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The BIMSTEC Master Plan for Transport Connectivity: A Stocktaking

**Sohini Bose, Sreeparna Banerjee and
Anasua Basu Ray Chaudhury**

Abstract

Connectivity facilitates economic growth, social development, and people-to-people interactions. Recognising the imperative of connectivity in regional engagement, the Bay of Bengal Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) in 1997 declared ‘transport and communication’ as one of its sectors of cooperation. In 2018, BIMSTEC drew up its Master Plan for Transport Connectivity, and subsequently updated the plan at the fifth BIMSTEC Summit in 2022. As BIMSTEC continues to pursue regional connectivity, there is a need for a critical evaluation of the Master Plan to identify challenges in the existing transportation networks and outline strategies for course correction.

Functional channels and means of connectivity are cardinal to regional cooperation as they facilitate trade, attract investments, bolster tourism, foster people-to-people interactions, and encourage cultural exchanges. The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC),^a upon its inception in 1997, prioritised ‘transport and communication’ as a fundamental area of cooperation. At the 5th BIMSTEC Summit in March 2022, the group reorganised its areas of cooperation and renamed ‘transport and communication’ as ‘connectivity’.^{b,1}

To promote seamless connectivity across the Bay of Bengal region, BIMSTEC adopted an updated version of the 2018 BIMSTEC Master Plan for Transport Connectivity in 2022, comprising 267 transport projects among which 216 are in transport infrastructure and 51 are in soft infrastructure. About 60 percent (134) of the transport infrastructure projects are in the planning stage and require financing. The estimated value of the 134 projects is US\$89.9 billion.² Created in collaboration with the Asian Development Bank (ADB), the 2018 Master Plan for Transport Connectivity is a 10-year strategy and action plan. It consolidates the details of 141 short-, medium-, and long-term projects within the Bay of Bengal, spanning physical connectivity, trade facilitation, and human resource development at an estimated cost of US\$47 billion.³

As BIMSTEC strives to forge better regional linkages, the plan demands a critical evaluation of its coverage of physical connectivity infrastructure which forms the bedrock of transport networks in the Bay. This paper has two objectives: to explore the reasons behind the creation of the Master Plan and the role of ADB; and to analyse the connectivity initiatives detailed in the Master Plan and identify the challenges that need to be addressed to enhance its effectiveness.^c

a BIMSTEC is the regional organisation devoted to the Bay of Bengal, whose member countries are India, Bangladesh, Nepal, Bhutan, Sri Lanka, Myanmar, and Thailand. Comprising countries in South Asia and Southeast Asia, BIMSTEC requires robust transport networks to connect these two geopolitical regions in the Bay of Bengal region.

b The Connectivity sector is presently led by Thailand, and its activities are conducted by the BIMSTEC Transport Connectivity Working Group (BTCWG).

c The paper does not discuss air connectivity, except as a part of multimodal linkages.

Master Plan Rationale and ADB's Role

In 2015, India, keen to strengthen ties with its eastern neighbourhood, rekindled connectivity initiatives in the region as lead country for the BIMSTEC sector on 'transport and communication'. Following the failed SAARC Summit of 2016, India worked to prioritise the Bay of Bengal region and jumpstart connectivity initiatives. It hosted the BIMSTEC Leaders' Retreat in Goa in October 2016,⁴ where the leaders discussed, among others, drawing up a BIMSTEC framework agreement on Transit, Trans-shipment, and Movement of Vehicular Traffic and initiated talks on a BIMSTEC Agreement on Coastal Shipping.⁵ The BTCWG was then tasked to develop the said Master Plan for Transport Connectivity with the technical assistance of the ADB.⁶

The ADB carried out a similar study for BIMSTEC in 2007, called the BIMSTEC Transport Infrastructure and Logistic Study (BTILS), which was updated and enhanced in 2014. As many of the projects identified in the BTILS had been completed or were in the process of completion, the 2018 Master Plan was considered necessary to understand the various initiatives with overlapping domains that had been undertaken in the region. Accordingly, the Master Plan addressed the BTILS concerns as well as various other missing infrastructure requirements in the region, outlining a long-term development program.

The ADB has long been engaged in efforts to craft comprehensive strategies for the Asia-Pacific region.⁷ It assists its members and partners by providing loans, technical assistance, grants, and equity investments to promote social and economic development. It also maximises the development impact of its assistance by facilitating policy dialogues, providing advisory services, and mobilising financial resources through co-financing operations that tap official, commercial, and export credit sources.⁸ In the Bay littoral countries, the ADB has been at the forefront of financing connectivity projects and undertaking evaluations.

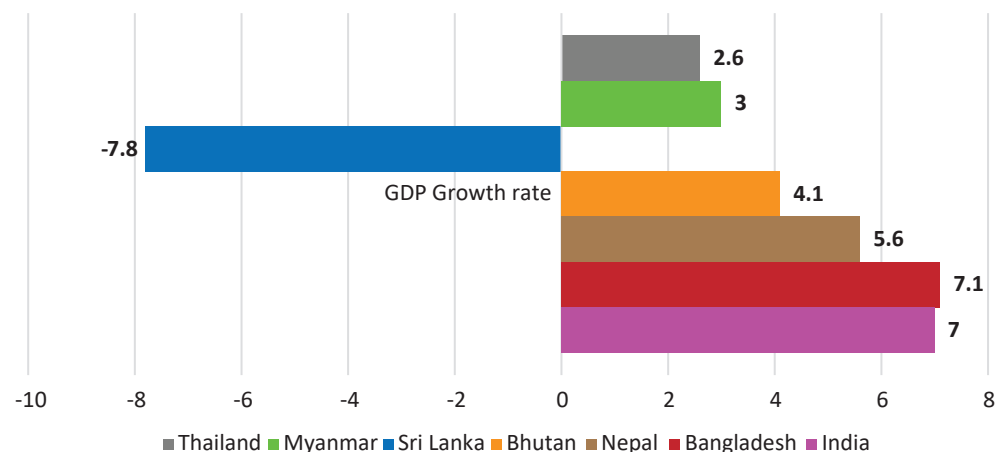
As of 31 December 2022, ADB's five largest shareholders are Japan and the United States (each with 15.6 percent of total shares), the People's Republic of China (6.4 percent), India (6.3 percent), and Australia (5.8 percent).⁹ These countries all have stakes in seeking influence and partnerships with the Bay littorals or BIMSTEC member countries, for three primary reasons.

Master Plan Rationale and ADB's Role

Market and Resource Potential of Bay littorals: The countries outlining the Bay, particularly India and Bangladesh, have remarkable economic potential (see Figure 1). Estimates suggest that India and Bangladesh will be the 11th and 16th fastest growing economies in the world by 2024.¹⁰ Another projection says that by 2030, India will become the 2nd largest market with 773 million consumers, Bangladesh 6th with 87 million consumers, and Thailand 9th with 58 million consumers.¹¹

The Bay littoral countries are also valuable partners as they own substantial offshore oil and gas reserves. The Bay of Bengal is home to almost 40 percent of the world's hydrocarbon reserves, with coal reserves of almost 324 billion tonnes, 664 million tonnes of petroleum, 99 trillion cubic feet of natural gas, 11 billion tonnes of biomass, 328 GW of hydropower (large), and renewable energy potential of more than 1,000 GW. This dimension attracts many countries to invest in its littorals as the need for energy resources increases to serve growing economies and bulging populations; China, for instance, has the world's second highest population and is the world's second largest economy.¹²

Fig. 1. GDP Growth Rate in BIMSTEC Countries



Source: Authors' own, using data from BIMSTEC.¹³

Note: All GDP growth rates are for 2022 except Bhutan's, which is from 2021.

Master Plan Rationale and ADB's Role

Need to secure vital shipping routes: The major powers are seeking partnerships with Bay littorals to maintain a foothold in this maritime space close to the Strait of Malacca, through where nearly 60 percent of global trade comprising important resources, particularly energy imports, move annually via shipping routes from the Middle East to South, Southeast, and East Asia.¹⁴ More than 70 percent of China's energy trade and 60 percent of its entire trade pass through the Strait of Malacca,¹⁵ as does over 55 percent of India's trade.¹⁶ More than 80 percent of Japan's oil imports from the Cooperation Council for the Arab States of the Gulf also move through this chokepoint.¹⁷ For Australia, the strait is important as it is used by most container and vehicle ships making their way from Europe.¹⁸ China's activities in and around the Bay have generated apprehensions about maintaining freedom of navigation in these routes. Stakeholders are thus heightening their presence in the Bay to ensure an uninterrupted supply of fuels.

The strategic value of the Bay of Bengal: The Bay's strategic significance attracts investments due to its advantageous location. It serves as a pivotal point in China's Belt and Road Initiative (BRI)^e and is a focal area for Indo-Pacific powers, largely to counter China's ascent which challenges the established US-led order and shifts the power dynamics. Consequently, the US is intensifying efforts to bolster its influence in the Bay.¹⁹

Japan, aiming to tap into South and Southeast Asian markets dominated by China, promotes a 'Free and Open Indo-Pacific' as well to establish fair economic standards, thus increasing investments in the Bay littorals.²⁰ Similarly, Australia advocates for a 'Free and Open Indo-Pacific', seeing the Bay's stability as crucial for fostering stronger ties with its littoral states, to enhance its connectivity in the Indian Ocean.²¹ For India, the Bay is its maritime neighbourhood, intertwined with its economic and security interests. Rivaling China, India is thus deepening ties with Bay littorals which includes the countries of Southeast Asia. This serves India's Neighbourhood First, Act East, and Act Indo-Pacific policies as the Bay is a common maritime space between India and the Association of Southeast

d The attacks by the Houthi militia (an Iranian-backed rebel group) in the Red Sea since 2023 are increasingly causing shipping traffic from Europe to Australia to be routed around South Africa's Cape of Good Hope and directly across the Indian Ocean instead of using the Malacca conduit.

e The Bay littoral countries of Bangladesh, Sri Lanka, Myanmar, and Thailand are all members of China's BRI.

