided to the regulatory authority in its functioning.

Transparent Decision-Making Process

Transparency reduces concerns of corruption and potential risk of political interference. The most important tool for infusing greater transparency is increased reliance on competitive market, which also mitigates political risks by turning administrative decisions into market driven decisions be- sides bringing in the inherent advantages of cost reduction and improved efficiency. In the case of the Dabhol project awarded to Enron, the change of guard at the political scene led to the review and renegotiation of the project on the plea that the earlier government did not adopt an open competitive bidding process for such a major project.

International Treaties

International treaties are commitments by governments to abide by the rules and regulations framed therein. These treaties can be bilateral, regional or multilateral and play an important role in settling international investment disputes. A number of treaties give foreign investors the right to directly move against the host government. Even the aggrieved investor’s state also steps in at times in case the projects are of large value regarding the fulfilment of commit

Encouraging Local Participation

The immobile trait of infrastructure utilities can be converted into a big advantage by encouraging participation of both the local government and general public directly or indirectly concerned therewith. The participation can be in the form of grants, debt, equity and private shareholding or even pooling of non-monetary resources. Such a large-scale involvement of the aforesaid agents gives a feeling of ownership of the project by the public at large and reduces interference of the political brass, thus giving the investor an added feeling of security.

Indirect Risks

For all the indirect risks the identical clause should appear both in the compatibility and obviate the possibility of any disharmony in the implementation of the project. Some such indirect risks are explained below.

Force Majeure Risks

There should be clear and unambiguous provisions in the contract enumerating a list of such events, which can be treated as force majeure events. The private investor should also opt for a suitable insurance back-up from reputed national or international insurance companies. Identical clauses should be inserted in the contracts with the suppliers and sub-contractors. The private investors may also insist for a guarantee from the government for suitable compensation on the occurrence of such events particularly manmade ones.

Legal Risks

It is not possible to avert this risk completely. The private investor is expected to receive services of a good legal counsel for appropriate guidance in the matter. In any case, both the parties may be required to re-negotiate the existing terms, should the impact on the project becomes substantial.

Environmental Risks

All the imperatives of an environment-friendly project must be adhered to. It will be appropriate to initiate proactive action for getting proper certification, as per ISO series and also make the environmental standards compatible to the international standards. However, when there are changes in such standards pursuant to the award of the project both the parties should renegotiate the terms to arrive at an equitable allocation of resultant cost.

Risk Allocation

The success of the PPP depends on a well-balanced partnership, which centers around equitable sharing of risks between the private party and the public authority. The risk allocation is a complex and difficult process and for all practical purposes, it is a negotiated process. The section below covers the principles of risk allocation and their application on specific risks.

Principles of Risk Allocation

The success or failure of the project under the PPP mode is largely dependent on allocation of risks between the public authority and the private investor. Only equitable allocation can ensure the smooth running of the project. It is easier said than done. It may turn out to be a long drawn complex process. Bot t to the other party's account. Due to its inherent supremacy, the government as a sovereign entity tries to bear as minimum risk as possible since it will involve some sort of explicit or implicit guarantees, which it has to account for as contingent liabilities. The private investor, particularly the foreign investor in a developing country, tries to exploit the situation of budgetary constraints of the government and its own financial, technical and managerial strengths to bargain for the least risk-bearing obligations and ensure minimum risk portfolio for itself pushing all the residual risks to the government.

A well fulcranised risk allocation depends upon two fundamental principles:

- Risk to be allocated to the party which is most capable of managing it
- The party which bears the risk should be duly compensated

Managing Risk

While determining the party, which can best manage the risk, two important factors are to be considered:

- The influence a party can exercise over the outcome of the risk.
- The party, which can bear the risk at the lowest cost if the risk occurs.

Influence over Risk

The government as a sovereign state is in a position to influence risky outcomes of some of the issues related to economy-wide policies in a much better way. While, on the other hand, the private investor as an independent commercial entity is more comfortable in dealing with some of the risks emanating from the business environments. For example, the risk pertaining to convertibility and transferability i.e., conversion of local currency into foreign currency and its transfer out of the country is a risk, which the government is better equipped to forecast and bear on itself. Any effort to burden the private entrepreneur for this risk will result in a much higher price demanded by the investor since he will be attempting to hedge the uncertainties as per the worst-case scenario. On the other hand, commercial related risks like price escalation during construction and operation should be borne by the private investor who is in a better position to manage it. In practice, however, such categorization for allocation may not be so simple. Even within commercial risk many factors like peculiarities of the sector concerned, local conditions, associated fiscal incentives and the level of competition play their parts in determining equitable allocation between the government and the private investor. For instance, a demand risk is a critical commercial risk. Demand risk related to a greenfield toll-road project cannot be borne or should not be put exclusively on the private entrepreneur. The government should also come forward to bear a part of the risk in some manner so that the required breakthrough is achieved in the construction of such a toll-road project. The demand risk in the telecom sector where many players are in the field depends considerably on the quality of services being rendered by these operators and so, the private entrepreneur will be in a much better position to bear its risky outcomes.

Least Cost of Bearing Risk

The selection of the least-cost-bearing party requires a study of each party's resource profile for reducing the cost of a particular risk. Among the various factors the most important one for reducing the cost of risk is diversification or distribution of the risk among many constituents. Both the government and the private sector adopt this technique. The government spreads the risk among all the taxpayers and the private investor spreads it among agents like insurers, financiers and shareholders. The party, which is in a better position to spread it on a wider spectrum, bears the least cost. It may not always be the case that the network of taxpayers in a country is wider and more broad-based and as such the government is in a position to bear this cost

economically. The private investor, particularly foreign investors, often have millions of shareholders and a diversified portfolio addition to the business interests in the infrastructure sector and may be equally competent to bear risk at the least cost.

While taking decisions related to the infrastructure sector, the government may consider viding incentive ne incentive benefits associated with risk passed to investor vis-à-vis cost of bearing associated of bearing the risk by the government itself. Only if the latter is lower than the former, 1t may decide to bear the risk, such as demand risk. The private investor, on the other hand, can harness this element of risk-bearing in an ingenuous manner to derive maximum advantage. It may distribute the risk partially to the persons who are directly concerned with the project, such as promoters, managers and employees besides other stake holders. This way it can link the monetary stakes with the success of the project. AS the chances of the project's success increases due to the personal stakes, the uncertainty decreases, lowering the cost evaluation of the risky outcomes.

Compensation for Risk Bearing

An important ingredient of the principle of equitable allocation of risk is that the party, which bears the risk, should be duly compensated. if the government decides to bear a risk it will look forward to reduction of cost or improvement in quality parameters. The private party on the other hand will ask for price enhancement. Any deviation to this rule will disturb the equilibrium, affecting the project adversely.

Allocation of Specific Risks

Equitable allocation of risk ensures that incentives are in place to manage risks effectively. As a thumb rule risk emanating from the policy frame- work should be borne by the government or the public authority and the private investor should bear commercial risks that are the outcome of in- ternal project decisions made by the private investor. Within the ambit of this general rule specific risks are allocated to the private party and public authority, subject, of course, to certain adjustments.

Construction Risks

Risks attributable to design and construction-related activities are, in general, to be borne by the private investor, since these activities are under the control and management of the private party except where the government can control the inputs, such as release of land.

Operation Risks

The risks related to revenue generation are primarily to be borne by the private party as these are dependent on the quality of internal decision making. However, in matters like estimation regarding number of users authority/government as well. Left to the private operator, he may either ask for a higher price for this burden or may quit in between-both eventualities result in serio setbacks to the advancement of the PPP programme. Similarly, public acceptability of privatized operation being a sensitive issue, joint participation of both the parties towards increasing acceptability and sharing of risks is expected.

Financial Risks

Each risk in this category requires a separate treatment. Risks in the realm of exchange rate, convertibility and transferability, among others are to be borne by the government in view of their origin from the country's policy framework. Other risks are to be borne by the private party by taking certain risk mitigating measures, as explained earlier.

