



Unraveling the dynamics of public-private partnerships in Indian infrastructure: A case study of ICTT, Vallarpadam

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Abstract

Public-Private Partnerships has emerged as a prominent procurement model for infrastructure projects around the world. Although its outcomes in India remain diverse due to various influencing factors. The success of a PPP hinges on critical determinants that shape its trajectory. This research delves into the analysis of PPPs through a comprehensive study of ICTT, Vallarpadam, a key player in the Transshipment business in Kerala. The transshipment sector in the state confronts challenges amidst ambitious endeavors to bolster maritime activities. The study centers on the assessment of the various aspect of the PPP arrangement such as contractual frameworks, pre-procurement planning, legal and regulatory aspects, as well as the social and environmental impact. Furthermore, the research endeavors to gauge project effectiveness in terms of performance and benefits accrued to stakeholders.

Keywords: Public-private partnership, transshipment, ports, infrastructure

Introduction

Infrastructure is widely recognized as the most crucial asset and foundation for a nation's development. However, in many countries, it has been observed that infrastructure projects have not achieved their desired outcomes due to issues with the country's government. This has caused anxiety and disappointment among the public. To address this challenge, Public-Private Partnerships (PPPs) has emerged as one of the preferred mechanisms for infrastructure development. Governments worldwide are exploring various PPP policies and strategies to foster infrastructure growth. PPPs represent a creative approach to procurement, where public and private stakeholders collaborate to build infrastructure and provide public services, sharing risks, costs, and benefits (Koppenjan 2005) ^[13]. Ham and Koppenjan (2001) ^[8] emphasize cooperation in PPPs, defining them as 'cooperation of some sort of durability between public and private actors in which they jointly develop products and services and share risks, costs, and resources which are connected with these products' (Ham and Koppenjan 2001) ^[8]. Consequently, PPPs have garnered significant interest globally and have been successfully employed in numerous large-scale infrastructure projects (Sundaram and Chowdhury 2009) ^[21]. India has a long history of private sector participation in infrastructure development, dating back to the establishment of the Great Indian Peninsular Railway Company (1853) and the Bombay Tramway Company in 1874 (Shastry 2014) ^[20]. The practice of PPPs gained momentum in India during the 1990s, with a remarkable increase in the number of PPP projects observed between 2006 and 2011. The number of projects rose from 450, valued at 2.242 billion in November 2009, to 758 PPP projects worth 3.833 billion in July 2011 (Chowdhury and Chowdhury 2018) ^[3]. The state of Kerala has been a leader in infrastructure development, leveraging the PPP model to achieve its goals. Notably, the Cochin International Airport was India's first greenfield airport developed through a PPP model and played a pivotal role in the civil aviation infrastructure sector. Kerala has also

executed several projects in the transport sector, including the ongoing construction of the Vizhinjam International Seaport, one of the largest projects in terms of Total Project Cost. The Government of Kerala actively supports PPP projects through its Project Finance Cell, operating under the State Planning Board. Additionally, the state has formulated a PPP Policy to facilitate such projects. Several investments meet and summits, such as the Global Investment Meet, Partner's Meet, and Emerging Kerala, have been hosted by the state to attract private participation in public infrastructure projects.

International Container Transshipment Terminal (ICTT), also known as Vallarpadam Container Terminal, is located on the picturesque Vallarpadam Island, situated on Lake Vembanad. This state-of-the-art terminal is an integral part of the Cochin Port Trust (CPT) and serves the hinterland, encompassing Kerala, parts of Tamil Nadu, and Karnataka. Spanning an area of 49 hectares, the terminal boasts excellent connectivity to the mainland through a fully operational four-lane road covering 17.2 kilometers and a dedicated 8.86-kilometer rail line ("Vallarpadam Railway Link" 2010) ^[23]. In terms of capacity, the ICTT can handle up to 1.2 million Twenty-Foot equivalent Units (TEUs)¹. The first phase of its development includes a 600-meter-long quay with a 14.5-meter draft, backed up by 109 acres of storage area. Additionally, the terminal features four quay cranes, 15 gantry rubber-tire cranes, and three reach stackers. Moreover, there are two intermodal rail-sidings on-dock, facilitating efficient transportation of cargo. The terminal has ambitious expansion plans, aiming to increase its capacity to 3 million TEUs in the second phase. Ultimately, when fully functional, the ICTT envisions handling 4 million TEUs annually, supported by a 1,800-meter-long quay, 18 cranes, and 54 rubber-tire gantry cranes (RTGs). The project required significant investment, with approximately Rs 3,300 crore being utilized for its construction. Of this amount, the union government contributed Rs 1,700 crores for logistical support, while DP World invested Rs 1,600 crores in the terminal's

infrastructure. Additionally, Rs. 1700 crores were allocated for the construction of rail-road connectivity.