Master Plan Rationale and ADB's Role

Asian Nations (ASEAN), central to the country's vision of a free and open Indo-Pacific region.²²

It is impossible to utilise the Bay of Bengal region for any of the above purposes without the necessary connectivity and developmental infrastructure in the littoral countries, which is one of the primary reasons why intra-regional trade remains low. This has resulted in a scramble amongst the major powers to build connectivity supports in the Bay littorals.²³ Their interest has found resonance in the aspirations of these countries for better logistics which will elevate their economic prospects and ability to utilise their natural wealth. Accordingly, these countries have responded positively to the competing offers of the global powers and ADB has emerged as a notable actor in this sphere.

This mutual need for a more connected Bay of Bengal region manifests in the ADB's consistent engagements in this geography and with BIMSTEC. On 24 February 2022, the organisation officially registered the ADB as one of its external partners via a Memorandum of Understanding, by which they agreed to collaborate in transport connectivity and financing; energy connectivity and trade; trade facilitation; tourism promotion; and economic corridor development.²⁴

Connectivity Initiatives in the Master Plan and Continuing Concerns

The dense population count of the BIMSTEC region necessitates effective modes of conveyance to ensure the seamless flow of goods and people. Among these modes, road transport accounts for approximately 70 percent of freight transportation within the region.²⁵

Meanwhile, the region's railway networks extend over 77,000 route kilometers across member states such as Bangladesh, India, Myanmar, Sri Lanka, and Thailand.²⁶ The extensive railway systems serve as vital arteries for trade and transportation, albeit often operating independently,^f highlighting the need for enhanced coordination and integration.

The region also benefits from maritime and air transport networks. Mainline and deep-sea container ships, along with feeder vessels, connect key ports of the region, facilitating the efficient movement of goods. Furthermore, the presence of established inland waterways and a network of over 350 flights connecting various destinations within the region underscores the importance of multi-modal transport connectivity.²⁷

While there have been commendable strides in improving transport connectivity among BIMSTEC member states, significant gaps persist, emphasising the critical role of the BIMSTEC Master Plan for Transport Connectivity.

A. Road Connectivity

Roads serve as the primary transportation infrastructure in all member states. While India and Thailand boast extensive Asian Highway Class I^g networks, the northeastern highways in India are still in the process of development. Bangladesh, Nepal, and Sri Lanka have aspirations to establish Class I roads or networks, but Bhutan and Myanmar are expected

f The different sections or parts of the railway network within the BIMSTEC region are not seamlessly coordinated or integrated with one another.

g Class II roads are typically highways that serve as primary arteries for long-distance travel and trade. They often connect major cities, economic centres, and key transportation hubs. Class II and III Roads have lower capacity. Class II roads will connect secondary cities or serve as feeder roads to Class I highways. Class III roads are usually local roads or rural roads that facilitate transportation within specific areas.

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to rely primarily on Class II and III roads, particularly for connectivity with neighbouring countries.²⁸

Crucial issues include: (a) improving arterial road links that handle significant volumes of intra-BIMSTEC trade; (b) upgrading border links, including access to ports; and (c) coordinating road programs to enhance connectivity among member states. In terms of road transport, the necessity to transship cargo at international borders results in higher transaction costs, especially for the importing country. The development of well-coordinated transport mechanisms is crucial to increase transport efficiency and reduce trade costs. Adequate and continued funding is also required and to be made available to complete these projects in time.

A significant portion of the road networks listed in the BIMSTEC Master Plan slated for completion in 2022 and 2023 are still in progress (see Annexure 1). Various challenges have hindered the timely completion of some of these projects, such as the necessity for coordination among agencies in both sides of the border, challenging terrain, complications with land compensation, and security issues stemming from insurgencies in certain territories.²⁹

Amid these challenges, it is crucial to examine two notable arterial road projects to link borders that are central to the regional connectivity vision. These projects, exemplifying the broader objectives of BIMSTEC, are facing a number of hurdles.

Challenges to Road Connectivity

a. Impediments to IMT-TH

Perhaps the most significant endeavour in improving road connectivity in the BIMSTEC region is the ongoing India-Myanmar-Thailand Trilateral Highway (IMT-TH) project, where Myanmar's strategic location is pivotal. Myanmar stands out as the only country, aside from India, without whose participation land connectivity of all BIMSTEC members cannot be achieved. Once completed, the trilateral framework will extend to connect Cambodia, Laos, and Vietnam (See Map 1).

Connectivity Initiatives in the Master Plan and Continuing Concerns

Map 1: India–Myanmar–Thailand Trilateral Highway



Source: Created by Jaya Thakur, an independent researcher in Kolkata, using data from RIS Report³⁰

The BIMSTEC transport infrastructure report identifies six road initiatives in Myanmar as priority projects,³¹ among which five are integral components of the IMT-TH. These encompass three projects connecting Myanmar to Thailand (including the new border link Mae Sot/Myawaddy, Myawaddy–Kawkareik road, and the construction of Kawkareik–Eindu road) and two linking Myanmar to India (specifically, the Yagyi–Kalewa road improvement and the construction of bridges on the Kalewa–Tamu Road) still under construction.

The deteriorating security situation in Myanmar, particularly in the Chin and Sagaing regions where work on the project is stalled, threatens the implementation of the IMT-TH.³² The country has been grappling with political instability and conflict in recent years, adversely impacting road transport safety. Incidents involving attacks on vehicles and disruptions to transport routes pose a substantial risk to businesses and travelers, especially post Operation 1027.³³

Connectivity Initiatives in the Master Plan and Continuing Concerns

b. Sluggish Kathmandu–Terai Fast Track Road Project

The Kathmandu–Terai Fast Track Road Project aims to construct a 70.9-kilometer expressway that will significantly shorten the distance, time, and cost between Kathmandu and the Terai–Indian border.^{h,34}

Stretching from Khokana in Lalitpur to Nijgadh in Bara district via Makawanpur, the four-lane expressway was initially slated for completion by November 2024 but the deadline has been moved to April 2027.³⁵ The massive delay is related to issues of land acquisition, environmental impact assessments, the COVID-19 pandemic, and the clearance of trees.³⁶

According to the revised Detailed Project Report (DPR) approved by the government in October 2022, the expressway’s length is at 70.9 km, featuring six tunnels totaling 10.055 km and 89 bridges.³⁷ The Nepalese Army, entrusted by the government of Nepal in 2017, is steadfast in ensuring the project’s timely completion, having already completed designs for 45 bridges in packages 1 to 5. However, the project is divided into 13 packages, with contracts for five still pending. Bidding selection takes at least six months.³⁸ Land acquisition at the Khokana-Bungamati entry points in Lalitpur, and in Makwanpur and Nijgadh, remains incomplete.³⁹ The army chief is uncertain about completing the project within the new deadline of 2027.

Analysts are of the view that the current government of Nepal must promptly streamline bureaucratic processes and robust project management practices to ensure the timely and transparent execution of the project.⁴⁰ The government’s efforts in cost reduction and project optimisation should be coupled with proactive measures to prevent delays, ensuring the expressway’s success as a vital national infrastructure.

c. Crucial Issues on the Road Networks

- i. **Poor regional coordination and information exchange:** The absence of a coordinated regional approach to road planning within the BIMSTEC

h The current routes are circuitous and lengthy, and adopting a more direct route will result in savings of approximately 150 kilometers and a potential reduction in travel time by up to 5 hours. Additionally, the new road promises increased reliability compared to the existing route, which is often prone to frequent disruptions and closures during the monsoon season, consequently lowering transport costs.

Connectivity Initiatives in the Master Plan and Continuing Concerns

region results in disjointed efforts, challenges in aligning national plans, and a lack of systematic information exchange among member states. This fragmented approach impedes the efficient allocation of resources and leads to suboptimal outcomes, hindering the realisation of a seamless road network.

- ii. **Differing technical standards and operational challenges:** Variations in technical standards and specifications among member states can pose challenges to seamless road connectivity. Harmonising these standards is crucial to facilitate interoperability and efficient cross-border operations. Transport operations in most BIMSTEC member states predominantly rely on owner-drivers using older rigid units, often as part of cooperatives.⁴¹ Notably, only in Thailand do large numbers of fleet operators utilise modern articulated transport vehicles—ⁱ a trend slowly spreading in Bangladesh, India, Myanmar, and Sri Lanka, especially around ports handling 40-foot containers crucial for high-volume exports. There is a need to upgrade the fleet, but BIMSTEC's influence on this issue may be limited and the solution lies in more private sector investment which could be encouraged by removing restrictions on foreign direct investment and improving roads. BIMSTEC could concentrate on facilitating transport, particularly by encouraging agreements among national governments for smoother through-transport arrangements.⁴² Additionally, the inability of road transporters to cross borders is viewed as a trade restriction, escalating transport and transaction costs. These restrictions hinder the development of a competitive international road transport sector, leading to higher trade costs, border handling charges, and increased risk of damage and pilferage.⁴³
- iii. **Security concerns and conflict areas:** Ensuring the security of road networks, especially in border regions, is a paramount concern. Persistent insurgencies and conflict areas, as observed in regions like Myanmar, hinder the timely completion of projects. These security challenges not only compromise the safety of transportation but also impede the development of efficient transport routes critical for regional connectivity and economic growth. Addressing these security concerns becomes imperative for fostering a stable and conducive environment

i It means articulated truck or articulated lorry, which is a type of heavy-duty commercial vehicle used for transporting goods over long distances.