Political Risks

Political risks irrespective of the cause of their emergence should be allocated to the public authority/government. The government in such cases has better knowledge and control over events that spur these risks.

Indirect Risks

These risks need to be shared both by the private party and the public authority depending on the nature and impact of the risk. For example, risk sharing and consequent compensation package of a force majeure event caused by natural catastrophe may be limited only to losses suffered by the operator. Such compensation may be determined for an amount that may exceed the losses in the event of the project becoming unimplementable due to the refusal of the government to issue a requisite number of work permits.

CHAPTER 5

AN ASSESSMENT OF PPP IN PORT INFRASTRUCTURE

Port, the gateway to a country, is a facility for receiving ships and transfer ring cargo. This is a unique infrastructure, which requires both marine and land-related equipment for its operation, since it is usually situated at the edge of a sea, river or lake. A port, which handles ocean-going vessels, is known as a "sea port" or "port", while a port which handles river traffic such as barges is known as a "river port" and a port on a lake, river or canal having access to the sea is known as an "inland port". In addition, the term "dry port is used to describe a yard or depot for the placement of containers or conventional bulk cargo. A dry port is linked to the seaport by rail or road for inward or outward journey of the cargo.

Historically, during the 19" century and even till the first half of the 20th century, ports were considered as symbols of state or colonial power. This was due to fact that port access and egress was regarded as the means to control markets. lt is not a Surprise therefore, that seafaring nations welcome the original colonizers. Traditionally, ports were owned and controlled by the government. There was n0 or negligible competition between various ports in the same region. Port-related costs were insignificant in early day in comparison with the prevalent ocean transport cost. In this backdrop there was hardly any incentive to improve the functioning of port operations.

Changing Trends

The landscape is changing fast with trade-led growth becoming the dominant paradigm of development. The port sector in India and elsewhere has been undergoing a sea change in the last few decades. Ports today are also becoming standalone profit centers run on commercial lines, stepping out of the bureaucratic shackles of the government. Only ports, which provide efficient and cost-effective services, survive. Others decay due to lack of clientele, who migrate to more vibrant ports in the region. Some of the important factors responsible for the changed scenario are briefed below:

Emerging Competition

With the expansion of international trade, intensity of competition among the ports to cater to the hinterland markets has increased substantially. In Asia, for example Hong Kong, Shekou, Yantian, Fuzhou and other ports compete for access to the southern China market. Improvement in trans-shipment business has also played its part in increasing the competition among the ports. Singapore has established itself as one of the world's largest trans-shipment centers and the port with the biggest container throughput due to its strategic location on the Europe-Asia route. It is closely followed by Shanghai and Shenzhen. A lucrative market in this infrastructure is inducing new entrants to develop new ports despite prohibitive costs involved in dredging, quay construction, access roads and port superstructure. This is particularly the case in containerized trade. Further, competition is also changing the manner in which ports are governed.

Bargaining Power of Port Users

Port users consist of carriers, shippers and tenants. Exponential growth in international trade has increased their bargaining power to a great extent, In 1998-99, the Maersk-Sea Land alliance wielded its power to get concession from the Port of New York and New Jersey for utilizing it as a load center. The port had to yield since the alliance was responsible for 20 per cent of the port's container volume. Similarly, large tenants too, extract favorable terms from port authorities on the strength of their business volume and contribution towards the local economy. Three major car manufacturers (Hyundai, Honda and Toyota) who were using the port of Portland, Oregon negotiated the lease of several terminals from the port authority to process imported cars and accessories on much favorable terms than available to small tenants.

Bargaining Power of Service Providers

A wide variety of service providers, operate in a port. Some of these achieve enormity of size and financial strength and enjoy the ability to improve or reduce the importance of port services. That is their strength that can be leveraged during bargaining/negotiations. Such service providers have unique capabilities and experience, own large inventory of equipment and at times also participate in the financing of an activity. This enhances their bargaining capacity. At times, the existence of inter-relationship between service provider and port users adds to the bargaining strength of the former. To quote an example, Evergreen, which is one of the major line haul container carriers, has a subsidiary Uniglory that functions as a

feeder ship operator. Ports willing for patronization by Evergreen are required to extend more favorable terms to Uniglory than those offered to other feeder ship operators.

Containerization of International Trade

Containerization enables door-to-door, efficient and seamless movement of cargo. Containerization of global trade has transformed the scenario in startling way. With a history of just fifty years, when the tanker ldeal X owned by Sealand made its first voyage between New York and Houston in April 1956, containerization has now captured 60 percent of international trade and is still growing. The size of containers, which is measured in TEU is gradually being increased from the initial capacity for 480 TEU. The advent of containerization has reduced the manpower requirement for cargo handling and raised the berth productivity of port operation.

Role of Information Technology

Information Technology (IT) which has made great stride in the port related activities has in fact revolutionized the way intermodal traffic is handled. It electronically links all the actions including port administration, terminal operators, customs, ship agents and others to cut away time and paperwork. Enabling advance information on ships, barge, truck wagon, it improves planning and coordination of berths, handling equipment's and storage facilities.

Salient Features of Ports

In addition to fundamental traits of an infrastructure facility like high capital investment, long gestation and heavy upfront cost, port infrastructure has certain special features which are required to be taken note of before embarking on any programme of its development. These are explained hereunder.

- **Impact of Globalization**

Globalization impacts the development of infrastructure facilities of a country one way or the other and in varied degrees. But its influence on port facilities is much more pronounced. A port terminal, in fact, is the gateway to the country for the world. The pace and development of globalization thus, directly affects the port infrastructure. Globalization strives to make international trade seamless by breaking the protective barriers con- structed by the various nations. Sourcing of supply becomes increasingly global and developed port facilities become an increasingly important fac tor in global logistics chains. The axis and nexus of international trade

keeps on changing. Bananas sourced from Latin America can be sourced from West Africa, the Caribbean or Asia. The elimination of quota system in textiles brought a great spurt in manufacturing and export of garments from China and India. Coal handling charges constitute an important element of earnings for the port engaged in export of coal as feedstock for power plants. This could adversely be affected if the foreign buyer switches to gas or oil as feedstock when he finds the same economical.

- **Diversity of Functions**

The port as a facility provider encompasses diverse functions, which can associate a wide variety of actors. The PPP model thus can be implemented for several activities in varied forms, e.g., port-related services, c tire freight handling sequencing, access to rail road network, etc. Such unbundling of services for putting them under the PPP mode must take u to account a number of factors including existing and potential markets, competitive strength of other ports in the same region and investment capacity of potential investors. Additionally, the size of port operations and their appropriate combination are also important factors in the development of an appropriate package of services. For example, effective coordination of cargo handling and marine services can yield better results in smaller ports by continuing them in a single source service

- **Labor Domination**

The nature of activities and thousand-year-old origin of this infrastructure (when all functions were done manually) has made this facility highly labor intensive. Despite the high-tech operations backed by developed technological advancement, the trend of overstaffing continues unabated both in the developing and developed countries. Even today ports have huge labor force, much more than the requirement. It provides a great bargaining power to the unions controlling port labor, which often becomes an easy prey exploited by political parties for their vested interests well. India, saddled with a century-old Indian Ports Act, 1908 and five-decade-old Major Ports Act has found its super jumbo labor force and the bargaining power of the organized labor as big handicaps in transforming port operations and improving their efficiency.

- **Legacy Factor**

In most traditional ports the legacy factor acts as a deterrent for efficiency and growth. Japanese ports, for instance, are dominated by a number of small-sized stevedoring companies that have existed for many decades.

Entry for new stevedores has been made very difficult. Japanese ports thus, become non-competitive with other ports of the region like Hong Kong and Singapore. Another legacy factor is witnessed in the labor force deployed in the ports. Unions control the qualified labor pool by allocating available work among its own members. This restricts the entry of new entrants and the port labor market remains closed to competition.

- **Natural Barriers**

Despite the strategic location of a port, natural barriers can act as principal limiting factors in the expansion of port facilities. This acts as an impediment in the entry of new competitors. However, the situation can be improved by shifting some of the port-related activities away from the location of the port. For example, inland container depot could substitute for storage and other operations at the port. The Italian port of LaSpezla has constructed the international centre of S. Stefano Magra to overcome the handicap of lack of space.

