International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 07 Issue: 11 | November - 2023 SJIF Rating: 8.176 ISSN: 2582-3930

IMPROVING THE INFRASTRUCTURE OF CRUISE TERMINALS IN INDIA

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***Abstract*:** India's potential for cruise tourism is obvious, given its 7,000 kilometres of coastline and extensive network of lakes and rivers that remain unexplored. However, India is relatively low on the global cruise tourist map due to a lack of infrastructure. The explanations are numerous and frequently covered at all travel conferences. The government has made grand statements about its infrastructure expenditures, but the nation's cruise sector believes there has been little real commitment. For the cruise industry to flourish, infrastructure is crucial. Sadly, according to Vivian Peres, Director of Ventours International Travel, a cruise tourist tour provider, India does not have it. "In major ports like Mumbai, the infrastructure will collapse if two ships call there each day**.** In terms of the infrastructure amenities for cruise passengers, cruise terminals compete with one another on a global scale. We still have a long way to go as a nation," said Peres. Therefore, the purpose of this study is to demonstrate the necessary infrastructure improvements for cruise terminals in the context of India, with the ultimate goal of developing both cruise terminals and cruise tourism in the country. The main areas of infrastructure development that could be taken into consideration for cruise terminals in India are outlined in this paper.

I. Introduction

India is seen as a market with enormous potential for additional tourists and new locations because to its rapid economic development and large population. At the moment, foreign cruise ships' preferred ports of call in India are Mumbai and Kochi. Once the necessary infrastructure is in place, the country's cruise tourist business is predicted to grow rapidly. Three significant regional cruise lanes would be developed as a result: Kochi-Maldives-Colombo-Kochi; Goa-Lakshadweep-Kochi-Goa; and Mumbai-Lakshadweep-Mumbai. Goa is anticipated to have at least one port of call in each of the first two corridors. Consequently, the state needs a cruise terminal.

"Cruise terminals are large, time-consuming projects with potentially unappealing terminal operating revenue relative to investment. In light of this, a combination of commercial endeavours and the primary business is suggested."

The business strategy and feasibility study for the proposed international cruise terminal, as well as the public world-class facilities on the tried-and-true public-private partnership model under the build, operate, and transfer (BOT) structure has been proposed by plaza at Mormugao (Goa). The goal of this project is to create a cruise terminal with the necessary facilities. In order to compare and offer solutions to fulfil the terminal requirements on a global scale, it is crucial to research different international cruise terminals.

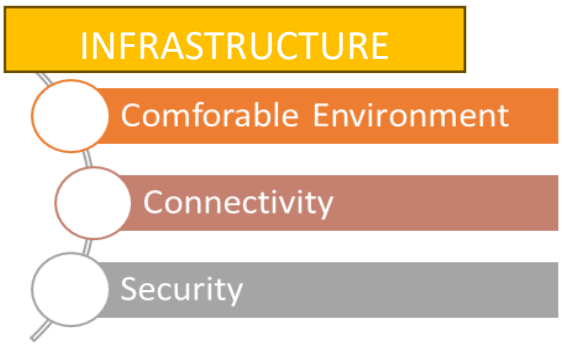

Figure 1: Infrastructure facilities to be considered in this paper.