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for the successful functioning of road and railway networks in conflict-prone areas.

B. Railway Connectivity

Railway networks contribute to economic development by facilitating the efficient movement of goods and people. Within the BIMSTEC region, where road congestion and infrastructure limitations impede transportation, railways offer a reliable and cost-effective alternative for freight and passenger transport.

The Master Plan underscores the importance of improving rail connectivity among member states, with a particular focus on key ports, dry ports, and land borders. This strategic approach aims to bolster intraregional trade while fostering economic and social development in inland regions. Recognising the diverse needs within the BIMSTEC community, the Plan takes a tailored approach to address the specific connectivity requirements of landlocked member states, supporting the exploration of viable modal alternatives. (See Annexure 2 for a list of Railway connectivity projects identified in the Master Plan and their current status.)

a. BBIN in focus

There are five operational broad gauge connectivity routes linking India with Bangladesh, all originating from West Bengal in India.^j Three-passenger trains play a pivotal role in facilitating people-to-people connections: the Kolkata-Dhaka Maitree Express, Kolkata-Khulna Bandhan Express, and New Jalpaiguri-Dhaka Mitali Express.

In alignment with India's 'Act East' and 'Neighbourhood First' policies, the inauguration of the Akhaura-Agartala cross-border rail link under the BIMSTEC Master Plan was a milestone of 2023. This rail link reduces the travel distances from India's Northeastern states and southern parts of Assam to Kolkata.^{k,44}

^j These routes comprise connections from Gede railway station (West Bengal) to Darsana (Bangladesh), Benapole to Petrapole (West Bengal), Singhabad (West Bengal) to Rohanpur, Radhikapur (West Bengal) to Birol (Bangladesh), and Haldibari (West Bengal) to Chilahati (Bangladesh). Ongoing efforts are in place to establish a connection between Mahihasan railway station in Assam (India) and Shahbazpur in Bangladesh.

^k Specifically for Tripura, the rail distance to Kolkata is now shortened from 1,600 km to 500 km.

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Another notable development in cross-border rail connectivity is the operational segment of the Jaynagar-Bijalpura-Bardibas rail line, connecting India and Nepal. The Kurtha-Bijalpura line, inaugurated on July 2023, spans 17.3 kilometers.⁴⁵ Efforts are underway for the third phase, extending the rail line from Bijalpura to Bardibas, with ongoing land acquisition preparations.⁴⁶

In pursuit of enhanced connectivity, Bangladesh envisions a rail link with Bhutan, utilising the Chilahati-Haldibari rail connection and the Mitali Express to facilitate the direct transportation of construction materials to Bhutan.⁴⁷

b. Overarching issues related to railway connectivity

i. Inadequate regional strategy and coordination: The lack of a unified regional strategy for railway planning in the BIMSTEC area leads to fragmented initiatives, difficulties in harmonising individual country plans, and limited sharing of systematic information among member nations. This fragmented strategy hampers effective resource allocation and results in less-than-optimal results, obstructing the achievement of an interconnected railway network.

ii. Infrastructure gaps and modernisation needs: The BIMSTEC nations grapple with infrastructure gaps, particularly within their rail networks, characterised by outdated systems, insufficient capacity, and maintenance challenges.⁴⁸ These shortcomings hamper the movement of goods and people across borders, necessitating urgent modernisation efforts to enhance efficiency and safety in railway operations. One glaring example is the predicament faced by Myanmar Railways (MR), which has encountered substantial challenges in adapting to increasing demands. Close to three decades ago, MR held a formidable 44 percent share in the passenger market and a 14 percent share in the freight market. However, by 2015, these figures dwindled to a mere 10 percent for passengers and 1.5 percent for commercial freight. The stark decline in market presence signals a critical situation, raising concerns about the potential cessation of MR's operations by 2025.⁴⁹

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The complex and uncertain political landscape in Myanmar exacerbates the challenges, impeding progress toward the modernisation of rail infrastructure. The political instability hampers the initiation of modernisation efforts and raises questions about the successful completion of any ongoing or proposed projects. Addressing the plight of Myanmar Railways requires a comprehensive modernisation strategy and a stable political environment that fosters long-term planning and sustainable development.

Addressing these issues requires a concerted effort from BIMSTEC member states to foster regional cooperation, establish communication channels, harmonise technical standards, and develop a shared vision for the future of railway connectivity in the region.

C. Port and Maritime Connectivity^l

Most of the international trade of BIMSTEC countries, except Nepal and Bhutan, is carried out via maritime routes facilitated by seaports.^{m,50,51} Under the BIMSTEC Master Plan, port connectivity is far more complicated than rail and road, as ports differ in their physical infrastructure, layouts, cargo, services provided, and container handling performance.⁵² Furthermore, as ports are designed to serve their home country and immediate hinterland, these, especially ones that are located in proximity to one another, compete and are not slated for regional cooperation.

A case in point is India's Northeast, which despite being closer to the Port of Chattogram in Bangladesh, transports its cargo through India's

^l This section derives heavily from Sohini Bose and Anasua Basu Ray Chaudhury's chapter, "Port Support: Analysing Regional Maritime Connectivity for BIMSTEC," in Anasua Basu Ray Chaudhury and Harsh V. Pant (eds.) "Anchoring the Bay of Bengal in a Free and Open Indo-Pacific," ORF-GP Series, January 08, 2024, 77-92, <https://www.orfonline.org/research/anchoring-the-bay-of-bengal-in-a-free-and-open-indo-pacific>.

^m 95 percent of India's international trade by volume and 74 percent by value happens through sea transport; Over 90 percent of Bangladesh's international trade happens through the sea; In FY 2022-23 Myanmar depended on maritime routes for 76.64 percent of its commerce; More than 90 percent of Sri Lanka's trade flows are seaborne meaning that over 90 percent of its freight are handled by ports and; close to 80 percent of Thailand's foreign trade moves through the sea. It is thus clear that most of the trade of BIMSTEC's coastal countries happens via seaports.

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Kolkata Port, which lies at a greater distance. Similarly, although the port of Kolkata is much closer to western Bangladesh, its merchants prefer the port of Chattogram, to avoid foreign country transit.⁵³ However, changing geopolitical circumstances which have brought the Bay of Bengal into the limelight of strategic attention and motivated its littoral countries towards increased mutual engagement via trade and collaborative ventures, have made it necessary to evolve regional maritime connectivity.

The Master Plan explains that there are two concerns about maritime ports in the Bay that have regional ramifications: concerns about the container handling performance at some of the key ports; and problems with access to deeper water for accommodating larger vessels.⁵⁴ The Master Plan also deliberates upon the implementation of regional coastal shipping. However, there are more dimensions to these concerns and coastal shipping than what has been discussed in the Master Plan. These include issues that indirectly affect the container handling capacities of key ports around the Bay; developmental challenges faced by deep seaports; and logistical impediments in the implementation of coastal shipping. These issues gain additional significance as the BIMSTEC Agreement on Maritime Transport and Connectivity is set to be signed at the regional forum's Sixth Summit Meeting.

a. Challenges to efficiency at key ports

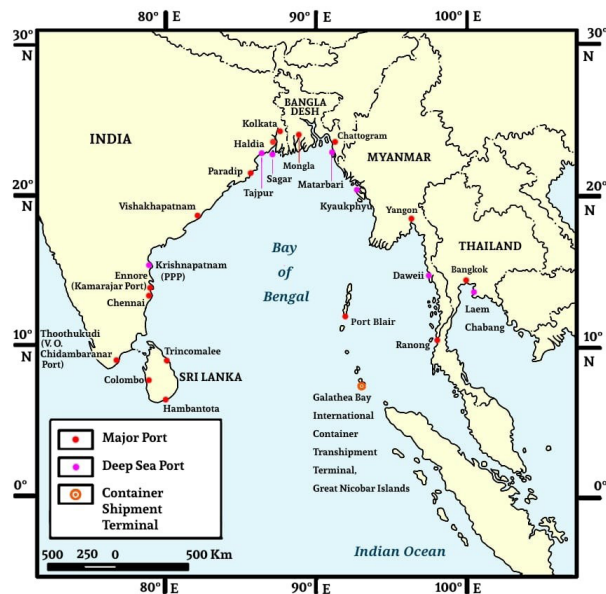
There are 15 major ports around the Bay's coastal arc. Six major ports cover India's eastern seaboard, amongst which four are most significant: the Kolkata Port (Shyamaprasad Mookherjee Port comprising Kolkata and Haldia Dock), as it not only serves India but also offers transit facilities to its hinterland countries: Bangladesh, Bhutan and Nepal; the Paradip Port (Odisha), which registers the highest traffic on the east coast; Visakhapatnam Port (Andhra Pradesh), a potential transshipment port popular for its reliability; and Chennai Port (Tamil Nadu), which caters to a wide range of cargo, especially automobiles.

In Bangladesh, the principal port is the Port of Chattogram, the only port in the Bay, ranking 67th in the Lloyd's list of 100 ports of the world (2021) in terms of traffic.⁵⁵ Its other port is Mongla, gradually gaining popularity after Chattogram. The Port of Yangon is the busiest in Myanmar, catering

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to the Bay's shipping routes. Both Sri Lanka and Thailand have ports in the Bay of Bengal but these are yet to gain traction. The trade of these countries continues to be centred around the Port of Laem Chabang on the Gulf of Thailand and the Port of Colombo on the Indian Ocean. Therefore, although these ports are located in BIMSTEC countries, they do not belong to the Bay of Bengal. Nonetheless, their proximity makes them relevant to the region. (See Map 2).