Port Assets and Services

Port infrastructure can be grouped into three categories in terms of assets structure marine-related, port-related and land access-related Table

ITEM	PORT ASSETS	SERVICES
Marine Related	Maritime access channel, navigation aides like buoys, lights, tugs, pilotage, sea locks, Vessel Traffic Management System (VTMS)	All services which ensure ships to use ports safely & includes pilotage, towing, tying & berthing of ship
Port Structure Related	A. Ship Handling: Dock jetty, fuel storage tanks, terminal lightings. B. Cargo Handling: cranes, containers and liquid	All services which enable smooth and safe loading & unloading of cargo container, bulk and liquid efficiently and promptly. Other services include facilities related to repair

	handlings systems, sheds, godown C. Administration: office building, fencing, security system	of ships, cleaning and refueling of ships, firefighting etc.
Land Access Related	Infrastructure for land accessibility like well connected road network and railway system, petrol pipelines, inland container depots, etc.	All services which facilitate taking the cargo to its destination in a more time and cost-effective manner.

Indian Scenario

Importance of ports in Indian economy can be gauged from the fact that 95 Cent of foreign trade by volume and 70 per cent by value is handled through these ports. Overseas cargo accounts for about 77 per cent of the total cargo handled at Indian ports. In an era of increasing merchandize trade and rapidly globalizing Indian economy, the Indian ports are facing serious capacity crunch. There are 12 Major Ports and 187 notified Minor/Intermediate ports along the 7,517-km-long coastline of India. The Major Ports are Mumbai, Kolkata (including Haldia), Jawaharlal Nehru Port Trust, Cochin, Kandla, Visakhapatnam, Tuticorin, Chennai, Paradeep New Mangalore Port Trust, Ennore and Marmugao. All the major ports except Ennore are administered by the respective Port Trusts. Ennore which started functioning in 2001, is a corporatized unit. In recent times the contribution of non-major ports led by Mundra and Pipavav in Gujarat has been increasingly steadily.

Legal Framework

Two distinct legal Acts promulgated with a time gap of 55 years provide a broad legal framework for the development and operations of ports in India. The two Acts are- The Indian Ports Act, 1908 and the Major Ports Trust Act, 1963.

The Major Ports Trust Act, 1963

All the 12 major ports referred to above fall within the jurisdiction of the Central government and are subject to governance of this Act. The primary responsibility for the development and management of these ports' rests with the Central government. For the management, the Act warrants situation of a specific body known as the Board of Trustees as port authority for every Major port. The Board of Trustees enjoys the authority to undertake all works necessary for the development, operations and maintenance of the port. All the assets, liabilities, contracts, debts rights, obligations and other requirements for the management of the port stand transferred to the Board of Trustees from the time a port is declared a Major Port and the provisions of the Act become applicable to it.

The members of the Board represent various interests of port operations and the shipping industry. The Chairman of each major Trust is appointed by the Central government. Besides the Chairman, who is usually an IAS officer, the Port Trust Board comprises a Deputy Chairman and representatives from customs, railways, defense, state governments, shipowners, ship labor etc. Apart from the Chairman Deputy shippers, labor, etc. Apart from the Chairman and Deputy Chairman all others are part-time members.

The Major Port Trust Act, 1963 was amended in 1997 to provide for the constitution of Tariff Authority for Major Ports (TAMP). The members of the authority are appointed by the Central government. It also has the power to give requisite directions as well as authority to cancel or modify any of the tariff rates in force. In fact, the jurisdiction and working of TAMP leaves much to be desired.

The Indian Ports Act 1908

Ports other than Major Ports i.e., Minor/Intermediate ports are administratively under the jurisdiction of the state governments and are governed by the Indian Ports Act, 1908, which delineates the regulatory powers of the Port Authority. The main function of the Port Authority is to give directions for carrying out port rules framed by the concerned state government. Such rules cover all aspects of operation, maintenance and management of the ports. The Act also stipulates that the charges for port services shall be fixed by the relevant state government. In case of

emergency, however, the Central government can issue overriding instructions to perform specific services and action, as it may deem necessary.

Other Acts

The other Acts applicable to the port sector are the Merchant Shipping Act, 1958 which describes the powers of the regulatory authority i.e., Director General of Shipping. The Workers (Regulation and Employment) Act, 1948 and the Workers (Safety Health and Welfare) Act, 1986 regulate the Conditions of employment, service and other matters relating to dock Workers. In addition, certain state governments, such as Gujarat and Maharashtra, have enacted a specific law creating a Maritime Board. Such a Board exercises the powers and authority in respect of ports under the control of the state government

Public Private Partnership in Port Sector

The Major Ports Trust Act, 1963 was amended in 1997 for enabling private participation in the development, operation and maintenance of Major ports though the first PPP at Nhava Sheva port in early 1990s preceded these amendments. It was envisaged that to improve efficiency, productivity and quality of service as well as to bring in competitiveness in port services even today and to bridge the critical gap of financing, it was imperative that this Sector should be opened to private participation. It would also result in reducing the gestation period for setting up new facilities, help bring in the latest technology and improved management techniques. The amended Act authorizes the Board of Trustees of a Major Port to enter into an agreement with the private entity (after taking prior approval of the Central government) to perform any of the services and functions assigned to the Board under the said Act. The agreement can be in the nature of concession, partnership, joint venture or any other mode. The tariff to be charged, in any case, cannot exceed the amounts specified by the Tariff Authority.

Under the scheme for major ports private participation is solicited mainly in container terminals, specialized cargo berthing/storage facilities, etc. under the PPP mode for 30 years. For non-major ports VGF scheme needs to be made compatible with the requirements of these ports to access private funds.

Guidelines for Private Participation in Major Ports

The Ministry of Shipping, Government of India, has issued detailed guidelines for private participation in Major Ports. The salient features, along with relevant extracts from guidelines, are described below:

Area of Privatization

Some of the important areas for private participation have been identified in the guide lines. However, it has also been mentioned that these are indicative in nature and individual ports can expand the scope of activities after prior consultation with the Central government:

i) Leasing out existing assets of the port.
ii) Construction/creation of additional assets, such as: construction and operation of container terminals.
iii) Leasing of equipment for port handling and leasing of floating crafts from the private sector.
iv) Pilotage
v) Captive facilities for port-based industries.

Regulatory Framework

In order to ensure that private sector investment does not culminate in monopolistic situation to be enjoyed by the private company, the guidelines detail out certain safeguards:

The port will continue to maintain its regulatory role under Major Port Trust Act, 1963. However, for the purpose of fixing and revising port tariffs, an independent Tariff Regulatory Authority will be set up.

The Port should ensure that private investment does not result in the creation of private monopolies, and that private facilities are available to all users on equal and competitive terms. However, in the case of berths constructed or taken on lease by private entrepreneurs, they would be permitted to give priority berthing to their own ships and they would service other ships on a first come first served basis.

The private entrepreneurs will be obliged to protect the national interests like national security whenever necessary and required, and also honor priority berthing orders of Central government in this regard. The private entrepreneurs will also abide by the various statutory requirements on the protection of the environment, anti-pollution measures, safety, conservancy, etc. and also abide by the directives issued by the Government/Port in this regard from time to time.

The Ports will, with the approval of the Central government, take steps to frame regulations under relevant sections of the Major Port Trust Act consistent with these guidelines to enable sector participation in Port Sector

Feasibility Studies

Prior to opening a particular segment or services to the private sector the concerned port authority should make a feasibility study to gauge the benefits of attracting private participation:

In the case of identified projects for private sector participation, the Ports may prepare feasibility reports either through their in-house expertise or by engaging competent consultants after following the normal procedure of tender- short-listing. Approval of the Ministry of Surface Transport to undertake the feasibility study will be taken wherever necessary.

The tenders will be invited for the project based on the Feasibility Report. Cost of preparation of the Feasibility Report would be recovered from the Successful tenderer.