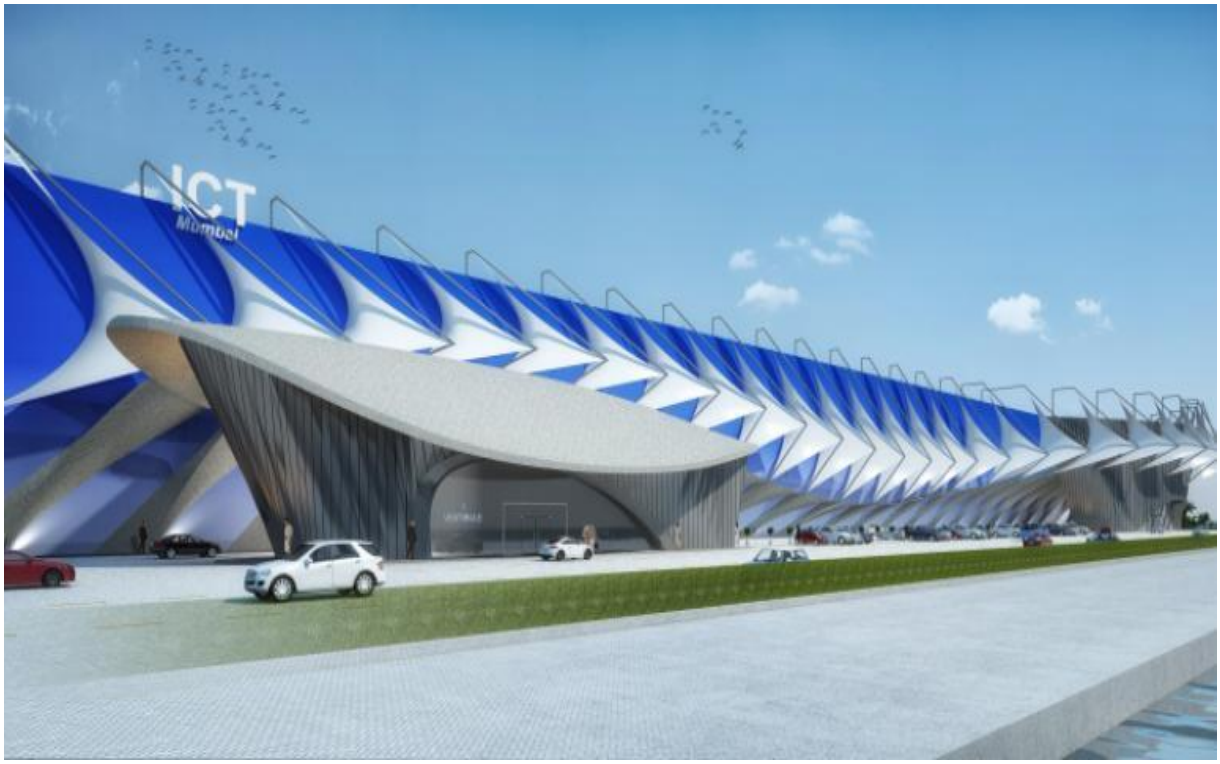

Figure 2: Artist's impression of Mumbai's new-look International Cruise Terminal building (The first iconic cruise terminal in India)

II. Key Constraints

In order to promote tourism, boost economic growth, and improve the overall traveller experience, India must develop its cruise terminal infrastructure (figure 2). The following are important areas of infrastructure development that Indian cruise ports may want to take into consideration:

- Birthing Places

Since berth facilities serve as the places where cruise ships embark and disembark, they are essential to the operation of a cruise terminal. In order to accommodate larger vessels, maintain seamless operations, and give passengers and cruise operators an enjoyable experience, berth facilities must be developed and improved.

The capacity of the current berths may be assessed, along with the requirement for expansion to handle larger cruise ships, and the berths can be modernized to meet international standards by including innovative docking and mooring technologies.

The goal can also be accomplished by creating multipurpose berths that can hold several kinds of cruise ships, such as luxury liner, mega ship, and smaller boats, and by implementing flexible infrastructure that can adjust to the varying demands of various cruise operators. Think about creating specialized terminals or areas inside terminals for various cruise ship classes (luxury, mainstream, expedition), and tailor amenities and services to meet the unique needs of each class.

Ensure that berth facilities comply with international standards and guidelines set by organizations such as the International Maritime Organization (IMO). Stay updated on industry best practices and incorporate them into the design and operation of berth facilities. By focusing on these aspects of berth facilities infrastructure development, cruise terminals can enhance their operational efficiency, attract a diverse range of cruise ships, and contribute to the overall growth of the cruise tourism industry in the region.

- Terminal Facilities

A cruise terminal's terminal amenities are essential parts since they act as a conduit for visitors and the larger operating infrastructure. It is crucial to make investments in the creation of cutting-edge terminal facilities in order to maximize both the overall passenger experience and operational effectiveness. This entails building voluminous, contemporary passenger terminals outfitted with cutting-edge baggage handling, security, and check-in desks. Passengers' pre-boarding experience could be improved with cozy waiting areas and lounges. Technology-driven solutions like digital information displays and self-check-in kiosks can also expedite procedures and improve passenger flow. To guarantee smooth customs and emigration processing, cooperation with pertinent authorities and agencies is crucial.