Map 2: Major Ports and Deep-Sea Ports of BIMSTEC Countries in the Bay



Source: The map has been created by Jaya Thakur, an independent researcher in Kolkata, India.

Note: As per the International Hydrographic Organisation, the Palk Strait and Sri Lanka's entire eastern coastline is the Bay of Bengal's western delimitation. Therefore, Sri Lanka does not lie entirely in the Bay, but the ports on its western coast, particularly Colombo which is a transshipment hub, are important for this maritime space.

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The following paragraphs outline the most critical issues that diminish their efficiency.

- i. Shallow depths:** Ports on the northern deltaic coast of the Bay are riverine; Kolkata Port with its Kolkata Dock and Haldia Dock on Rivers Hooghly and Haldi, respectively; Mongla Port at the confluence of the Rivers Mongla and Pratur; and Chattogram Port on the River Karnaphuli. Throughout the year, but especially during the monsoon season, these ports experience heavy siltation, which reduces their low drafts and limits their ability to berth large vessels. Naturally, a substantial portion of their revenue goes into dredging, to keep the river channels navigable as otherwise it would add to operational costs and delays in cargo movement.⁵⁶ Kolkata Port, for example, spends INR350-400 crores annually on dredging.⁵⁷
- ii. Unpredictability of tides:** Being riverine ports, the Ports of Kolkata, Mongla, and Chattogram and the Port of Yangon, on the River Yangon in Myanmar, suffer from the consequences of erratic tidal currents. During low tide, the shallow drafts of the ports are further reduced, as in the Mongla Port, where the draft reduces from 8.5-6m to almost 4.5 meters. Not only does this compromise their optimal usability⁵⁸ but inaccuracies in tidal forecasts disrupt the scheduled berthing of ships. Thus, vessels prefer ports with more predictability such as the port of Visakhapatnam, which is built on a natural harbour, enabling it to maintain a steady routine.
- iii. Inadequate space:** In multiple ports around the Bay, a dearth of space prevents efficient functionality. In the Kolkata port, only 30-40 percent of the containers that are used in imports are reused for exports, while the rest are dumped in adjacent plots, leading to the black marketing of space.⁵⁹ In Chattogram, importers often leave their goods inside the port for long periods as the rent is low; this creates congestion.⁶⁰ Reports on the Colombo port suggest that “a one-day idle stay of a ship on the sea makes...a loss of about \$20,000.”⁶¹
- iv. City congestion:** Ports located in urban metropolises, have to contend with heavy city traffic which hinders their cargo movement such as the

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Chattogram Port⁶² and two of the oldest ports in India; the Kolkata Port⁶³ and the Chennai Port.⁶⁴ For the Kolkata Port, this means losing cargo to the nearby upcoming, Mongla Port of Bangladesh. For the Chennai port, this has added to its competition from nearby India ports of Kamarajar and Kattupalli, serving the same hinterland.⁶⁵ Yangon Port also suffers from congestion in Yangon City.⁶⁶ While these issues are internal to the ports, they compromise the prospect of regional maritime transport and therefore need to be considered by BIMSTEC.

b. Difficulties in developing deep-sea ports

The Master Plan notes that contrary to the popular opinion that deep-sea ports are needed to accommodate mega-container vessels requiring 16 m draft, the ports around the Bay do not attract such vessels as the volume of trade is usually small. It is only the Port of Colombo that berths these ships as a transshipment hub located close to one of the world's busiest sea lanes of communication, i.e., the East-West shipping route. In the Bay of Bengal, the demand for deep-sea ports is to handle large feeder vessels that carry substantial volumes of bulk cargo such as oil, fuel, gas, grain, and steel.⁶⁷ The increasing trade volumes of the Bay littorals have created a demand for deep-sea ports north of the Bay and accordingly, BIMSTEC has committed to promoting their development.⁶⁸ There are, however, a number of complications that hinder their construction.

i. Issues in India and Bangladesh

In India, the Central government has chosen Sagar Islands in West Bengal for a deep-sea port that will handle the large vessels headed for the Kolkata Port.⁶⁹ However, the decision of the West Bengal state government to develop a deep-sea port at Tajpur instead, stalled the project.⁷⁰ In 2022, the responsibility to build the Tajpur Port was given to the Adani Group; this is currently awaiting completion. However, a report by US short-seller Hindenburg Research raised questions about the towering debts of the Adani conglomerate and accused it of using offshore entities in tax havens to manipulate its companies.⁷¹

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India has also long envisaged the creation of a transshipment port, in the Andaman Nicobar Islands, to reduce its dependence on external transshipment. The proposed project involves cutting down over 852,000 trees, impacting diverse flora, fauna, and marine and terrestrial biodiversity, including endangered species.⁷² Despite opposition from environmentalists, wildlife experts, and civil society organisations, the project continues, raising concerns about its environmental impact. The Expert Appraisal Committee (EAC) has recommended measures like excluding key nesting sites and reducing road width to mitigate biodiversity loss. Concerns also remain regarding seismic risks and deforestation.⁷³

The government has chosen the Great Nicobar Island for the project worth INR 41,000 crores, as it does not come under the Tribal Act. The construction of the port is scheduled to be completed by 2028. The process demands cautiousness about environmental and tribal safety, while being sufficiently advanced to survive the competition with the nearby Ports of Colombo, Singapore, and Klang in Malaysia.⁷⁴

In Bangladesh, the deep-sea port of Matarbari is being developed with investments from the Japan International Cooperation Agency (JICA) to dock large-draught containers and help in transshipment.⁷⁵ Environmental safety, however, would need to be considered in this project.⁷⁶ For example, a joint report on air pollution by Greenpeace Japan and Southeast Asia predicts that the Matarbari power project would lead to the loss of almost 14,000 lives within 30 years of its operation.⁷⁷ The proximity of the Payra deep-sea port in Bangladesh to the ecologically fragile Sundarbans is also complicating its completion.⁷⁸

ii. Concerns in Myanmar and Thailand

In Myanmar, multiple deep-sea ports are facing a wide range of issues. The Sittwe deep-water port built with India's investment cannot be optimally utilised until the Kaladan Multi-Modal Project, of which it is a part, is completed. However, this seems unlikely given political instability in Myanmar.⁷⁹ The Kyaukphyu deep-sea port financed by China is also facing objections from the local fisherfolk, who claim that its construction will

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deplete fish stocks and block their access to important water bodies.⁸⁰ The Thilawa deep-sea port, being built by Japan, is also facing local objections over environmental concerns.⁸¹ At the Dawei deep-sea port, the Myanmar government has dismissed the Thai construction company due to their slow progress and inability to pay the concession fee. As Myanmar's other partner in developing the Dawei Special Economic Zone, the Japanese government, through JICA, has now taken over the project, the initial investments of which amount to 200 billion Japanese Yen or US\$1.83 billion. However, it has decided not to play an active role until the initial developments are over.⁸²

In Thailand, Ranong is the only deep-sea port on the Bay of Bengal. Although it is operational, attempts to generate coastal shipping between Ranong and Chattogram port are yet to take off as the Bangladesh Ministry of Foreign Affairs is still deliberating its scope.⁸³ (See Annexure 4.)

c. Coastal Shipping and its Challenges

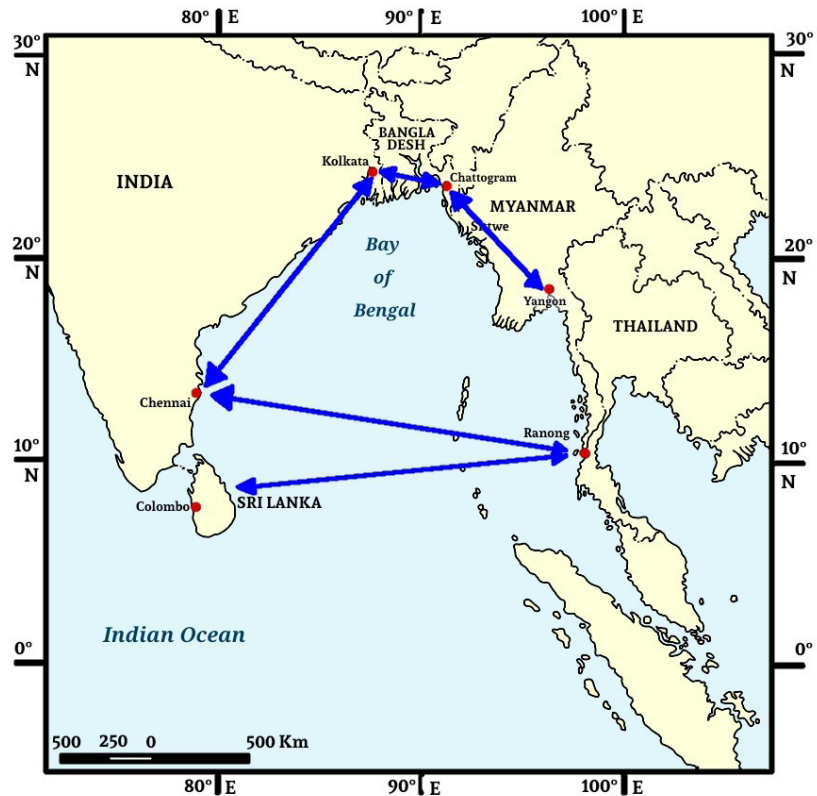
The Master Plan suggests that coastal shipping can benefit the region given the continuity of the Bay's semi-circular coastline. However, coastal shipping agreements are yet to be formulated between most of the littoral countries except for India and Bangladesh.ⁿ Commodities for trade also need to be identified. Moreover, although coastal shipping applies to 20 nautical miles from the shore, the routes will need to be rethought as those suggested by Thailand from the Ports of Ranong to Chennai and Colombo far exceed the limit (See Map 3).⁸⁴ The lack of separate berthing facilities and inadequate bulk cargo handling facilities at ports around the Bay also need to be taken into account, as these impede coastal shipping.⁸⁵ Despite these challenges, BIMSTEC must continue cultivating coastal shipping where it is possible, as it is an economical and eco-friendly means of facilitating regional maritime connectivity. In places where it is not feasible, it needs to consider other options for maritime transport, such as short-sea shipping.^o (See Annexure 5.)

n India and Bangladesh concluded their Coastal Shipping Agreement in 6 June 2015.

o 'Short sea shipping' refers to transporting goods via the sea over relatively short distances, unlike intercontinental cross-ocean deep-sea shipping.