Procedures

Guidelines contain comprehensive text for the procedures to be followed for soliciting private participation. This is done to obviate any possibility of different procedures followed by various Port Board Trusts:

Private participation will be one the basis of open competitive bidding. The tenders would be based on two cover system consisting of technical and price bids. After the issue of tender document, the port may arrange one or more pre-bid conferences for clarifications, if necessary.

The tender document will not give any kind of guarantee for financial returns to the entrepreneur.

The tender document should provide that port property, if any, being transferred to the entrepreneur, will be kept insured at the cost of the private entrepreneur. The private entrepreneur would not be permitted to transfer any assets by way of sub-lease, sale, sub-contract or any other method without the previous approval of the Port. The investors will not be allowed to abandon the ser- vices abruptly or dispose of the land, machinery and other assets or to convert them partly or fully into non-port use.

All the provisions of the Major Port Trusts Act, 1963, Bye-Laws, Rules and Regulations made thereunder, any administrative or other directions given un- der the said Act, or the Scale of Rates or a statement of conditions prescribed under the said Act, the Custom Act, and all other statutory enactments in relation to the Port including labor laws shall be fully observed and complied with by the Licensee, and the Port shall be kept indemnified harmless from all claims or demands in this behalf, including any claims from labor.

The projects to be implemented through the private sector should be given as wide publicity as possible through advertisements in the national dailies. A copy of such advertisements in respect of major projects may also be sent to foreign Embassies/Consulates in India and may be given publicity in international journals.

The Tariff Regulatory Authority to be set up may fix a ceiling tariff and leave the private entrepreneur free to charge up to the ceiling at the rates to be notified by the entrepreneur. If the Tariff Regulatory Authority is satisfied, suitable periodic increase(s) in tariff, again the revised tariff would only be ceiling, with the Port and the entrepreneur having the freedom to charge below that tariff.

Environment clearance and other statutory clearances for privatization projects would be obtained by the Port Trust or entrepreneur depending on project and requirement.

Labor

To safeguard the interest of the labor the guidelines mandates that before embarking upon the tendering for private participation ports should examine:

(a)The labor likely to be rendered surplus.

(b) Possibility of redeploying and retraining such labor.

(c) After the above exercises, the port should identify the labor which has to be necessarily taken over with the facility and clearly bring it out in the tender document so that the intending tenderers are aware of the liability.

(d) No retrenchment should be done without the concurrence of Labor and only in accordance with Industrial Disputes Act/ relevant labor laws However, voluntary retirement should be encouraged.

(e) The lessee would be bound by all the labor laws of the country.

(f) Conditions of service of transferred labor if any would not be inferior to what they enjoyed before.

Leasing out Existing Assets of the Port to Private Party

The guidelines make it clear that the proposal for leasing out existing assets should be considered only, if such leasing will result in additional in- vestment and augmentation / upgradation of the existing facilities/ equipment and in increased traffic throughput/profitability / improvement in quality of service / better productivity. The proposals will be considered on a case-to-case basis on merits subject to the following;

- The need will be assessed by the Port Trust Board.
- Open tenders will be issued for leasing of existing assets to the private
- The period of lease will be decided upon by the respective Port Trust in each case, with the maximum period not exceeding 30 years. At the end of the lease period the assets will revert back to the Port free of cost, including equipment and augmented portion of assets, if any.
- The lessee will undertake to keep the property of the Port leased to him in good condition and return it to the Port at the end of the lease period in good condition subject to fair wear and tear.
- Bids will be invited based on two-cover system consisting of technical and financial bids. Financial bids of only those bidders will be opened who have been technically qualified.
- The bidders will be asked to indicate in their financial bids (1) an upfront fee for the lease; (1i) royalty per ton of the cargo to be handled; (ii) the minimum cargo which they will be willing to guarantee; (1v) the lease rent per unit area;

and (v) any other financial parameter to be specified depending upon the facility to be leased.

- Comparative financial evaluation of offers received from bidders who have been technically qualified will be based on the concept of maximum realization to the Port on Net Present Value basis calculated by using discounting rate as periodically fixed by the government. Royalty for the purpose of analysis will be based on the minimum traffic, which the entrepreneur guarantees.
- In case any additional equipment's are required to be put up by the entrepreneur, the Port will ensure that private entrepreneur puts up modern equipment and in new condition.

Construction/Creation of Additional Assets through Private Investment

Construction/Creation of additional assets require heavy investments and the guidelines identify the areas, which require more attention for development. These include:

1. Construction and operation of bulk, break bulk, multipurpose and specialized cargo berths.
2. Construction and operation of container terminals.
3. Warehousing, Container Freight Stations, storage facilities and tank farms

Conditions:

(a) The need for the project and the optimum land/waterfront required will be assessed by the Port Trust Board.

(b) The requirement should be consistent with the Perspective Plan/Master Plan/Land Use Plan of the Port.

(c) Open tenders will be invited for private sector participation on B.O.T. basis.

(d) The period of license, including construction period, will be decided upon by the respective Port Trust in each case, with the maximum period not exceeding 30 years.

(e) At the end of the BOT period, all the assets shall revert back to port free of cost.

(f) Bids will be invited based on two-cover system consisting of technical and financial bids. Financial bids of only those bidders will be opened who have been technically qualified.

(g) The bidders will be asked to indicate in their financial bids (I) an up- front fee for the license; (ii) royalty per Tone of the cargo to be handled; (ii) the minimum cargo which they will be willing to guarantee; (iv) the lease rent per unit area of land/waterfront; and (v) any other financial parameter to be specified depending upon the facility to be created.

(h) Comparative financial evaluation of offers received from bidders who have been technically qualified will be based on the concept of maximum realization to the Port on Net Present Value basis calculated by using discounting rate as periodically fixed by the Government. Royalty for the purpose of analysis will be based on the mini-mum traffic, which the entrepreneur guarantees.

(i) It will be ensured by Port that the private entrepreneur puts up equipment using modern technology and in new condition.

Private Participation in Cranage/Handling Equipment: The conditions laid down by guidelines in this regard are:

A. The need for providing cranage/handling equipment by the private sector on an existing berth will be assessed by the Port.
B. Open tenders will be issued for private sector participation on B.0.T. basis.
C. Bids will be invited based on two-cover system consisting of technical and financial bids. Financial bids of only those bidders will be opened who have been technically qualified.
D. The financial evaluation will be done on the basis of maximum realization to the Port. The bidders will be asked to indicate in their financial bid (i) an upfront fee for the licence; (ii) royalty per Tonne of cargo to be handled; and (ii) the minimum cargo handling which the entrepreneur is willing to guarantee, or pay for. There may not be any requirement to give any land on lease. If there is requirement for land for parking the equipment or 1or

maintenance workshop, etc., the financial bid should also contain the lease rent the bidder is willing to pay.

E. The period of license shall be fixed by the Port Trust in each case keeping in view the useful life of the equipment. At the end of the license period, the assets will revert to the Port Trust free of cost.
F. The private entrepreneur will be required to install equipment using modern technology and in new condition
G. The financial bids will be calculated on the basis of NPV of the returns to the Port, using a discount rate fixed periodically by the government

Setting up of Captive Power Plants through Private Participation

The conditions stipulated by the Guidelines for attracting private sector participation in the establishment of captive power plants are described below:

(a) The need for the project will be assessed by the Port.

(b) Guidelines of Ministry of Power and other authorities like Central Electricity Authority/State Electricity Board, etc. have to be followed and clearances, if any, obtained.

(c) Open tenders will be invited with the stipulation that modern Machin ery/technology will be installed and in new condition.

d) Bids will be invited based on two-cover system consisting of technical and financial bids. Financial bids of only those bidders will be opened who have been technically qualified.

(e) The private sector participation would be on BOT basis with a license period to be decided by the Port Trust in each case with a maximum period not exceeding 30 years (including construction period) after which the facility will revert back to Port free of cost.

(f) The tariff for the electricity sold to the Port would be fixed by the Port Trust in terms of the tender. It should, in any case. not be more than the State Electricity Board tariff applicable to the Port.