One of the defining features of ICTT is that it is India's first transshipment container terminal. Transshipment involves unloading containers from large container ships at a hub port and loading them onto smaller vessels destined for final destination terminals. This process allows for economies of scale and lower freight costs (Manoj and Sanjai 2009) ^[15]. Notably, about 40% of India's international cargo was previously transshipped through foreign ports like Colombo or Dubai. With the establishment of ICTT, the Indian government aimed to bring back a significant portion of this cargo to its shores, thus reducing freight costs and transit times for Indian shippers. ICTT operates within a Special Economic Zone, and its inauguration took place in 2011 with the honourable Prime Minister, Dr. Manmohan Singh, officiating the ceremony. CPT and Dubai Ports World are respective public and private partners of the project.

Discussion

The article aims to thoroughly examine various aspects of the Vallarpadam ICTT project, starting from the pre-procurement planning, contractual framework, legal and regulatory considerations, accountability issues, and the project's social and environmental impact. Furthermore, it assesses the effectiveness and progress of the project, delving into the challenges it encountered and the measures taken to enhance its performance. Through this analysis, the article offers insights into the intricacies of PPPs, shedding light on the factors that can either impede or contribute to the success of such collaborative ventures.

1. Pre-Procurement Planning

Project planning is of utmost importance in PPPs, considering the significant financial and political implications of the projects. It requires taking into account various factors, including project feasibility, financial implications, risk factors, natural considerations, and geographical advantages. To ensure success, the government must strategically plan and manage the projects, involving expert teams and personnel to comprehensively structure and plan PPP initiatives (Thandavan and Sivaraman 2008) ^[22]. The ICTT project, which considered the geographical advantage of Cochin in transshipment business, serves as an example of rational and strategic planning by the political and administrative leadership. Nestled strategically along major international sea routes, Cochin enjoys a prime location, just 76 nautical miles away from the bustling Suez Route and a mere 11 nautical miles away from the significant Middle East trade route. This advantageous positioning grants Cochin a distinct competitive edge over other regional ports such as Mumbai and Chennai, which are situated much farther from these crucial international shipping lines. The concessionaire DP World believed that Cochin's potential as a port could be fully utilized, leading to business expansion for CPT. Before the establishment of ICTT, containers to and from India had to be transported to foreign ports using smaller ships and then transferred to larger mother ships. ICTT was designed to reduce India's reliance on nearby hub ports for transshipment, resulting in estimated cost savings of \$180 to \$300 per container for exporters and importers. Additionally, ICTT's operationalization would save time

and money for businesses involved in exporting and importing goods.

However, despite its potential, the project planning had some drawbacks that affected its success. One of the notable issues was neglecting the hinterland of the terminal. A well-developed hinterland is crucial for a busy terminal as it can lead to further industry and business growth in the surrounding areas (Venugopal 2014) ^[24]. The hinterland of the Vallarpadam terminal comprises residential areas, resorts, and industries dependent on exports and imports. The state's focus on small industries, tourism, gulf remittances, and agriculture didn't fully exploit the potential gateway container traffic that could have provided an additional boost to the terminal. Additionally, the transshipment volume of the terminal has been relatively low since its inception. Another major concern is the insufficient depth for the terminal to accommodate larger container vessels effectively. A minimum draft of 20 meters is desirable for a transshipment terminal, and a 24-meter draft is preferable for larger ships like post-Panamax vessels. With the rise in global vessel sizes, including Super Post-Panamax ships with capacities of 18,000 TEUs, the location of ICTT falls short in terms of its depth. The License Agreement for the project obliges CPT to maintain the required draft through capital dredging and year-round maintenance dredging, which is costly and has been a financial burden for the CPT. In contrast, the Port of Colombo has more than sufficient draft capacity. Furthermore, the climatic conditions in Vallarpadam, where the terminal is located, pose challenges for large ships during the monsoon season, with severe rainfall and strong winds. The project planners did not adequately account for these issues, which have affected the terminal's operations, and the location also faces perennial siltation challenges (Jamwal 2017).