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Map 3: Proposed Coastal Shipping Routes in the Bay



Source: The map has been created by Jaya Thakur, an independent researcher in Kolkata, using data from the BIMSTEC Master Plan for Transport Connectivity.⁸⁶

As intra-regional trade increases, BIMSTEC needs to be aware of issues thwarting port efficiency and development, although such issues often lie beyond its jurisdiction as its charter prevents it from engaging in internal matters concerning member states. However, a holistic understanding will help it in undertaking empirically effective strategies and policies.

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D. Inland Waterways

As the Sunderban Delta shared between India and Bangladesh forms a large portion of the Bay of Bengal's northern hinterland, the labyrinth of rivers crisscrossing it forms a crucial aspect of connectivity in the region. The Master Plan devotes an entire section to exploring riverine networks, presenting two contrasting views on the utility of these waterways. The first conforms to the idea that the rivers will be useful in improving the regional transport system within BIMSTEC. The second suggests that waterways are used for domestic needs serving specific markets and are restricted to lighterage operations and the carriage of low-value products, such as aggregates and some cereals and rice. Therefore, they may not be "sufficiently encompassing of overall transport activities in the member states to support the need for individual modal policies and strategies."⁸⁷

The second view is increasingly being challenged as India and Bangladesh continue undertaking steps to leverage their vast network of 54 transboundary rivers. In 1972, the two countries signed a Protocol on Inland Water Transit and Trade (PIWT&T) (See Map 4) for mutually beneficial arrangements on the use of waterways for bilateral commerce and passage of goods between two places in one country and to third countries through the territory of the other under mutually agreed terms. The Protocol was renewed in 2015 with a clause for automatic renewal every five years.⁸⁸

Map 4: India-Bangladesh Protocol Routes (IBP)



Source: Summary of the Protocol on Inland Water Transit and Trade between Bangladesh and India⁸⁹

In 2020, a second addendum was incorporated into the Agreement, expanding protocol routes, including new ones, and declaring new Ports of Call to facilitate trade between the two countries. For example, the inclusion of the Sonamura- Daudkhandi stretch of Gumti river (93 Km) as IBP route No. 9 & 10 will improve the connectivity of Tripura and its adjoining states with the financial centres in India and Bangladesh and benefit the hinterland of both countries by connecting all existing IBP routes from 1 to 8. The operationalisation of the Rajshahi-Dhulian-Rajshahi Route and its extension up to Aricha will help the transportation cost of stone chips/aggregate to the northern part of Bangladesh, and thus boost infrastructural development. It will also decongest the Land Custom Stations on both sides.

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The new Ports of Call will ease the loading and unloading of cargo transported on the Indo-Bangladesh Protocol Route and also trigger the economic development of the new locations and their hinterland. For instance, the inclusion of Jogigopha in India (where a Multimodal Logistics Park is proposed to be established) and Bahadurabad in Bangladesh as the new Port of Call will provide connectivity to Meghalaya, Assam in India as well as the Himalayan Kingdom of Bhutan. The Addendum thus increased the Protocol Routes from 8 to 10 and the Ports of Call from 6 to 11 in each country, along with an Extended Port of Call in both India and Bangladesh (See Table 1).⁹⁰

Table 1: India-Bangladesh Protocol Routes

Routes	Ports of Call	
	India	Bangladesh
Kolkata-Chandpur-Pandu-Silghat-Kolkata	Kolkata (Extended Port of Call: Tribeni)	Narayanganj (Extended Port of Call: Ghorasal)
Kolkata-Chandpur-Karimganj-Kolkata	Haldia	Khulna
Silghat-Pandu-Ashuganj-Karimganj-Pandu-Silghat	Karimganj (Extended Port of Call: Badarpur)	Mongla
Rajshahi-Dhulian-Rajshahi	Pandu	Sirajganj
Kolkata-Chandpur-Ashuganj(By waterways)-Akhaura-Agartala(By road)	Silghat	Ashuganj
	Dhubri	Pangaon (Extended Port of Call: Muktarpur)
Additions under the Second Addendum		
Sonamura- Daudkhandi stretch of Gumti river	Rajshahi	Dhulian
Rajshahi-Dhulian-Rajshahi	Sultanganj	Maia

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Kolaghat in India has been added to Routes (1) & (2) Kolkata-Shilghat-Kolkata and Routes (3) & (4) [Kolkata-Karimganj-Kolkata.	Chilmari	Kolaghat
Badarpur in India and Ghorasal in Bangladesh has been added to Routes (3) & (4) Kolkata-Karimganj-Kolkata and Routes (7) & (8) [Karimganj-Shilghat-Karimganj.	Daudkandi	Sonamura
	Bahadurabad	Jogighopa

Source: Authors' own, using data from Bangladesh-India PIWTT⁹¹ and the Second Addendum on PIWTT.⁹²

a. Protocol Routes

The Protocol routes have three-fold advantages:

i. Sustainable means of trade: Waterways are a relatively economical and eco-friendly mode of trade and connectivity compared to road and rail networks. A 200-ton vessel could replace 20 trucks with a 10-ton capacity and reduce fuel use and carbon emissions.⁹³ It will therefore not only help both countries attain Target 9.1 of the Sustainable Development Goals but also benefit bilateral trade. Currently, India is Bangladesh's largest trading partner in South Asia, and vice versa. Increasing commerce with Bangladesh will also help India realise aspects of its Act East, Act Indo-Pacific, and Neighbourhood First policies.

ii. Benefits for India's Northeast: As many of the India-Bangladesh transboundary rivers traverse India's Northeast, the Protocol Routes connect this territory better with both countries and provide it convenient access to the sea. The prime minister of Bangladesh, Sheikh Hasina, has offered the use of these ports to India for the development of Assam and Tripura. The Northeast has an estimated 1,800 km of navigable river routes of which the main rivers are the Brahmaputra, Teesta, and Barak. Cargo moved through these routes includes tea, cement, coal, fly ash, limestone, petroleum, bitumen, and food grains. The beginning of trade between Chilmari (Bangladesh) and Dhubri (India) using shallow draft mechanised vessels as per the Second Addendum, will allow the export of stone chips

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and other Bhutanese and Northeast cargo to Bangladesh, enhancing its local economy and that of lower Assam.⁹⁴

iii. Facilitation of third-country overseas trade: If connected with landlocked Nepal and Bhutan, the river routes as a part of larger multimodal networks will facilitate overseas commerce and promote third-country trade. Nepal will benefit from the intermodal terminal at Kalughat and the multimodal terminals at Sahibganj and Haldia, under India's Jal Marg Vikas Project for the efficient movement of cargo from third countries. The 2019 Nepal-India Transit Treaty Review meeting finalised the Standard of Procedure for Nepal to use three inland waterway routes on the river Ganga. Bhutan entered into a transit agreement with Bangladesh in 2017 to use its waterways and access the seaports of Mongla and Chattogram. This would reduce Bhutan's transportation costs significantly. The inclusion of Dhubri and Jogigopha (less than 60 km from the Bhutan border) as ports of call in India has also provided better handling facilities for cargo originating in Bhutan.⁹⁵ To further strengthen ties with Southeast Asia, India is trying to connect its Haldia Dock with Myanmar's Sittwe Port, situated at the mouth of the Kaladan River. The Kaladan Multi-modal Transit Transport Project envisions road transport of goods from Mizoram (India) to Paletwa in Myanmar, and thereafter river transport along the Kaladan River to Sittwe, and finally, from Sittwe to Haldia by sea through coastal shipping.⁹⁶ It remains incomplete, however.

Convinced of the utility of inland waterways in facilitating regional connectivity, BIMSTEC encourages member states to develop sustainable, economically viable inland water transport between them. At the Asian Confluence River Conclave in 2022, then BIMSTEC Secretary General Tenzin Lekphell stressed the presence of large rivers in the region and the vital role of inland water transport in enhancing regional connectivity.⁹⁷ Projects are underway in the BIMSTEC countries for the development of inland water transport (See Annexure 6).

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b. Pressing Issues

Despite the potential for the development of inland water transport, multiple issues need to be addressed for their optimal utilisation. As the Master Plan highlights; maintenance of a least available draft of 3 m on core sections of the waterway is required, as is the installation of nighttime navigation aids; there is a need for more flexibility in terms of designated routes, jetties, and disembarkation points regarding cross-border tourism between Bangladesh and India; stretches and commodities with trade potential need to be identified between (and within) member states; design vessels; upgrade river vessels to river-sea vessels, given the deltaic topography; develop full-fledged border facilities at ferry and entry and exit points along routes designated under the IBP; improve inter-agency and international cooperation; undertake hydro morphological studies of the navigable rivers, and develop infrastructure and navigable channels based on it.