In addition, increasing inclusivity requires an emphasis on accessibility for those with disabilities, including amenities like ramps and elevators.

Cruise terminals may create an atmosphere that not only satisfies international standards but also increases the destination's overall appeal for both cruise operators and passengers by giving priority to these considerations while developing terminal facilities.

- Connectivity and Transportation

Cruise operators and passengers find that the accessibility and desirability of a location are greatly influenced by the transportation infrastructure and connections surrounding the cruise terminal. Investing in effective transit connectivity between the cruise terminal and important transportation hubs, such airports and train stations, is crucial to improving the whole experience. To enable seamless passenger transfers, this entails creating well-maintained road networks and defined transportation zones. Buses and shuttles are examples of dependable and practical public transit solutions that should be included to guarantee smooth connectivity for travellers arriving at or leaving the station. The creation of affordable and environmentally friendly transportation options can benefit from partnerships with regional service providers and transportation authorities. Additionally, the provision of ample parking space for both short-term and long-term parking, coupled with well-designed drop-off zones, is essential to accommodate the diverse needs of passengers and visitors.

By prioritizing connectivity and transportation infrastructure development, cruise terminals can establish themselves as easily accessible and well-connected hubs, contributing to the overall success and growth of the cruise tourism industry in India.

- Security Infrastructure

In order to ensure the safety and well-being of passengers, employees, and property, security infrastructure is essential. At the terminal, cutting-edge security measures must be put in place. To monitor and secure the terminal's perimeter entails the implementation of extensive surveillance systems, access controls, and perimeter security measures. Furthermore, keeping a strong security posture requires cooperation with regional law enforcement organizations and marine security authorities. The use of technology-based solutions, including biometric scanners and facial recognition systems, can improve the precision and effectiveness of security screening procedures. To guarantee a prompt and well-coordinated reaction to possible attacks, terminal personnel must participate in training sessions on security protocols and emergency response techniques.

Furthermore, ongoing evaluation and updating of security measures in alignment with international standards and industry best practices are essential to address evolving security challenges. By investing in a robust security infrastructure, cruise terminals not only fortify their operational resilience but also cultivate trust among cruise operators and passengers, contributing to the overall success and attractiveness of the destination.

- Emergency Response Infrastructure

Building a strong emergency response system is essential to guaranteeing the security of guests, employees, and property inside a cruise terminal. It is important to have thorough emergency response plans that cover a range of situations, such as medical emergencies, natural disasters, and other unanticipated catastrophes. Plans for evacuation, coordinating with local emergency services, and communication tactics for effectively informing all parties involved should be included. To improve readiness and reactivity in emergency scenarios, terminal personnel must participate in frequent drills and training sessions. There should be sufficient medical resources on hand, ready to address crises and deliver timely medical care. To enable a smooth response during emergencies, cooperation with nearby emergency services, hospitals, and pertinent authorities is essential. The efficiency of emergency response operations can also be increased by integrating cutting-edge technologies like communication platforms and real-time monitoring systems. Cruise terminals show a dedication to safety and resilience by making the construction of an extensive emergency response infrastructure a top priority. This builds passenger and cruise

operator confidence and strengthens the destination's overall resilience.

Investing in these infrastructure developments can contribute to making Indian cruise terminals competitive on a global scale, attracting more cruise lines and passengers to the region. It also promotes sustainable tourism and economic development in the surrounding areas.

III. Case Studies

Kai Tak Cruise Terminal

Hong Kong, China is home to the Kai Tak Cruise Terminal (Figure 3). Foster and Partners architects created this terminal. The site area of this terminal is 52,000 m³. This terminal can accommodate up to 8400 passengers. The Hong Kong Kai Tak Cruise Terminal is divided into two bays and a terminal building. While the second berth started to operate in September 2014, the first berth and the terminal building were installed in June 2013. Two super cruises with 400 passengers and 200 staff members can be accommodated at the cruise terminal. The first dock is approximately 455 meters long by 35 meters high, while the second dock is approximately 395 meters long by 35 meters wide. The structure is a 40-meter-tall, three-story building. Supermarkets, travel agencies, dining rooms, cafés, and reception areas are all part of the cruise amenities. There are several areas on the ground floor, including an office area, coach sitting areas, customer hall, waiting room, bag handle area, and atrium. A waiting space, an atrium, an immigration hall, a chick in the hall, a public area, and a landscaped terrace are all located on the first floor. An atrium, a skylight, a planted deck, and a commercial area are located on the second story.