2. Contractual Framework and Management

PPP is a long-term contract between the government and a private party aimed at providing assets and services traditionally delivered by the public sector. This innovative arrangement fosters risk-sharing and mutually beneficial rewards for both private and public agencies, serving as a highly effective interface between public authorities and private entities in the successful delivery of infrastructure and public service projects. The success of a PPP depends on carefully crafted agreements that define the rights and obligations of the involved parties and establish a framework for addressing new situations as they arise. It is essential to note that different parties in PPP projects have distinct priorities and criteria that must be met to establish successful partnerships (Chowdhury *et al.* 2011) ^[2]. However, PPPs can be quite complicated due to the need to balance the interests and relationships among a large number of parties. The agreements made between stakeholders significantly impact the PPP structure and project performance (Choudhary 2011). Successfully implementing a PPP project requires striking a balance between the performance of the public and private sectors (Wang 2015).

The License Agreement for the project was signed between CPT and India Gateway Terminals Private Limited (IGTPL), a subsidiary company of Dubai-based DP World, a global leader in the operation and development of international maritime ports. The agreement, signed on

January 31, 2005, authorized DP World to operate the existing Rajiv Gandhi Container Terminal (RGCT) for a maximum period of eight years and six months. Additionally, DP World was tasked with developing, constructing, operating, and managing the new terminal, ICTT, under a Build-Operate-Transfer (BOT) mode, with a concession period of thirty years (License Agreement 2005). As per the agreement, DP World would handle the building, development, marketing, and operation of the ICTT, while CPT, as the licensee, would be responsible for providing land, infrastructure, such as road and rail links to the terminal, and maintaining the necessary draft depth through dredging. The RGCT would be closed once the construction of ICTT is completed. Due to the SEZ status, imports at the terminal are exempted from all customs and duties, including customs and excise inspections or clearances. One noteworthy aspect is that the license agreement for the project lacks the provision of a Minimum Guaranteed Throughput (MGT)³. The absence of an MGT means that the terminal operator is not required to manage a specific volume of transshipment containers annually. Typically, including an MGT in terminal operating contracts ensures a minimum level of returns for the public partner. The provision of MGT would have protected CPT in the event of underperformance by the private operator. In Vallarpadam, poor performance in container handling led to reduced returns and financial stress for CPT. The contract structuring in Vallarpadam appears to favor the private partner while obliging the public partner with the responsibility of dredging. The poor terminal performance and its negative impact on CPT were raised in Rajya Sabha in 2014 (Rajya Sabha Question 617 2014) ^[19]. The Minister of Shipping acknowledged the performance issues but cited his inability to intervene in the project, as it fell under the purview of the License Agreement, highlighting the limitations of the government in effective contract management.

3. Legal and regulatory aspects

PPP projects operate within a specific legal and regulatory framework formulated by the government and its agencies. This framework can significantly influence the implementation of such projects. In the case of the ICTT, certain legal and regulatory aspects have caused a series of troubles. One key aspect that led to the terminal's sluggishness during the initial years was the Cabotage laws under section 407 of the Merchant Shipping Act, 1958. These laws restrict cargo movement between Indian ports to ships registered in India. Foreign ships can only be employed when Indian ships are unavailable and with permission from the country's maritime regulator. However, with only 13 container vessels having a combined capacity of 12,156 TEUs registered in India, it was insufficient to meet the demands of the Vallarpadam ICTT. Consequently, containers piled up at the terminal, failing to reach their destinations via rail or road. It seems unlikely that the planners of the terminal were unaware of these cabotage restrictions; they might have underestimated its impact during the planning stage. As a result of these restrictions, foreign vessels preferred to use Colombo over Vallarpadam. Recognizing that the terminal's success depended on relaxing the cabotage laws, DP World and the CPT strongly advocated for such relaxation by presenting justifications. On 06/09/2012, the union cabinet granted a relaxation of the Cabotage restrictions, enabling foreign ships to operate

feeder services for the movement of export-import (EXIM) containers between Vallarpadam and any other port in India, thus assisting the terminal in reaching its full potential ("Big boost for Vallarpadam" 2012). It was expected that this relaxation would attract mother cargo destined for Indian ports, which was currently being transported through Colombo and other foreign ports. However, by the time the Cabotage laws were relaxed, the ICTT's transshipment business had already lost significant momentum, as international shipping lines had established good relationships with other ports in the vicinity and preferred them over Vallarpadam. Consequently, the ICTT did not benefit as much from the cabotage relaxations between 2012 and 2015. It is important to note that the relaxation of cabotage restrictions was granted for three years, after which it was subject to review. Finally, a revision to the cabotage law was enacted in May, 2018 in India.