Beyond the Master Plan's considerations, other challenges have led to low traffic volumes through the Protocol Routes. There is poor navigability, especially in the upper stretches of the rivers; an over-reliance on selected products, project-based cargo, and Over Dimensional Cargo for inter-country and transit trade; non-availability of suitably sized vessels; unpredictability in the time taken for transportation; and powerful truck lobbies.⁹⁸ These concerns will have to be addressed for inland water transport and trade to prosper in the region.

E. Multimodal Component

Adopting dry ports or Inland Container Depots (ICDs) is an effective means to utilise inexpensive transportation modes. Additionally, more ambitious initiatives like establishing a multinational, multimodal transit transport corridor, such as the connection between mainland India, Myanmar, and North East India, can further contribute to seamless connectivity within the region. Several projects are proposed and conceptualised in the Master Plan with a tentative timeline. However, the discrepancy between the timetable presented in the BIMSTEC Master Plan and the current progress is quite pronounced (See Annexure 6).

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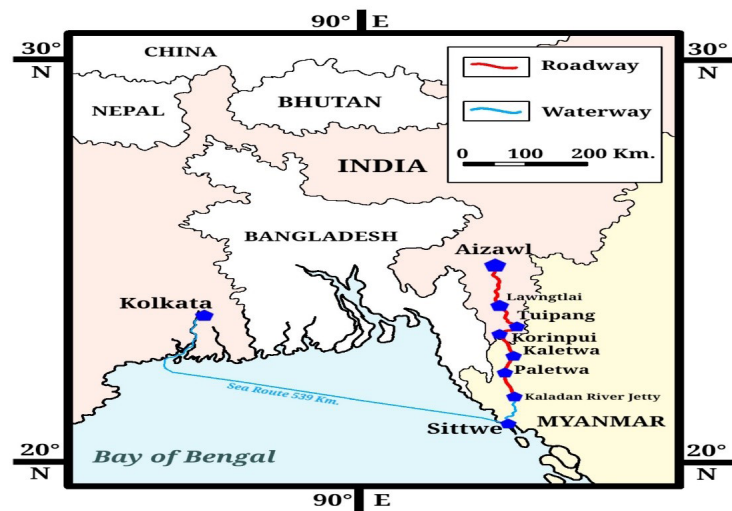
Persisting Bottlenecks

Several factors, such as financial constraints, regulatory hurdles, lack of coordination, political issues, or technical difficulties have combined to delay the listed projects in the Master Plan.

- a. **Delay in setting up ICD Dhirasram:** Among the several names listed in the planned projects, following years of delays since 2013 due to funding issues, the construction of Gazipur's Dhirasram, the largest inland container depot (ICD) in Bangladesh, is set to commence in 2024, though the main details are yet to be worked out. The Bangladesh government has secured financing for the project, estimated to cost around US\$ 774.56 million. Kamalapur ICD, the sole ICD with a rail link, is experiencing congestion both within its premises and on the surrounding roads.⁹⁹ To alleviate this issue, the Dhirasram ICD project aims to enhance container transport capacity through rail. According to an ADB report, the strategic location of Dhirasram ICD near Dhaka and along the Dhaka-Chattogram rail corridor provides it with significant advantages to becoming a regional trade logistics hub.¹⁰⁰ This project holds fundamental importance in facilitating trade between Bangladesh and India. Road transport dominates bilateral trade, accounting for approximately 70 percent of the total weight.¹⁰¹ Rail transport has a minimal share, and there is a lack of regular operation of international container freight trains. To promote trade, Bangladesh and India are actively promoting the establishment of inter-country international container trains.
- b. **Political instability in Myanmar:** The political turbulence in Myanmar has had a substantial impact on ongoing connectivity projects, particularly the India-Myanmar-Thailand Trilateral Highway (IMT-TH), a pivotal initiative for BIMSTEC's land connectivity. Myanmar's strategic location plays a crucial role in linking these three nations, but persistent conflicts present challenges to road transport safety and the overall feasibility of such projects.

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Map 5: Kaladan Multimodal Transit Transport Project



Source: The map has been created by Jaya Thakur, an independent researcher in Kolkata, using data from The Print¹⁰²

For the Kaladan Multi-Modal Transit Transport Project, the opening of Sittwe Port creates a vital corridor for efficient goods movement to India's Northeast region. However, completing the road section from Paletwa in Myanmar to Zorinpui in India is crucial to comprehensively utilise the Kaladan project's multimodal element. Obstacles are impeding progress, however. Challenges include poor coordination among agencies on both sides of the border, rugged terrain, issues with land compensation, and security concerns due to regional insurgency. The COVID-19 pandemic and political turmoil resulting from the 2021 coup in Myanmar have compounded the difficulties. The Chin State, near which the construction work is ongoing, is currently declared as a no-safe zone, and thus, continuing work on the road stretch will remain a challenge for an uncertain period.

While the Sittwe port holds significant potential for facilitating trade with Myanmar, particularly in transporting goods, gas, or oil to the Northeast,

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its effectiveness as a cost-effective regular transportation route is yet to be determined.¹⁰³ This uncertainty arises mainly from the projected high costs involved in frequent bulk breaking and trans-shipment activities. Furthermore, the operationalisation of the Paletwa terminal is contingent upon the completion of maintenance dredging along the Kaladan River, connecting Sittwe and Paletwa. Only when the dredging is complete will cargo vessels solely transport goods to the Sittwe port, limiting the operational scope of the Paletwa terminal.

- c. Pending MVA Agreement:** Once the projects are completed, a Motor Vehicles Agreement (MVA)—which allows vehicles of signatory countries to move freely in one another’s territory—will also be crucial for the cross-border movement of goods and people. Such agreements have been drafted, one between Bangladesh, Bhutan, India, and Nepal (BBIN) and another between India, Myanmar, and Thailand, but their signing is held up by concerns from both Bhutan and Thailand. Bhutan has backed out of the BBIN MVA, citing environmental concerns over the likely increase in road traffic. (A BIMSTEC MVA is also planned, but Bhutan may object to it as well for similar reasons.) Thailand fears that the MVA could put local players at a disadvantage.¹⁰⁴ For their part, Bangladesh, India, and Nepal are expected to implement their MVA soon.¹⁰⁵
- d. Funding concerns:** In addition to challenges stemming from political instability and coordination issues, funding constraints have also impeded the progress of regional projects. To tackle these obstacles and bolster regional development, BIMSTEC aims to establish the BIMSTEC Development Fund (BDF), focusing on cross-border transport infrastructure. Aligned with ASEAN’s and SAARC’s frameworks, the BDF will kickstart with initial capital injections from member states, further supported by voluntary contributions.¹⁰⁶ It will prioritise projects enhancing transport connectivity within the BIMSTEC region, seeking to offer efficient, long-term financing and attract private-sector involvement. Nonetheless, considering the varied economic landscapes of member nations, the BDF must ensure equitable access to funding and project benefits. Maintaining inclusivity and relevance across member states is pivotal for the BDF’s success in driving sustainable development and fostering regional cooperation within the BIMSTEC framework. No progress has been made on the creation of the BDF so far.

The BIMSTEC region is grappling with connectivity issues such as inadequate road and rail networks, deficient last-mile links, and cumbersome customs and clearance procedures, all of which hinder trade and regional integration. Many of its key ports suffer inefficiencies and developmental challenges which hinder their optimal usage, and riverine routes are yet to be fully developed. Physical infrastructure plays a pivotal role in enhancing connectivity and trade and fostering people-to-people interactions. As the Bay of Bengal region increasingly becomes a focal point for the involvement of external powers, many of these countries are prioritising the establishment of new physical networks in the Bay littoral countries.

While numerous agreements are in the works to improve regional communication and infrastructure, the successful implementation of these agreements and the development of mechanisms to facilitate connectivity depends on the commitment of the member countries. Without a genuine intent to act, BIMSTEC could fail to achieve tangible progress in its goals.

Critics may argue that the BIMSTEC Master Plan is not a plan of action for BIMSTEC but rather an assessment of the connectivity projects being undertaken in the Bay of Bengal region. However, it performs the important task of providing a ready reckoner of the needs and challenges of the region in terms of connectivity and indicates areas that need action. To add to its credibility, in December 2023, the ADB released a financing strategy for transport infrastructure in BIMSTEC countries. The report analyses current financing status, legal frameworks, and options, and identifies challenges and opportunities. It proposes feasible recommendations for establishing a comprehensive financing framework, drawing on international best practices, for the realisation of regional transport projects.¹⁰⁷

In the years ahead, there is likely to be a dynamic interplay of interests involving China's Belt and Road Initiative and India's Act East policy in the Bay of Bengal region. It is incumbent upon BIMSTEC to harness the current political will of its member nations to re-engage with one another and effectively navigate this landscape to contribute more significantly to regional convergence. The Bay region would benefit greatly from recapturing the interconnectedness it once enjoyed.¹⁰⁸ Beyond benefitting the region, the expansion and deepening of connectivity among the BIMSTEC countries are essential for the organisation itself to survive as a functional and vibrant platform. 

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The following are the physical connectivity projects identified by the BIMSTEC Master Plan and a review of their current status.

