



Riding the Waves: Some Ideas on Connectivity in the Bay of Bengal

It is impossible to envisage an Asian century without connectivity between the nations on reaching an agreed set of standards. Nowhere are those standards best applicable than in the Bay of Bengal region that sits right in the heart of Asia enveloping within itself eight nations (including those landlocked and Malaysia) with a combined GDP of close to \$4.5 trillion.

This is the region that lends itself to conducting the most demonstrations in connectivity. To do them, navigating between national concerns, disparate economic models and often perceived levels of mutual suspicions, it is best to imagine a networking model of the ports dotting the region without attempting to make the least reference to their national ownership but offering huge opportunities. These are the demonstrations which the nations across the region have begun to conduct as they reach out to each other, and are expected to intensify in the years to come.

The rationale from the past and a peek into the future

After centuries the pivot of global economy has swung back to Asia. As successive reports by the multilateral institutions show,¹ business relations between the Asian nations have swung up massively in this century to rival other economic zones. After decades of espousing development of relations of the Asian countries with those of other continents,² these multilateral institutions are now racing to catch the immensely rising

potential of relations within Asia, particularly, South and South East Asia.

The critical element of this pivot is the natural complementarity of the nations in Asia. Geography and resource endowments have naturally grouped the Asian nations into complementary zones over millenniums that made them partners in a connected network of development. Some of these zones include those of the Far East, the Silk Route, the Indian Ocean monsoon trade zones and most intensely of all the Bay of Bengal region.

While the Silk Route was predominantly a land route, the other routes of Asia and particularly the Bay of Bengal was a triumph of sea based connections. It was therefore not surprising that the ports became the major offerings of each economic territory surrounding this vast body of water, a ring of markets that carried on trade in very possible array of goods and even services, connecting each without impinging on territorial sovereignty.

The model which grew in this region was therefore of connected entities that scarcely saw anything of each other as territorial powers, but exchanged vast amount of goods and services using the ports as a junction where none impinged on each other's sovereign rights. Different currencies, customs, and languages flowed through these ports building on each other but never threatening the host or the visitor.

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This is the essence of connectivity that present Asia seeks to recover.

How is it happening

It needs to be scarcely said this recovery needs India to play a sheet anchor role. This is what has already begun to happen. Given the vastness of the Indian economy and the geographical spread, it is essential that if Bay of Bengal has to regain the economic vibrancy of yore and create future possibilities, India has to position itself in the middle of these developments.

Towards this possibility the foremost role has to be played by the expansion of the existing ports allied with the establishment of new ports.³ Since ports are the lifeblood of connectivity it stands to reason that they have to expand vastly way beyond their current potential.

This also means that not only the model for each port can and often will be substantially different from that of others, it is also necessary that the nations of this region have to often collaborate with each other to develop many of the existing ones and join in efforts to create a ring of new ones.

The operationalisation of Sittwe Port in Myanmar with the active involvement of India in May, 2023 is a valid demonstration of this line of engagement. As the Indian minister for Ports, Shipping and Waterways Sarbananda Sonowal said receiving the first consignment at the port, this would enhance bilateral and regional trade as well as contribute to the local economy of Rakhine State of Myanmar. The connectivity this port shall provide is multifarious in terms of employment opportunities and enhanced growth prospects for the region. Using this demonstration, India is in a pole position to expand the line of connected ports across the entire Bay, agnostic of national concerns.

One of the first tasks in this context is to create an inventory of all the ports in the region with respect to their current role, their constraints and their possibilities of expansion. This is best made as a country agnostic exercise which shall be most productive for the region. Based on the inventory that coined conceivably be undertaken as a joint exercise, the needs of the sector can be assessed faithfully.

There is little doubt that each of these ports

shall need a troika of, finance, technology that is green, and a common set of operating regulations to remodel these port led zones as centres of deep economic and social development in their hinterland.

Parts of the economic model

Finance: The development of the port based model, thus needs India to deepen the development of a financial market. The investment needs of the ports in the Bay of Bengal is yet to be summed up. As an example just the Kaladan Multimodal Transit Transport Project (KMTTP) soaks in an investment of Rs 3,200 crore.

The proposed transshipment port at Galathea Bay is expected to cost upward of Rs 70,000 crore. The Maritime India Vision-2030 announced by Prime Minister Narendra Modi in March 2021 envisages an investment upward of Rs 150,000 crore. These estimates offer an idea of the scale of investments needed to make the Bay of Bengal ring of connectivity come alive.

It is evident that there is no other financial market than India in this region which can soak in this level of investment. The International Financial Centre in GIFT city is the right platform to develop the market for investment in these projects. The liberal set of rules of this market has already begun to draw in investors from across the globe. Money can be raised here in a vast array of global currencies including the rapidly internationalising Indian rupee.

The ports of Bay of Bengal will be able to draw on the financial muscle of the GIFT city to draw in the requisite level of investments needed.⁴ This also obviates the need for any country to depend on a difficult line of bilateral support from any nation. Unlike the geographically far off London or even the Dubai market from where the investors may not be able to offer competitive rates and structure of finance the development of these ports need, the GIFT city provides a very satisfying alternatives. An added advantage of this market shall be the possibilities of leasing that the relatively less developed ports of the Bay of Bengal have not been able to tap into.