(g) The Port may charge an upfront fee and lease rent for the land for the Captive Power Plant at market rates. The basis of financial evaluation the lowest tariff quoted for sale of electricity to the Port.

(h) Environment clearance and other statutory clearances will be obtained by the Port Trust.

(i)The electricity requirement of the Port should be fully met and the entrepreneur may be permitted to sell its surplus power

(j)Specified level of supply of power to the Port will be maintain BOT developer, failing which penalties should be imposed.

Guidelines for Private Sector Participation in Ports through Joint Venture and Foreign Collaborations

A new set of guidelines has been issued to encourage formation of Joint Ventures between Major Port and Foreign Ports and between Major Port and Companies. The measures are aimed at facilitating the Major Port Trusts to attract new technology, introduce better managerial practices, expedite implementation of schemes and enhance the confidence of the private sector in funding ports.

Guidelines emphasize the need for formulation of a SPV or a JVC. A SPV can be an Indian company without equity contribution of a Major Port Trust. In the case of JVC one important provision requires that Major Port Trust at all times maintains a controlling stake in JVC necessary for blocking special resolution. Further, joint venture arrangement can be finalized without tender. The relevant extract of the guidelines is reproduced below:

Joint Venture between a Major Port and Foreign Port(s):

(a) **Areas of Participation**

1. Construction of new port facilities within the existing port.
2. Improving productivity of an existing port facility by upgrading and/or improving managerial practices (entire terminal meant for a particular commodity could be given for running it as a common user facility)

and/ or

3. Development of a new port

4. Any combination of (1) to (3) above

(b) **Selection Procedure**

1. Major Port Trust (MPT) will identify the area(s) in which Joint Venture is to be formed, or a proposal could be made by foreign port for consideration by MPT.

2. The Foreign Port(s) should have proven capability in the identified area(s).

3. Financial Participation, Revenue Sharing and the terms of participation will be negotiated.

(C) **Entity for Implementation**

The Foreign Port(s) may implement the Scheme by promoting Indian company in the form of Special Purpose Vehicle (SPV), without equity contribution from Major Port Trust; or

2. A Joint Venture Company (JVC) may be incorporated under the In Companies Act with equity participation from Major Port Trust. The Major Port Trust will, at all times, maintain a controlling stake in the JVC necessary for blocking a Special Resolution.

(d) **Form of Contribution by Major Ports**

1. Financial

2. Making available port assets at agreed terms

3. Agreeing to provide services such as experts, water front, pilotage, conservancy, and safety, in lieu of agreed terms and return over the period of collaboration.

4. Any combination of (1) to (3) above.

(e) **Form and Period of Collaboration**

1. Period will be up to 30 years.

2. Form of collaboration will be on B.O.T. basis. Upon expiry of the pe- nod, the port related assets will revert back to the Major Port Trust in accordance with conditions of Agreement.

(f) **Other Conditions**

1. The Joint Venture arrangements can be finalized without tender.

2. The Joint Venture will require approval from Central Government.

(h) **Definition of Foreign Port**

For the purpose of the guidelines contained in sub-para 3.1, a Foreign Fort means a Public-owned Port located outside India and does not include a Port owned exclusively by a Private Company.

Joint Venture between a Major Port Trust and a Company or Consortium of Companies:

(a) Situation and applicable conditions:

1. A company or consortium selected through B.O.T. bidding der the Guidelines of Private Sector Participation.

Conditions: Participation of a Major Port Trust in the scheme will be considered for improving viability of the scheme and/or to enhance confidence of the private sector.

The extent of participation by the Major Port Trust shall specified by the Port Trust in the bidding document.

2.A company or a Consortium of Companies selected und scheme of Innovative/Unsolicited Proposals.

Conditions: The extent of participation by the Major Port Trust will be on a case-to-case basis.

3.Oil PSUs or a JVC of oil PSU selected for oil-related Port Facility as a port Based Industry.

For this purpose, a JVC of oil PSU means a Company engaged in the Business of petroleum, petroleum products, including their transportation and the oil PSU or more than one oil PSU, together, at all times, hold a minimum of 50 per cent equity stake in the Company.

Conditions:

i. The extent of participation by a Major Port Trust will be on case-to-case basis.
ii. The Joint Venture arrangements can be finalized without tender,
iii. The Joint Venture will require approval from Central Government.

(b) **Form and Period of Collaborations**:

1. Period will be up to 30 years.

2. Form of collaboration will be on B.O.T. basis. Upon expiry of the period, the port related assets will revert back to the Major Port Trust in accordance with the conditions of Agreement.

CHAPTER 6

PPP PROJECT IN JAWARHARLAL NEHRU PORT TRUST

(Case Study on NSICT)

About Nava Sheva International Container Terminal (NSICT):

In view of continuous growth in container traffic and meeting the growing demand for business community and trade partners to have additional facilities for handling the same, the Port introduced private participation and invited global tenders for the first time in India to develop new Container Terminal to augment its container handling capacity. JN Port entered into a license agreement in July 1997 with M/s. Nhava Sheva International Container Terminal (NSICT) led by M/s. P & O Ports, Australia, for construction, operation and management of a new 2-berth container terminal on BOT basis for a period of 30 years. The same was commissioned in April 1999. The project comprises construction of 600 meters quay length; reclamation of 25.84 hectares of area backup for container yards and requisite container handling equipment along with other related facilities. The Present Capacity of the Terminal Is currently assessed as 20.5 million tons per year.

Terminal	NSICT
Quay Length (Mtrs)	600
Maximum draft (Mtrs.)	15
Design capacity (Million TEUs Year)	1.2
Design capacity (Million Tonnes/Year)	20.5
Reefer Points (Nos.)	772
RMQCs (Nos.)/ Loading Arms	8
RTGCs (Nos.)	29
RMGCs (Nos.)	3
Yard Area (In Hectares)	25.84
Reach Stackers	2
Maximum Permissible LOA of The Vessel	370 Mtrs

Project Description:

The Nhava Sheva International Container terminal (NSICT) is India's first private container terminal and one of the most modern container terminals in India. It is promoted by P & O Ports, Australia. The terminal is located within the Jawaharlal Nehru Port across from the island of Mumbai.

The 30-year license for the port was awarded in 1997 on the basis of highest Net Present Value (NPV) of royalty offered for:

- The construction of a 600-meter-long piled wharf which three approach bridges.
- Reclamation of 20 hectares for container yards and installation of requisite container handling equipment
- Construction of office facilities and ancillary buildings and
- Construction of an electrical sub-station and associated electrical work

It was the first totally automated container terminal to be developed in India with all its operation. Right from receiving the vessel bay plans to invoicing, being computerized. The total design capacity of the 2-berth container terminal was 7.2 million tons per annum in Phase I (i.e., 0.65 million Twenty-Foot Equivalent Units (TEU) and a cumulative 15.6 million tons per annum (i.e., 1.3 million TEU (0.6 million TEU+0.7 million TEU=1.3 million TEU) in Phase II. The port was fully operational, with both Phase I & II capacity, by July 2000. It is currently operating at more than 100% capacity.

PPP Structure of the Project:

Nhava Sheva International Container Terminal Private Limited (NSICTPL) was incorporated as a Special Purpose Vehicle in 1997, based on the joint venture agreement between M/s P &O Australia Ports Pty Limited, M/s. Konsortium Perkapalan Berhad and M/s. D.B.C. Group of companies (represented by Trans Impex Private Limited). In March 2006, P&O Ports was taken over by Dubai Ports World Limited (DP World), one of the world's largest container terminal operators, following which NSICTPL became the part of the DP World terminal network.

Obligations of the Parties:

The concession agreement was for the development, operation, maintenance and management of the container terminal on a Build Operate and transfer (BOT) basis for a period of 30 years, expiring in 2027. JNPT was responsible for scheduling entry and berthing of vessels, pilotage and towage, dredging, navigational safety, supply of electricity, water supply to terminals and ships and monitoring air and water pollution. JNPT was to provide the licensee with six hectares of additional developed container yard area and make available a fully developed railway yard of two hectares for inland container depot operations.