Annexure 1: Projects on Road Connectivity

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
India and Bhutan				
Road from Gelephu (Bhutan) to Samthaibari (near Hapachara in Assam)	National Highways & Infrastructure Development Corporation	117	2021	Work is ongoing
Construction of the Samrang Jomotsangkha section (58 km) of Bhutan's East-West Highway. Will improve accessibility along Bhutan's southern border with India	Government of India under its Project tied assistance	21	2023	Work is ongoing
Construction of the Lhamoizhingkha-Sarpang section of the Southern East West Highway (75 km, including 14 bridges)	Yet to be finalised		2028	No information available

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
India and Bangladesh				
Upgrading of NH 8 Silchar– Agartala– Sabroom (connecting Assam and Tripura) and NH 37 along with the Karimganj– Sutrahhandispur section up to the India-Bangladesh border	National Highways & Infrastructure Development Corporation, along with Japan International Cooperation Agency (JICA)	610	2023	Work is ongoing
Four-laning of the Rangpur to Burimari Highway (128 km) in Bangladesh which connects it with Changrabandha (India) and Bhutan	Asian Development Bank (ADB)	960	2023	Work to start from 2024
Two-laning of the road from Dudhanai on the Assam– Meghalaya border to Dalu on the Meghalaya-Bangladesh border, via Bagmara, NH 217	JICA	227	2022	No information available
Improving NH 208 between Teliamura and Harina (158 km) in Tripura	JICA	285	2022	Work is ongoing
Upgrading road between Kolkata and Bongaon near Petrapole on the India-Bangladesh border	Government of India and JICA	130	2022	Work is ongoing

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
Two-laning of the alternative route between Silchar and Guwahati via Harangajao Thuruk in Assam	National Highways & Infrastructure Development Corporation	452	2022	Work is ongoing
Developing link roads between Srirampu–Dhubri and Phulbari in Assam with Tura in Meghalaya with a new bridge across the Brahmaputra River on NH 127B	JICA	530	2023	Work is ongoing
Improving the Manu Simlung section of NH 108 in Tripura	JICA	170	2022	Work is ongoing
Improving NH 217 between Tura and Dalu and extending it to the India-Bangladesh border	JICA	79	2020	55 percent of the road is complete
Improving the Shillong-Dawki road in Meghalaya, including the Dawki bridge on the India-Bangladesh border	JICA	31	2023	Technical experts are reviewing road conditions
Building a new bridge over the Feni River at Sabroom in southern Tripura, connecting India and Bangladesh	JICA	13	2020	Work is ongoing

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
Building the Khowai–Agartala link road	National Highways & Infrastructure Development Corporation Government of India	85	2023	Construction has been fast-tracked by the Union transport ministry.
Improving sections of NH 512 between the 82.4 km and 99.5 km mark, and between 104.2 km and 106.6 km mark in Dakshin Dinajpur, West Bengal	National Highways & Infrastructure Development Corporation	21	2022	Work to begin soon
Four-laning of the Bhanga–Bhatiapara–Kalna–Lohagora–Narail–Jashore–Benapole Highway (135 km) in Bangladesh	Indian Line of Credit	1,100	2024	Work is ongoing
India and Myanmar				
Upgrading the road from Dimapur (Nagaland) to Maram (northern Manipur) via Peren	National Highways & Infrastructure Development Corporation	360	2023	Delay due to land acquisition issues
Four-laning of the Imphal–Moirang highway, in Manipur	ADB	180	2022	No information available.
Four-laning of the stretches from Kohima to Kedima (Nagaland), and Kromg to Imphal (Manipur) of NH 39	ADB	280	2023	No information available.

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
Upgrading Ukhrul–Tolloi–Tadubi road in Manipur	ADB and National Highways & Infrastructure Development Corporation	230	2023	Work is ongoing
Ukhrul–Jessami, NH 202 in Manipur	ADB	230	2023	Repair work is ongoing
Upgrading Jiribam–Tipaimukh road in Manipur	ADB	210	2023	Repair work is ongoing
Aizawl–Tuipang road, connecting with the Kaladan Multimodal Transport Corridor	JICA	946	2023	98 percent of work has been completed.
Improvement of the Imphal Kangchup–Tamenglong Tousem (all in Manipur) to Haflong (Assam) road	National Highways & Infrastructure Development Corporation and ADB	184	2023	No information available.
Construction of an alternative highway to Gangtok (Sikkim) from Bagrakot and Kafer (West Bengal)	National Highways & Infrastructure Development Corporation	48	2020	No information available.
Improvement of roads from Paletwa to Kaletwa and from Kaletwa to Zorinpui on the border between Chin State, Myanmar and Mizoram, as part of the Kaladan Multimodal Transit Transport project	Government of India (under its development assistance)	484 ¹⁰⁹	2023	Project is under construction.

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
India- Myanmar- Thailand Trilateral Highway: Improvement of the 120.74 km stretch from Kalewa-Yagyi in the Sagain region Construction of 69 bridges along the approach road to the highway on the 149.70 km Tamu-Kyigone-Kalewa (TKK) stretch	Government of India (under its development assistance)	1700 ¹¹⁰	2023	Imphal-Moreh portion to be completed by the end of 2023, Thailand portion is already complete. Myanmar portion has delayed construction because of the violence in the country, estimated time of completion is another 3 years.
India and Nepal				
Development of the Siliguri- Mirik- Darjeeling link road	ADB	150	2023	A tender has been floated for the development of the road.
Construction of Mechi Bridge, which connects Nepal's Jhapa district to Darjeeling in West Bengal	ADB and National Highways & Infrastructure Development Corporation	25	2019	Mechi Bridge construction has been completed.

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
Kathmandu–Terai Fast Track Road, including construction of a new fourlane expressway between Kathmandu and Nijgadh (76.2 km) and upgrading of Nijgadh–Pathlaiya segment from two to four lanes (18 km)	Government of Nepal (and Nijgadh–Pathalaiya section by the World Bank)	2000	2024	Work is ongoing
Upgrading of Narayanghat–Mungling– Kathmandu Road (146 km) and studies on axle load control and road safety measures	World Bank and Government of Nepal	700	2024	Work on the Mungling - Kathmandu section is ongoing
Upgrading of East–West Highway	ADB, World Bank, and the Government of Nepal	2010	2025	Work is ongoing
Sri Lanka				
Central Expressway, Phases I-IV, including Kadawata, Mirigama, Kurunagala, and Dambulla	People's Republic of China (PRC)	800-1000	2025	Work is ongoing

Border Road Connectivity Projects* between BIMSTEC nations				
Description	Funding Organisation (tentative)	Amount (in USD million)	Estimated completion year	Current Status
Thailand and Myanmar				
Four-laning of the Mae Sot-Tak Highway	Government of Thailand	90	2019	Complete in 2023
Development of new Htee Kee(Myanmar)-Baan Phu Nam Ron (Thailand) border crossing road	Government of Thailand	142	2024	

**All of the border roads mentioned in the table are drawn from the planned connectivity flagship projects as mentioned in the BIMSTEC Connectivity Master Plan which cites these roads as access roads for inter-country connectivity. While some of these roads are intra-country routes, the upgrade of these will enhance regional connectivity since they are border roads.*

Annexure 2: Projects on Railway Connectivity

Railway Connectivity Projects in BIMSTEC Master Plan				
Description	Funding Organisation (tentative)	Amount (in \$million)	Estimated completion year	Current Status
Construction of the Bangabandhu Sheikh Mujib Railway Bridge (parallel to the Jamuna Bridge) across the Jamuna River from Sirajganj to Tangail in Bangladesh with twin dual-gauge lines	JICA	1,173	2023	53 percent of the project has been completed
Construction of the Padma Bridge Rail Link from Dacca to Jashore in Bangladesh	People's Republic of China (PRC)	4,216	2022	The project is scheduled to be completed in 2024.
Construction of a dual gauge railway line between Bogura and Shahid M. Monsur Ali Station, Sirajgunj in Bangladesh	ILOC and Bangladesh Government	796	2022	Construction to begin by the end of 2023.

Railway Connectivity Projects in BIMSTEC Master Plan				
Description	Funding Organisation (tentative)	Amount (in \$million)	Estimated completion year	Current Status
Building of the line connecting New Belonia (in South Tripura) to Feni (in Bangladesh)			Not mentioned Survey completed in 2022	85 percent construction has been completed on the Indian side and 73 percent has been completed on the Bangladesh side.
Construction of the Radhikapur–Biral rail link in Bangladesh			Survey ongoing	No information available.
Construction of a new 12 km rail link from Akhaura (Bangladesh) to Agartala (Tripura)	India	144	2023	Project is nearing completion.
Construction of a new 3 km line linking Haldibari (West Bengal) to Chilahati (Bangladesh)	India		2021	Project is completed.

Railway Connectivity Projects in BIMSTEC Master Plan				
Description	Funding Organisation (tentative)	Amount (in \$million)	Estimated completion year	Current Status
Construction of new lines that link Jiribam to Imphal (125 km) in Manipur and Imphal to Moreh (111 km) on the India– Myanmar border; another line linking Moreh to Tamu and KaIay (128 km) in Myanmar, and onward to Mandalay, also being built.	North East Frontier Railways, India	Yet to be finalised	2028	Work is ongoing
Development of (i) the Kokrajhar (Assam)–Gelephu (Bhutan) (57 km) line; (ii) the Pathsala (Assam)–Nanglam (Bhutan) (51 km) line; (iii) the Rangiya (Assam)–Samdrupjongkhar (Bhutan) (48 km) line; (iv) the Banarhat (West Bengal)–Samtse (Bhutan) (23 km) line, and (v) the Hasimara (West Bengal)–Phuentsholing (Bhutan) (18 km) line	India	130	Not estimated	No information available.