Another regulatory issue that troubled the ICTT was the dispute of jurisdictional authority between Customs officials and authorities in the SEZ, which includes the terminal. Although the terminal was exempted from clearance from Customs due to its SEZ status, Customs officials insisted on examining transshipment containers arriving from other Indian ports, despite approvals obtained at the port of origin (Kurup and Kumar 2018) ^[14]. This led to a severe conflict, with SEZ officials objecting to the Customs' actions. The SEZ Act and the Customs Act were entangled, as the former specified that the latter was not in effect within the SEZ. However, the Customs Act stipulated that it must examine borders and vessels (Menon 2015) ^[17]. As a result, vessel traffic was delayed, and shipping lines began opting for Colombo over Vallarpadam. The intervention of the Prime Minister's Office eventually resolved the conflict (Kurup and Kumar 2018) ^[14].

The Tariff Authority for Major Ports (TAMP) regulates the tariffs of government-controlled ports like the Cochin Port, while private ports can set their own tariffs. In the TAMP's tariff structure, Vessel Related Charges (VRC) were higher than those of nearby competing ports (See Table 1). Despite being non-competitive, these tariffs could not be reduced, although the terminal could offer some discounts (Divekar 2018) ^[6]. However, the VRC and Container Handling Charges in Vallarpadam were not appealing to shipping lines, as they had cheaper alternatives in domestic and international ports. CPT attempted to address the issue by offering discounts on VRC. Nevertheless, the rates were still higher than those of competing ports, and shipping lines were not interested in the refund of tariff discounts, which were credited only after three months. Consequently, the discount in VRC had a negative impact on the CPT's balance sheet.

Table 1: VRC rate comparison among ports: VRC for a 5500 TEU ship in US Dollar

No.	Port	Tariff
1	Cochin (ICTT)	87,347
2	Colombo (Sri Lanka)	9,418
3	Jawaharlal Nehru Port Trust	34,014
4	Tuticorin	56,371

Source: JOC 2019 ^[11]

4. Accountability Concerns

PPPs do not imply a weakened responsibility and accountability for the Government. On the contrary, they are

designed to address people's vital service needs through public infrastructure programs. The Government retains the responsibility for ensuring the partnership's quality of operation, price stability, and cost-effectiveness. Throughout the entire life cycle of the project, the Government must remain actively involved. Under the PPP model, the role of the government is redefined as facilitators and enablers, while the private partner takes on the responsibilities of financing, construction, and operating the service or facility (Thandavan and Thandavan 2008) ^[22]. However, there are some concerns regarding accountability in the project. For instance, the License Agreement stipulates that the private operator will take over and operate the existing RGCT at the port until an annual throughput of 4 lakh TEUs is exceeded. If this condition is not met within six years of the takeover, the selected bidder is not contractually obligated to build the new terminal, and the current port facility will be returned to the CPT after 8.5 years of operations. The CPT realized that the bidder could run the terminal for 8.5 years without reaching the 400,000-TEU threshold, effectively avoiding the contractual obligation to build ICTT (Manoj, 2015) ^[16]. Consequently, CPT demanded that DP World allows for an early migration from RGCT to ICTT without linking it to the traffic achievement at RGCT (CAG 2015). This early migration caused CPT to lose approximately Rs. 100 crores in the form of License fees at RGCT, Maintenance Dredging, VRC concessions, expenses for CISF, and Estate Rentals (CPJTUF 2020) ^[5].

The CAG report also places blame on CPT for several deviations and compromises from the agreement conditions. These include allowing the payment of the upfront fee in installments over eight years, reducing the upfront payment to compensate for decreased usage of RGCT equipment, deferring 25 percent of the eight-year royalty fee, offering a lower license fee for the service of Berth Q-7 at the port, and relaxing the height limit at RGCT for crane operations. These compromises raise concerns about the agreement's integrity. Furthermore, there is a provision of non-sharable revenue in the agreement, which resulted in a loss of Rs. 110 crores for CPT over a ten-year period starting from 2011. Additionally, the absence of an MGT provision in the License Agreement is a serious concern for CPT in the long run and highlights a lack of diligence from the public partner in structuring the contract. An MGT provision would have protected CPT from excessive financial losses in case of underperformance. All these factors have led to an unequal sharing of risks and returns between the partners. Moreover, the agreement lacks a provision for the Government's intervention in case of underperformance or deviations, and it contains several ambiguous provisions that are unfavorable for an acceptable PPP project.