The percentage of space distribution within the cruise is comprised of arrival hall (6%), departure hall (6%), waiting area (11%), office (15%), services (3%), baggage hall (11%), terminal operator (10%), commercial area (8%), and landscape plaza (30%).

The total area of space within the terminal is 76000 m2.

Figure 3. Kai Tak Cruise Terminal

Cochin Cruise Terminal, Kerela

The Terminal (figure 4) handles the largest number of Cruise Liners in India. Initially, the vessels were berthed at the existing cargo berths according to availability which was later recognized that the nature of the port infrastructure plays a significant role in the selection and determination of a cruise destination. Therefore, the provision of adequate service facilitation and tourist attractions further helped in value addition. Cochin cruise terminal is developed to diversify and enhance Kochi's attraction as a tourist destination.
The marine facilities of the Port are located in Willington Island, which divides the Port's inner navigational channels into two- namely the Mattancherry and Ernakulum channels. The onshore facilities are mainly located on the Willington Island. The existing facilities include:
1. 16 berths including 3 Oil jetties
2. Modern Container Terminal
3. Maximum draft up to 12.5 metres
4. Dedicated facilities to handle bulk/break bulk as well as a variety of liquid cargo.
5. Adequate storage spaces

Figure 4. Cochin cruise terminal

III. Discussion

Both the Cochin Cruise Terminal in India and the Kai Tak Cruise Terminal in Hong Kong have unique infrastructure that reflects the various qualities of their respective locations. Positioned as a significant worldwide cruise centre, the Kai Tak Cruise Terminal features an elegant and modern design. Its infrastructure consists of state-of-the-art terminal facilities, sophisticated docking and mooring systems, and multiple berths that can accommodate huge cruise ships. The terminal's position, tucked away in Hong Kong's vibrant urban landscape, enables seamless connectivity to a variety of attractions and

transportation hubs in addition to a spectacular background of the city. In contrast, the Cochin Cruise Terminal in Kochi, India's southwest coastal city, incorporates a distinctive fusion of historical and cultural components into its infrastructure. The terminal is positioned to provide cruise guests with easy access to Kochi's rich cultural history, which includes bustling markets and historical sites. Even though Cochin is currently developing its cruise infrastructure, it still has a lot going for it, with its traditional architectural features and emphasis on giving guests a true Indian experience.

In conclusion, there are different paradigms in cruise infrastructure represented by the Kai Tak Cruise Terminal and the Cochin Cruise Terminal. While Cochin distinctively combines historical charm with a growing cruise industry, demonstrating the complex nature of cruise terminals worldwide, Kai Tak stands as a tribute to modernity and international standards. With its unique infrastructure, every terminal adds to the overall story of cruise tourism by providing guests with a variety of engaging experiences that are representative of their individual cultural and geographic settings. However, it can be said that the Cochin cruise terminal need to improve its infrastructure development to cope with modern comfort.

IV. Conclusion

The research paper concludes by highlighting the urgent need for strategic enhancements to support the expansion of the cruise tourist business in the region, with a focus on boosting infrastructure development in India's cruise terminals. The investigation has identified a number of critical areas that require upgrading, including connection, security, environmental sustainability, and berth and terminal infrastructure. India's cruise terminals can gain a competitive edge in the global arena and draw in more cruise operators and passengers by attending to these aspects. The results underscore the need to harmonize infrastructure construction with global norms and optimal methodologies, guaranteeing that Indian cruise terminals not only satisfy present industry requirements but also predict forthcoming patterns.

Additionally, a comprehensive strategy that takes into account the environmental and cultural context of every location will help to provide a genuine and sustainable cruise experience for guests. This research offers a roadmap for stakeholders, policymakers, and industry players to work together to support the success of the cruise industry as India works to improve its cruise infrastructure, with the ultimate goal of making the nation a well-known and welcoming cruise destination.

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