Modality of Royalty between NSICTPL and Port Trust:

- In consideration of the grant of license:
- NSICTPL paid an initial amount of INR 7.2 crores.

In addition, NSICTPL pays royalty, on monthly basis, to JNPT based on annual minimum guaranteed traffic, which is calculated on the basis of TEU transferred across the apron irrespective of discounts in tariffs that may be granted by NSICTPL.

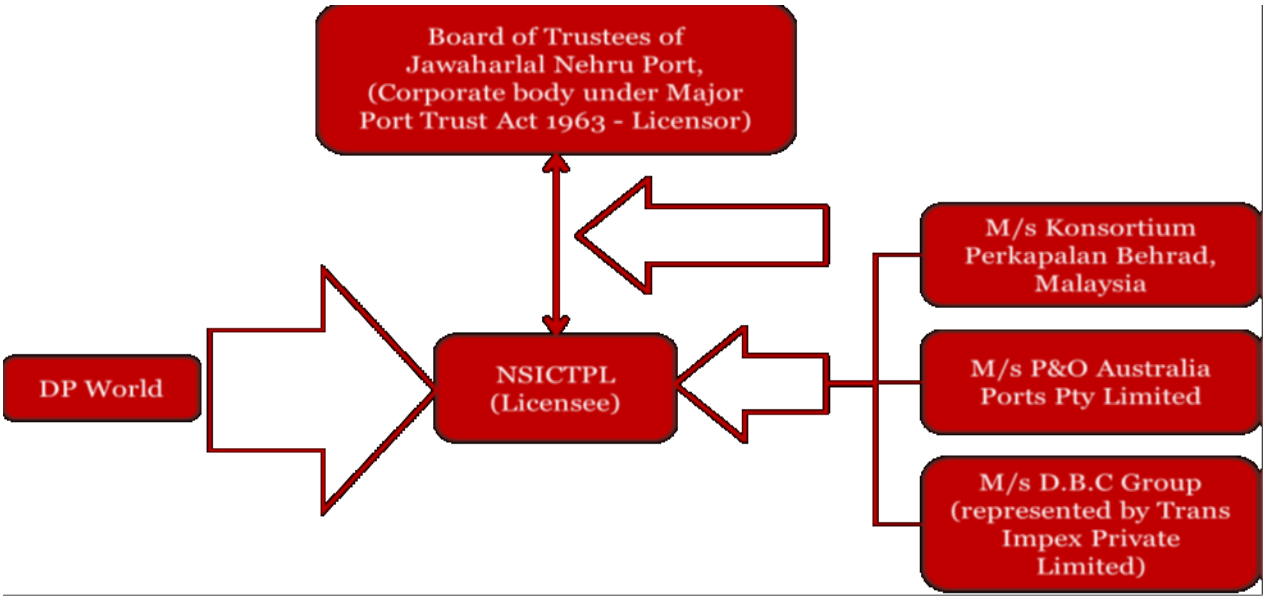
- The royalty has to be paid by the 7th day of subsequent month. At the end of each quarter, total royalty payable is computed and the difference, if any, between the royalty payable and actually paid till such date is remitted by NSICTPL within 15 days of expiry of the relevant 3 months period.
- Unless the failure is attributable to factors outside NSICTPL control, NSICTPL is required to pay royalty to JNPT for minimum guaranteed traffic in the event of not achieving the minimum traffic indicated.
- Delay or failure to pay the royalty on the respective due dates attracts interest charge at the rate of 1.5 per cent per month in addition to a penalty not exceeding 2 per cent of the amount due.

Pricing:

With regard to pricing, the licensee had to collect prescribed rates and charges not exceeding the minimum rates published in the JNPT Port Tariff Schedule and scale of Rates as approved by the Government of India. The Port anticipated 20-25 percent increase in tariff every three years. The licensee had to bill the users of the container terminal for services, including terminal charges, container handling and cargo related charges. As per the bid document the successful bidder would guarantee handling at least 90 percent of the projected annual throughput levels.

Termination:

On the expiration of the stipulated license period, all the civil engineering structures, equipment, machinery, ancillaries, etc. would be handed over to JNPT free of cost. If JNPT were to terminate the agreement prior to the thirty-year period, the license would receive the depreciated cost of permanent construction and other assets as taken over. The document specified the life span of the assets for estimating depreciation.



Structure of the Project

Current Status:

NSICT is fully operational and handles close to 20% of India's container traffic. The primary goods exported are garments, sporting goods, carpets, machines, boneless meat, medicaments and other textile articles like embroidery. The main products

imported are chemicals, machinery, plastics, electrical machinery, vegetable oils, aluminum and other non-ferrous metals. The terminals have convenient access to neighboring Mumbai and to the hinterland of Maharashtra, Madhya Pradesh, Gujarat, Karnataka and a large part of North India.

Financing Information:

The terminal project was developed at a cost of Rs. 733 crores over a period of two years. No VGF was provided to the project. The Debt Equity Ratio for the project was 1:1. ICICI led a consortium of lenders and lent around Rs. 190 crores (26% of project cost) to the SPV under a guarantee provided by P&O Ports, Australia. The remaining debt of Rs. 177 crores were raised from other financial institutions. Of the total debt, 55% was US$ denominated debt while the balance was Rupee denominated debt. The cost of debt mentioned by NSICTL in their cost statement submissions to TAMP is 10.5%.

Project Details	
Particulars	
Project IRR	18%
Debt Equity Ratio	1:1
NPV	Rs 224.59 Crore

Note: The project IRR estimate is based on the return on capital employed normally permitted as per JNPT's tariff. The NPV is based on the winning consortium's bid.

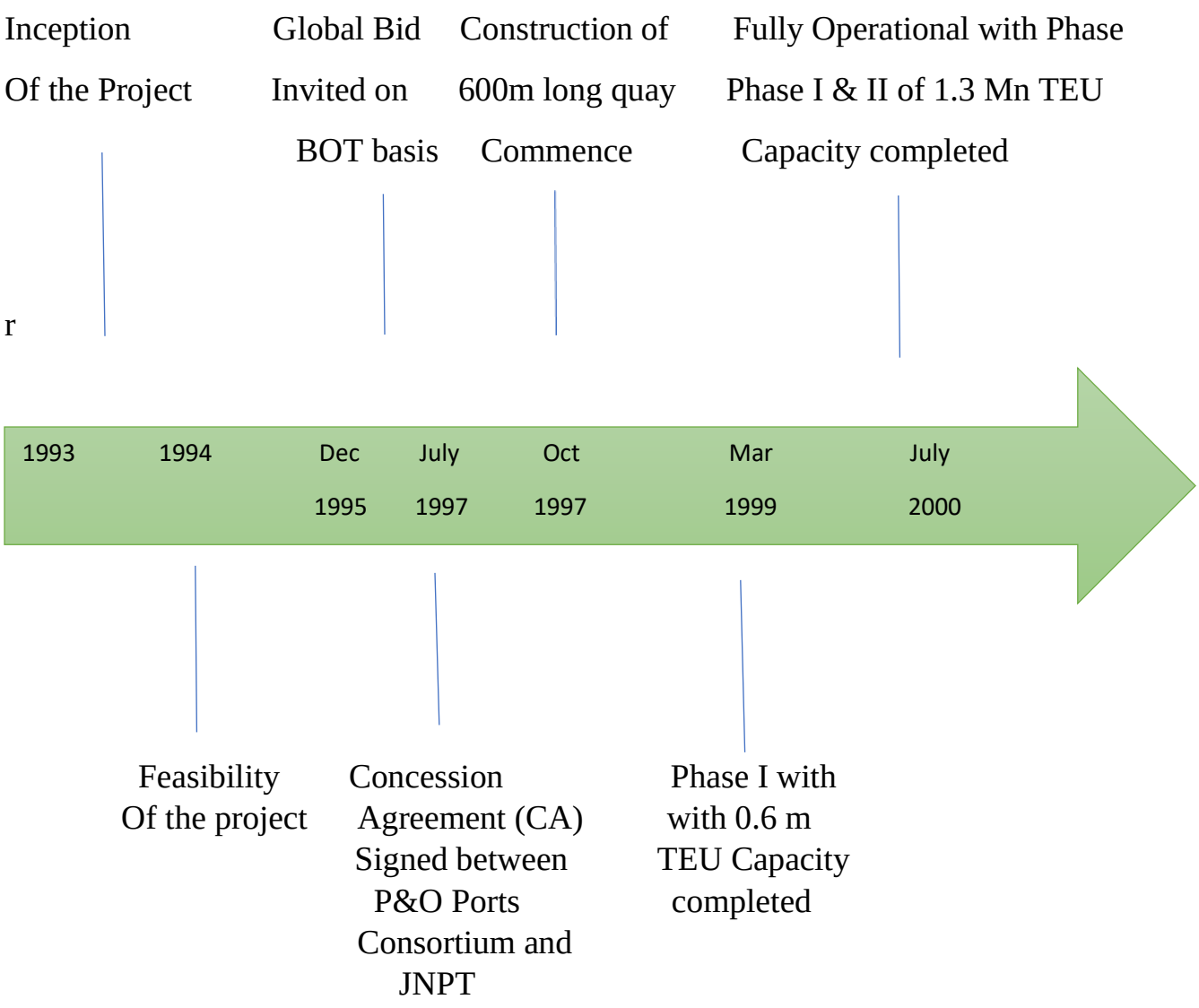
Inception:

Following reforms introduced in India since early nineties, the core sector industries including the Indian Port sector began to witness a new phase of revival and growth. In view of continuous growth in container traffic and to meet the growing demand of for additional container handling facilities. JNPT took the initiative to introduce private participation in ports for the first time in India.

In January 1994, it was initially decided to contract out the existing container terminal at JNPT to private operators. The Government of India accordingly requested the World Bank (WB) to conduct the necessary work for the tendering of operations of the JNPT container terminal. However subsequently, the proposal was amended and it was decided to invite private participation for creating a new container terminal while retaining the existing one under government ownership and operation.

Process Analysis:

The Figure provides the timeline of NSICT's development:



Procurement:

The JNPT Port Planning and Development Department prepared on extensive bid document in consultation with the WB, Ministry of Surface Transport (MoST) and other ministries. Though the WB played a critical role, both at the Inception and Procurement stage, JNPT took a long time to finalize the bid document which delayed the start of the procurement process by about 2 years. JNPT finally issued the global tender for a new container terminal on "Build, Operate and Transfer" basis for thirty years in December 1995.

Thirty firms from India and abroad purchased the bid document, of which five consortia submitted their proposals. The financial offer made by the four responsive bidders to the Government by way of the highest NPV of Royalty Offered was assessed. The four consortia were:

- A consortium led by Hutchinson International Port Holding Ltd. Hong Kong including ABG Heavy Industries Ltd., and Bam of America International Investment Corporation.
- A consortium led by Marubeni Corporation, Japan consisting including Evergreen International and ILFS, Mumbai.
- A consortium led by P&O Ports Australia Pvt. Ltd. Including DBC Port Management and Konsortium Perkapalan Berhad.
- A consortium led by the Port of Singapore authority including Samsung Corporation, Seletar Investment, Neptune Orient Lines Ltd., and Samrat Shipping.

The final concession agreement between Jawaharlal Nehru Port Trust and the SPV led by P&O Ports (now Dubai Ports) was signed in January 1997. Based on the documents available in public domain, the royalty payable per TEU ranged from about 2% in the initial years to about 20% of the Minimum Guaranteed Royalty payment in the terminal year.

Development:

Construction work commenced in October 1997. The first stage of the project was completed by December 1998 and the second phase by December 2000.

Operations:

Issue of Royalty: The terminal started experiencing issues related to the royalty payout. There was lack of clarity in the concession agreement on whether the royalty payment was to be considered as a part of cost or a share in the profit in the SPV's accounts while determining the port tariff. NSICTPL was of the view that, although royalty was in the form of a revenue share, since it was paid to the Port Trust, it should have been considered an expense (The basic nature of Royalty is an expense as per the Indian Companies Act and is not considered as a part of profit). The Tariff Authority of Major Ports (TAMP) view on the other hand was that royalty should not be considered as a part of cost as it was an appropriation of profit.

It may be recalled that in the procurement process, the royalty payment was the central bid parameter. The treatment of royalty as an expense could led to a scenario where a firm, in order to win a bid, would quote a higher revenue share as royalty by increasing the proposed port-user charges. Thus, while on one hand the operator would share a higher amount of royalty with the government to win the bid, on other hand, by assuming royalty as a cost, it would seek higher port-user charges to recover the return on investment as specified by TAMP. This ultimately would result in an excess burden on the port/terminal users and thus would reduce the demand for the port services.

In its revised guidelines in 2005, TAMP recognized the principle that royalty would be paid out of the Operating Surplus (i.e., Profit) of the concessionaire. However, for bids received prior to July 29, 2003, it allowed royalty to be considered as a cost in the tariff computation up to the maximum of the next highest bid. This meant that if firm "A" won the bid by offering 30% of the revenue as royalty and firm "B" bid 24% of the revenue as royalty, then the maximum royalty that could be allowed as cost for tariff computation would be 24%. TAMP's guidelines were framed in such a manner with the objective that the operator does not incur losses due to royalty payments. However, there was no clarity on considering royalty as a cost in cases where the terminal operators were making profits. Although this revision resulted in a reduction in NSICT's tariff by 12%, it still imposed an excess burden on port users.

Exit:

The concession agreement has been entered into for a period of 30 years and will expire in 2027. On the expiration of the stipulated license period, all the civil engineering structure, equipment, machinery, ancillaries would be handed over to JNPT free of cost.

Risk Allocation Framework:

Risk Type	Sensitivity	Risk period	Primary Risk Bearer	Commitments
A) Pre-operative Risk				
Delay in land acquisition	Low	1-2 years	Public Sector-Port Trust	The Port Trust already owned the land required for

				the project. However, there was lack of clarity in the concession agreement for additional land for expansion and allied activities.
External linkages	High	Throughout the contract	Private Operator	The Port Trust provided the road connectivity from the port boundary to the nearest national highway as well as railway connectivity. However, over the last 10 years, this capacity has become congested largely due to two reasons- Low initial traffic projections and Growth in the urban developments in the vicinity of port The expansion of these linkages (road and rail) has thus become a major issue and is

				adversely impacting the port operations.
Regulatory	High	Throughout the contract	Private Operator	In NSICT's the case regulatory risks were high because the government had limited experience with respect to PPP and the laws governing PPPs were new and untested which led to contractual gaps and subsequently caused several issues during the operations phase.
Approval	Low	0-5 years	Private Operator	Being an expansion of an existing port, NSICT did not face many issues related to approvals. Most of the approvals were within the purview of existing regulations/guidelines and hence obtaining them was not a bottleneck for the project.
B) Construction Phase Risk				

Design Risk	Medium	1-3 years	Private Operator	
Construction Risk	Low	1-3 years	Private Operator	
C) Operations Phase Risks				
Technology Risk	High	Throughout	Private Operator	
Operations & Maintenance Risk	Medium	Throughout	Private Operator	As the location of the port/terminal allows limited expansion of container Freight Stations (CFS), warehouses or the allied facilities, this has an impact on the efficiency of terminal operations. Issues impacting operations such as transport strikes, congestion on rail & road capacities were beyond the private players control and have had a detrimental impact on operations.