5. Social and Environmental Impact

PPPs raise numerous social issues across various dimensions, particularly when adopted in large-scale infrastructure projects, leading to forceful land acquisition, displacement, and rehabilitation problems on a significant scale. These issues have far-reaching social impacts on the affected communities, which can be especially exacerbated in densely populated areas. Additionally, large-scale infrastructure projects often cause severe environmental issues.

One of the social issues associated with the project is the job loss experienced by several employees at the former RGCT. Unfortunately, the Vallarpadam terminal has not been successful in providing sufficient employment opportunities (CPJTUF 2020) ^[5]. These environmental and human costs are often overlooked in debates surrounding the ICTT. In the construction of rail-road lines to the ICTT, numerous villages near Vallarpadam were subject to forceful eviction. This eviction was carried out under the Land Acquisition Act, 1894, which lacks provisions for proper rehabilitation. The event, known as the 'Moolampilly Eviction³,' occurred on 6th February 2008, resulting in the displacement of a total of 326 families from their habitats. Subsequently, the 'Moolampilly Package' was designed as a rehabilitation package, achieved through the determined efforts of the evictees with support from various sections of society. However, the implementation of this package has been inadequate, leaving approximately 280 out of the 326 families still unrehabilitated as of 2008-2009 (Henry 2019) ^[9]. The human cost of the project is evident in the plight of these uprooted families who are yet to be properly rehabilitated, with many losing their livelihoods in farming and fishing and experiencing mental trauma. Furthermore, the environmental impact of the project is significant, with year-round dredging in the aquatic ecosystem causing issues such as occasional beach erosion in Cochin (Yeldhose 2013). The construction of the railway line across the five islands in the Vallarpadam region is particularly concerning as these islands are part of the Ramsar site (Narendran 2010) ^[18]. The coastal belt in Central Kerala, known for its special rice cultivation method called Pokkali in saline soils, possesses rich biodiversity and the ability to sustain organic paddy and shrimp cultivation. The ICTT's effect on the Pokkali fields is evident, resulting in a severe reduction in the cultivation area. Approximately 26 hectares of Pokkali fields in the district of Ernakulam were acquired for the project, disrupting the natural flow of water to these fields. The construction of the Vallarpadam Container Terminal Road and Railway Link further obstructed the natural flow of tidal waves into the Pokkali fields, leading to massive depletion of wetlands and the disruption of the ecological balance. These wetlands were essential for the livelihoods of the local inhabitants, providing agricultural produce, fish, fuel, fiber, fodder, and other essentials, including drinking water. Additionally, they played a crucial role in biodiversity conservation (Joy 2013) ^[12]. The dumping of piling waste and slurry from the construction sites has also had adverse effects on Pokkali cultivation (Narendran 2010) ^[18].

6. Project Effectiveness

The effectiveness of a PPP project can be measured through various factors, such as its impact on end-users, effects on stakeholders, realization of contract goals, and financial performance. However, it is important to note that PPPs do not always result in shining achievements. They have faced criticism from civil society organizations, public interest groups, media, and other stakeholders, even as interest in their adoption has increased. Some problematic PPPs have raised questions about the role of the private sector in providing public services. Issues such as a lack of trust in the private sector, tariff increases, layoffs, and weak stakeholder management have contributed to this wariness. Critics have also accused PPPs of having high procurement

costs that deter small companies from participating, thereby reducing competition. In reality, crucial challenges to successful PPPs include high transaction costs, lack of control in project activities, a lack of a continuing source of revenue, and higher usage fees.

Prior to 2011, the terminal functioned using RGCT facilities. However, the new terminal, ICTT, began its operations in 2011 and faced tough challenges right from the start. It was commissioned before dredging was completed, resulting in a small draft at the terminal that hindered the arrival of larger vessels. Additionally, numerous issues arose when vessels arrived at the port, including problems with Customs clearance and labor disputes. In the initial years, the transshipment business for ICTT remained bleak, and even with a global reputation, DP World, responsible for the marketing operations of ICTT as per the License Agreement, failed to attract big container

vessels to the terminal.

Over time, the performance of the terminal improved, but the first five years were marked by unsatisfactory results. However, in 2020, ICTT achieved a compounded annual growth rate of 13%. Notably, it registered the highest quarterly throughput of more than 1.6 lakh TEU and reported its highest-ever monthly throughput of more than 56,000 TEUs in March 2019. The terminal also saw a 48% increase in transshipment traffic during the first three months of 2019, with a growth rate of 14% from January to March that year. The Turnaround time of ships in Cochin Port has improved and is now the lowest in the country, with a figure of 1.66 days in 2020-21, compared to the national average of 2.62 days (Economic Survey 2020-21). To address the challenges and improve the performance of the terminal, IGTPPL and CPT have undertaken several initiatives.