Railway Connectivity Projects in BIMSTEC Master Plan				
Description	Funding Organisation (tentative)	Amount (in \$million)	Estimated completion year	Current Status
Development of (i) the Jaynagar–Bardibas line (69 km, including 3 km in India and 66 km in Nepal), (ii) the Jogbani–Biratnagar (19 km) line in Nepal, (iii) the Nepalganj to Nepalganj Road (12 km) line, (iv) the Nautanwa–Bhairahawa (15 km) in Nepal, and (v) the line from New Jalpaiguri in North Bengal to Kakarbhitta in Nepal (46 km)	India	900	2025	Jaynagar-Bijalpura-Bardibas railline project is under construction. First phase(8km) of Jogbani-Biratnagar has been completed.
Matara to Kataragama Railway Extension Project (120 km)	PRC	278	2014-2028	Completed in 2019

Source: ADB and BIMSTEC Report 2022¹¹¹

Annexure 3: Deep-Sea Port Projects

Planned Flagship Projects to Develop Deeper Water Ports						
Code	Project Description	BIMSTEC Development Logic	Estimated Cost, 2018 (\$ million)	(Possible) Funding Sources	Timescale	Current Status
BAN-PM-002	Karnaphuli Container Terminal at Chattogram	New container facilities in congested port handling BIMSTEC traffic	200	Government (Port Authority)	2022–2026	Two jetties have been built and two are pending. Operations will begin in 2024. ¹¹²
BAN-PM-006	Payra Port Development Project (first terminal, connecting road, bridge over the Andermanik River and related facilities)	New seaport to serve southern Bangladesh and possibly Bhutan and Nepal	474	Government	2018-2021	Construction of the first terminal and road is expected to be completed and opened for operation by December 2023. ¹¹³
BAN-PM-007	Upgrading of Mongla Port (e.g., construction of container terminals including cargo handling equipment, tower, and container delivery yard)	Improvement of Bangladesh's second port, which serves Bhutan, India, and Nepal	656	Government and ILOC	2018-2021	India is providing a loan of Tk4,459 crore for one project; construction of container terminals at Jetty No. 1 and 2 & 13 segments are underway. Egis India Consulting Engineers Private Ltd., appointed as consultant. China will give Tk3,782 crore concessional loan on a G2G basis for port development. Project to be completed by 2027. ¹¹⁴

Planned Flagship Projects to Develop Deeper Water Ports						
Code	Project Description	BIMSTEC Development Logic	Estimated Cost, 2018 (\$ million)	(Possible) Funding Sources	Timescale	Current Status
IND-PM-014	Augmentation of capacity of Haldia Dock Complex, Kolkata Port Trust (new lock gate in existing dock or basin and modification of existing lock gate)	Increased capacity at major BIMSTEC gateway	200	Government and ADB	To be programmed	Tenders invited by KoPT in February 2019, to upgrade lock gates including a maintenance contract of 5 years after the completion of 1 year warranty period. ¹¹⁵
MYA-PM-016	New port facilities at Thilawa Special Economic Zone	New port complex to handle intra-BIMSTEC trade	175 (JPY 19.087 billion)	Government, JICA, and PPP	2016–2019	Myanmar Japan Thilawa Development Ltd. developed Zone A, and 1 st , 2 nd , and 3 rd phases of Zone B. Its 4 th phase was scheduled for 2020. ¹¹⁶
MYA-PM-017	New port facilities at Dawei	Potential new maritime link between South and Southeast Asia	3050	Investor	Not yet programmed	Myanmar Government dismissed Thai construction company, for slow progress. Japan invested in the stalled project but is yet to play an active role. ¹¹⁷

Planned Flagship Projects to Develop Deeper Water Ports						
Code	Project Description	BIMSTEC Development Logic	Estimated Cost, 2018 (\$ million)	(Possible) Funding Sources	Timescale	Current Status
SRL-PM-020	Extension of East Terminal at Colombo	Facilitation of the handling of international cargo, including transshipment and bilateral traffic with other BIMSTEC members states	430–1,150	Government (Sri Lanka Ports Authority; 400 meters of container yard), and BOT	2014–2022	Construction of the second phase began in 2022. The construction work will be done in three phases and is expected to be completed by 2024. ¹¹⁸
SRL-PM-021	Construction of West Terminal at Colombo	Provision of additional capacity to handle mega container ships	840	BOT	2023-2026	Sri Lanka Ports Authority with Adani International Port Holding and John Keells Holdings, is building the container terminal in 2 phases. Expected to be completed by 2024. ¹¹⁹
THA-PM-023	Development of Phase III at Laem Chabang	Provision of additional capacity, including for handling of BIMSTEC traffic	1,500	Port Authority of Thailand and others	2019–2022 (feasibility study now under review)	Construction is divided into Phase 1: infrastructure upgrades and Phase 2: energy-related business. Phase 1 is to be completed by 2027. ¹²⁰ 58% of the project is done.

Note: BOT: build–operate–transfer, China Exim Bank: Export-Import Bank of China, EPC: engineering, procurement, and construction, ILOC: Indian Line of Credit, JICA: Japan International Cooperation Agency, JPY: Japanese yen. PPP: public-private partnership, PRC: People’s Republic of China, SPV: special purpose vehicle.

Source: The table from the BIMSTEC Master Plan for Transport Connectivity¹²¹ has been updated by the authors.

Annexure 4: Projects to promote Coastal Shipping

Planned Flagship Project for the Development of Coastal Shipping						
Code	Project Description	BIMSTEC Development Logic	Estimated Cost, 2018 (\$ million)	(Possible) Funding Sources	Timescale	Current Status
REG-PM-024 (BAN, IND, MYA, SRL, and THA)	Study to develop coastal shipping	Develop regional trade by short-sea shipping	Not yet estimated	Not yet identified, but ADB support for initial study	2018-2028	BIMSTEC Coastal shipping agreement expanded to Maritime Transport and Connectivity Agreement. Will be signed at 6 th Summit meeting in Nov 2023. ¹²²
REG-IW-025 (BAN, IND, MYA, SRL, and THA)	Investment projects to improve coastal shipping in the BIMSTEC region	As above	Not yet estimated	Not yet identified	2020-2023	Same as above.

Source: The table from the BIMSTEC Master Plan for Transport Connectivity¹²³ has been updated by the authors.

Annexure 5: Projects for Inland Waterways Connectivity

Planned Flagship Projects to Develop International Inland Water Transport						
Code	Project Description	BIMSTEC Development Logic	Estimated Cost, 2018 (\$ million)	(Possible) Funding Sources	Timescale	Current Status
REG-IW-01 (BAN, BHU, NEP, IND, MYA)	Study of opportunities to improve inland water transport in the BIMSTEC region.	Historically important mode, which offers potential for sustainable, economically viable cross-border transport, as well as multimodal and intermodal connectivity	3	Not yet identified	2019-2020	The study resulted in the updated BIMSTEC Master Plan of 2022 by ADB.
REG-IW-02 (BAN, BHU, NEP, IND, MYA)	Investment projects to improve inland water transport in the BIMSTEC region	As Above	Not yet specified	Not yet identified	2020–2023	India and Bangladesh have developed their protocol routes. ¹²⁴ BIMSTEC also addressed the Natural Allies in Development and Interdependence (NADI) in 2022, on the centrality of river networks for better regional connectivity. ¹²⁵

Note: BAN: Bangladesh, BHU: Bhutan, IND: India, MYA: Myanmar, NEP: Nepal, REG = regional.

Source: The table from the BIMSTEC Master Plan for Transport Connectivity¹²⁶ has been updated by the authors.

Annexure 6: Projects for Multimodal Connectivity

Planned Flagship Projects for Multimodal and Intermodal Transport Development					
Project Description	BIMSTEC Development Logic	Estimated Cost as of 2018 (\$ million)	Funding Organization (Tentative)	Estimated Completion Year	Current Status
Second rail-connected ICD in Dhaka, Bangladesh	Relieve road and port congestion	200	ADB and PPP	Ongoing (started in 2020)	Project will begin from 2024
Establishment of road network in Bangladesh	Facilitate multimodal and intermodal connectivity	To be specified	Not yet identified	To be programmed	No information available
Development of Gelephu Transport Hub in Bhutan	Diversify entry or exit points for BIMSTEC trade and transport	Not yet specified	Not yet identified	2018-2028	Preparatory work started in 2022
Yangon-Dagon ICD, Myanmar	Develop multimodal and intermodal facility for container traffic	16	Private	2021	Completed
Yangon Region Dry Port (YwaThaGyi), Myanmar	Link Yangon Airport, Yangon-Bago rail line, and eventually Hanthawaddy Airport	40	PPP	2019	Dry Port completed in 2019; linking pending

Planned Flagship Projects for Multimodal and Intermodal Transport Development					
Project Description	BIMSTEC Development Logic	Estimated Cost as of 2018 (\$ million)	Funding Organization (Tentative)	Estimated Completion Year	Current Status
Mandalay Region Dry Port (Myitnge), Myanmar	Link Mandalay-Yangon Rail Line	40	PPP	2019	Completed
Kaladan Multimodal Transit Transport Project, India-Myanmar	Use inland water transport as an alternative to longer road route	453	Indian Ministry of External Affairs	Ongoing (started in 2020)	Sittwe Port operationalized in May 2023; road component incomplete
Establishment of logistics hub in Wartayar Industrial Zone	Develop multimodal and intermodal facility for container traffic	15-20	PPP	To be programmed	Project cancelled post-February 2021 coup
Development of software arrangements in Myanmar	Facilitate multimodal and intermodal connectivity	5	Not identified	Not decided	No information available

Source: The table from the BIMSTEC Master Plan for Transport Connectivity¹²⁷ has been updated by the authors.

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