Market Risk	High	Throughout	Private Operator	Market risks are high due to competition but guaranteed minimum cargos in the form of long-term cargo commitments from users have mitigated these risks. A through market assessment could have also assisted in mitigating this risk as capacity and capital investments would have accordingly been planned.
Financial Risk	Medium	Throughout	Private Operator	There has been uncertainty with respect to the tariff, which is set by an independent authority. Other financial risks, as a result of adverse movements in interest rates, exchange rates, etc. are expected to be managed by the private sector

				through appropriate financial management techniques.
D) Handover Risk Events				
Handover risk	Medium	Last 3 years	Private Operator	
Terminal Value risk	Medium	Last Year	Private Operator	
Concessionaire event of default	Medium	Throughout	Lenders	In this case, lenders are the most vulnerable because in case of default on account of the concessionaire, the lenders would only be able to realize their investment after the licensor clears all his dues, which could take a year and a half. During this period the lender would have to bear the risk.
Government's event of default	Low	Throughout	Government	The Government needs to pay higher of a fair value of assets and the proposal value received from a replacement

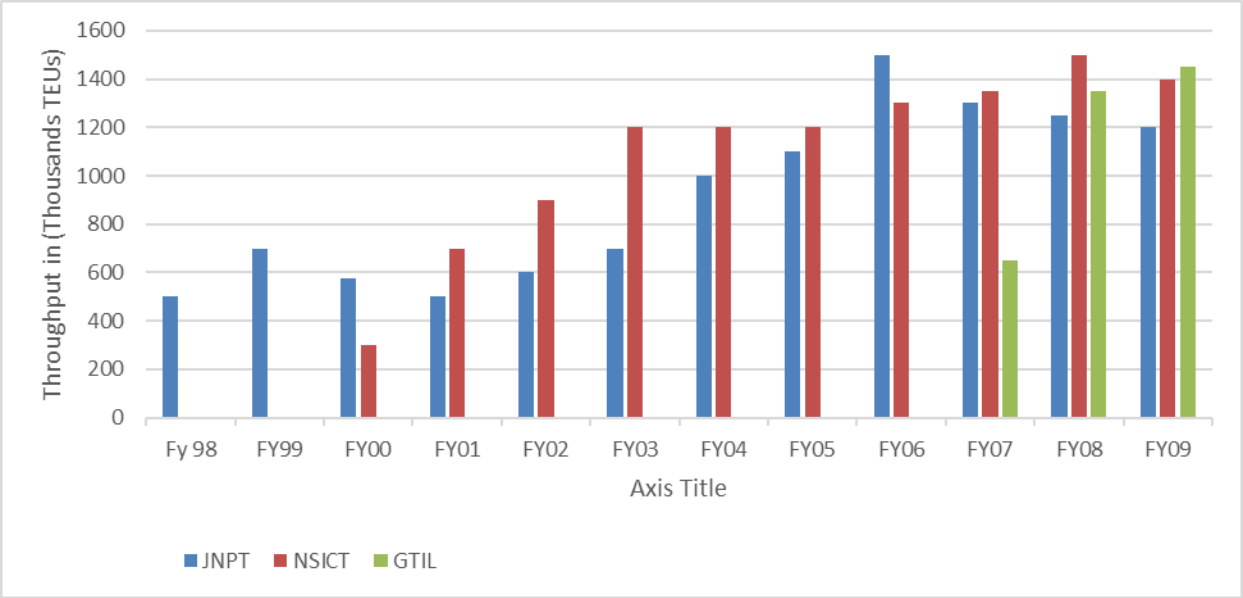
				developer (If applicable)
E] Other Risks				
Change in Law	Low	Throughout	Private Operator	No compensation from the government is due, although there is an enabling provision to mutually discuss in good faith and suitably amend the terms of the concession agreement, including an extension of concession period. No compensation for change in any tax laws. Extreme government actions, including change in law that frustrates operations of the project have been included under political force majeure events and suitable

				termination and compensation procedures have been prescribed.
Force Majeure	Low	Throughout	Private Operator	While, force majeure risks are partially transferred to the extent of insurance, they are largely borne by the private operator. In the event of termination, there is compensation payable to the concessionaire to the extent of debt outstanding and varying levels of equity contribution depending upon the nature of the event.

Key Benefits:

The entire process of bidding of NSICT is a case of a successful PPP process implementation, barring the issues related to tariff and royalty on account of contractual gaps in the concession agreement. The analysis of key benefits presented here is not a quantitative assessment as financial data/information of the private port operator is not available in the public domain. The value from this project has been assessed by way of the efficiencies the private sector was able to bring on board in the terminal operations.

Impact of NSICT on Performance of JNPT:



Positive Impact on Competition:

By offering better customer services and faster turnaround times, NSICT started diverting traffic away from the JNPCT where traffic declined from FY00 to FY01. This diversion prompted the JNPCT authorities to acknowledge the importance of efficient port operations and capacity augmentation through better handling equipment to compete with NSICT. Thus, the success of NSICT through the PPP route, created a "demonstration effect" on JNPCT to modify their policy measures and strategy so as to compete with NSICT JNPCT adopted following measures:

- Capacity Augmentation and modernization of facilities and equipment
- Capacity Restructuring by allocating the existing liquid terminal to two Indian oil majors to develop a liquid terminal on BOT basis. However later this liquid terminal was further transformed into the third container terminals – GTIL
- Financial Restructuring by reorganizing its capital to clear its debt liabilities
- Enhancing Labor Productivity by introducing various schemes like the "official incentives scheme", which provided benefits to workers to clear cargo faster and the "hot seat exchange scheme" which implied that there

would not be any break between shifts, thereby leading to an increase in the number of man-hours.

CHAPTER 6

SUGGESTIONS AND CONCLUSION

Future Possibilities of PPP Projects in Indian Port:

- The government would have to ensure that the existing PPP projects in operation get observed in the reform process and derived maximum benefits in the renewed ecosystem. In other words, any new development, such as the revised MCA, needs to focus on and clearly specify the amendments made in the provisions for existing PPP players.
- Flexibility in the regulatory environment would continue to be a key determinant of success for PPP projects in the times to come.
- Periodical monitoring possibly in every 4-5 years of PPP contracts can be a key mechanism towards ensuring infrastructural, operational and regulatory adequacies.
- Need for necessary flexibility in the provision for Minimum Guaranty Cargo (MGC), based on international market condition and government policies.
- Need for streaming of risk sharing pattern between the concession Ing authority and the concessionaire.
- Need for an effective grievance redressal mechanism as a part of the Model Concession Agreement.

Suggestions:

Firstly, the jurisdiction for TAMP should be increased from tariff fixation to all other aspects like monitoring of the partner's progress in a PPP (here NSICT), periodic reviews and call for explanations and settlement of disputed if any, by conciliatory participations. Maintenance of transparency and accountability regarding costing measures and performance monitored through advanced tools and followings all norms. Information should be provided to all the stakeholders about the progress; also, they should publish a white paper through which the public at large is informed about the progress.

Secondly, it was felt the new SPV which is created should be under the supervision of eminent and efficient management of top managers from private sectors who shall be given the charge of entire period with autonomy and responsibility and make

them manage the SPV like an SBU (Strategic Business Unit) in Multi-National Companies. In this way we can free the projects from Bureaucratic clutches thus saving them from mismanagement, vested interests and corruption, thus reducing the financial burden on the government exchequer and the public at large. Finally, for settlement of disputes relating to PPP involving foreign players fast track legal mechanism (i.e., fast track courts with specific function of dispute resolution for this type of PPP's should be constituted for speedy redressal of grievances).

Conclusion:

Public private partnership is done to procure funds to start the business and run the business in an efficient and effective manner that losses should be minimized and profits have to be maximized. PPP projects are of huge size and requires huge amount of capital for procuring raw material, machinery and equipment, skilled manpower and they all should be of good quality so that the future maintenance and operations costs would be kept at low**.**

As highlighted in the guidelines for PPP in the Port sector was to mobilize resources through public private partnership which was needed for additional capacity handling to provide a suitable solution to burgeoning traffic as well as to improve efficiency, productivity and quality of service to bring about the much-needed competitiveness in port services. However, the outcome was quite different than the expectation. The private partner leveraged its competencies to provide high quality services to port users but at the same time extracted unlawful gains from its users confronting them with a monopolistic situation. This case highlights the inefficient functioning of the regulatory stakeholder like the JNPT who preferred to turn a blind eye to this deal whereas if it could have been more vigilant during the bid acceptance stage the non-workability of such a high royalty Vis-a- Vis the regulated tariff based on return.

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