Table 2: Percentage of Transshipment volumes handled in ICTT over the years

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Total Containers volume (TEU)	366376	419550	491087	555812	594592	620061
Transshipment Volume (TEU)	17007	21039	31498	35363	30158	36183
% of total volume	4.64	5.01	6.41	6.36	5.07	5.33

Source: Compiled from CPT Annual Reports 2018-19 and 2019-20

Despite being operational for a decade, ICTT's capacity utilization remains below 50%. It has struggled to establish itself as a preferred terminal for transshipment among mother ships, and its performance in attracting vessel traffic has been lacklustre compared to the achievements of the former RGCT, which handled 1.68 lakh TEUs in 2005 with a mere 100 crore investment. The transshipment container volumes at ICTT are disheartening, making up less than 7% of the total containers handled at the port (refer to Table 2). Although there was a slight improvement in 2019-20 with the attraction of more motherships, a significant portion of India's cargo continues to be transshipped through other major ports like Colombo, Dubai, and Singapore. Efforts to reduce dependence on Colombo port have not yielded substantial results, as around 2 million TEUs of Indian cargo are still routed through Colombo annually. In 2019-20, out of the 620,061 TEUs of cargo traffic handled at ICTT, a meager 36,183 TEUs accounted for the transshipment volume, representing only 5.33% of the total. ICTT, initially envisioned as a transshipment terminal, now functions more like a gateway terminal². Interestingly, even non-transshipment terminals in the country handle some transshipment volumes, and ICTT's performance in this aspect is not significantly better than that of gateway terminals.

Conclusion

PPPs are commonly adopted for various reasons, such as addressing fiscal deficits, budgetary constraints, demand-supply disparities, and inadequacies in public infrastructure services. Additionally, PPPs are chosen with the goal of acquiring operational performance, advanced technology, management skills, private sector expertise, and achieving a more active participation of private players in public services (Choudhary 2011). However, despite these intentions, the case of the ICTT has not been successful. The ICTT project was envisioned with great ambition and goals when Cochin was selected as the location for India's first transshipment terminal. However, after operations for

more than a decade, the terminal's container volume remains sluggish, at around 50% of its total capacity, and the transshipment business figures are disappointing. This raises questions about the effectiveness of its development and whether its purpose has been achieved. Several factors have contributed to the challenges faced by the ICTT. First, there have been regulatory flaws and legal complications that affected the project's progress. The public partner in this PPP, the CPT, has not benefitted from the venture and has faced additional financial liabilities.

Furthermore, the sector in which the ICTT operates presents its own set of challenges. The maritime environment in southern India has undergone rapid changes, with many new port infrastructure facilities coming up in the region. Notably, the under-construction transshipment port at Vizhinjam, Thiruvananthapuram, poses potential competition for the ICTT in the future. Moreover, the global shipping industry is currently facing over-supply and a slowdown, impacting the performance of the ICTT. The increase in the size of global vessels, the established relationships between shipping lines and established ports, and the scenarios in which global shipping lines have started their own port operations have further affected the terminal's operations. The current container charges at the ICTT are not attractive to shipping lines, prompting them to carefully monitor their costs and seek better alternatives. A port's progress is typically assessed over a long gestation period of four to five decades. To address the challenges faced by the sector and the ICTT, significant investment and flexibility are required. A long-term vision is needed to steer port investments, and it is hoped that the ICTT, Vallarpadam, can overcome these challenges and meet its expectations in the future.

Endnotes

1. TEU is a standard unit of measurement used to describe the capacity of cargo containers. This widely used term is employed in container terminals and ships to indicate the size and carrying capacity of containers.

2. Minimum Guaranteed Throughput is a contractual provision in PPP projects that establishes the minimum amount of traffic or volume that the private operator must handle at a facility, such as a port or terminal, within a specific timeframe. Failure to meet the MGT can result in penalties or other specified consequences for the private operator as stated in the agreement.
3. A Gateway Terminal is a specialized facility that handles export-import containers directly. These containers are loaded directly onto a ship at the port of origin and then transported to their final destination without the need for transshipment to another larger vessel. Similarly, at the port of destination, containers are directly offloaded from the ship, eliminating the requirement for intermediate handling by another larger vessel.

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