Already the pan Indian aviation market has begun to use the substantial avenues offered by GIFT city⁵ to feed into their vast expanding

¹ <https://openknowledge.worldbank.org/handle/10986/39598>

& [tps://www.imf.org/en/Blogs/Articles/2023/05/01/asia-poised-to-drive-global-economic-growth-boosted-by-chinas-reopening](https://www.imf.org/en/Blogs/Articles/2023/05/01/asia-poised-to-drive-global-economic-growth-boosted-by-chinas-reopening)

² <https://economictimes.indiatimes.com/news/international/imf-warns-asia-of-spillovers-from-european-crisis/articleshow/6027092.cms?from=mdr>

³ <https://www.hdi.global/infocenter/insights/2021/shipping-hubs/>

⁴ <https://maritimecluster.org/gift-city/>

⁵ <https://incorpadvisory.in/blog/gift-city-the-new-hub-for-indian-aircraft-leasing-and-financing/>

needs. The ports sector can plug and play on similar lines here.

A related but most significant development in this context is the role of the insurance business. India has already begun to expand the role of its reinsurance market.⁶

Studies done by CMEC has found that due to paucity of data, lack of standard setters and lack of information has made coastal shipping in the region bereft of insurance coverage, both for cargo and for hull.⁷ This is a huge unmet demand which needs to be however filled in. Risks from Natural catastrophes that deter insurance companies to do justice to the potential of this zone, is enormous.⁸ Again, the larger utilities in the sector are also forced to pick up insurance cover at rates and terms that do scarce justice to the monsoon dependant pattern of business of this geographical region. The expansion of insurance business again with a base in the GIFT city is therefore a much overdue line of support to the expansion of connectivity in the region.

Technology: By all reckoning the Bay of Bengal region shall be the latest and on many reckoning the most vibrant economic region of the world, soon. This is predicated on the huge growth rate of not only the Indian economy but also the fast expanding economies of most of the Bimstec and the overlapping Asean economies.

The pace of developments mean a swift expansion of the related technological standards of each of the port led zones of the region and beyond.⁹ In this context it is most essential to take steps that make these technological standards not only the best in the world, serving as the demonstrators for the rest of the world, but also therefore take on the role of global green reckoners.¹⁰

It can be argued that the benefit of connectivity shall be visible to the vast populations of this geography only on the basis of such green based approach.¹¹ By virtue of being green the standards shall benefit the largest swathe of people, offer them an inclusive model and thus shave off the edges of hard national perceived differences among the countries of the region.¹²

It will again be necessary for India to take a pole position in the development of these technologies. Because of the much larger number ports that India possesses in the region compared to any other country, there is a vast opportunity

for it to offer some of them as test beds for demonstration purposes. This shall be necessary as neither Bangladesh, Myanmar, Sri Lanka or further afield Malaysia have the range of ports to make these technologies viable. The sandbox approach for new technologies that India can offer is thus a huge possibility.

For instance de-silting of ports on India's eastern sea board can be harnessed as a green option that not only expands the capacity of these ports near to deep sea ports, but can also become a template for developing technologies to help in inter-port exercises with say Malaysia or even further in Indonesia.

A particularly massive experimental zone in this respect is opened up by the development of Galathea Bay abutting the Andaman and Nicobar islands. The range of developments anticipated there is not restricted to one mother port but a chain of smaller but targeted ports to feed in. As they come up, they can offer an exciting range of technological innovations to make the sector deep green.

There is also another important aspect to these exercises. The rapid deployment of new technology in these ventures including those for energy, transportation and regeneration of coastal flora and fauna amid the vast growth of shipping will act as a furious domestic spur for Start Up platforms to demonstrate new and cutting edge technologies. Since the country has and is expanding the financial market to deepen their sea based exposures, the technological developments can get a natural nursery to thrive in this environment.

It also becomes easy for the other nations taking advantage of the vastly expanded connectedness of the region to dip into these technological hotbeds for solutions to specific challenges of theirs. This shall reduce the pressure on them to use their limited port resources to experiment with these technological innovations, lowering their costs and raising the benefits for all concerned.

Setting Standards: The most visible demonstration of the lack of connectedness of the Bay of Bengal region is the plethora of operating standards. Each of them from customs to simple logistical rules on how to store containers make these ports a minefield of rules.

⁶ <https://www.asiainsurancereview.com/Magazine/ReadMagazineArticle/aid/46481/Indian-reinsurance-to-get-a-boost>

⁷ <https://www.asiainsurancereview.com/Magazine/ReadMagazineArticle/aid/46481/Indian-reinsurance-to-get-a-boost>

⁸ https://insuranceasianews.com/will-the-apac-trade-credit-market-rise-to-the-looming-challenge/?utm_campaign=No%20campaign&utm_medium=email&_hsmi=258502562&_hsenc=p2ANqtz-9YS-5fwNVCJbwSVoFjpc0WtB6AQ3MrE-j03wj9gkSy16Kd-hAD5Xb0WJ5bxn-KUM0acXvg0NF-fqMDIeAvahkfRqqCZ-Flx3rVTbcpsoVAm-hNNL-6LLg&utm_content=258502562&utm_source=hs_email

⁹ <https://www.port-technology.org/news/a-path-to-standardization/>

¹⁰ <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1919209>

¹¹ <https://www.pib.gov.in/PressReleaseDetail.aspx?PRID=1843718>

¹² <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1877185>

¹³ <https://pib.gov.in/PressReleasePage.aspx?PRID=1903266>

Many of them came up as the sense of connectivity melted away from the region in the wake of the colonial conquest of the nations. Each worked to maintain a sense of superiority mandated by the demands of the colonial powers that the years since have not reconciled.

It is axiomatic that as a sense of connectedness spreads across the region, these differences shall be eventually eliminated.

A most useful template in this context is the establishment in 1987 of a framework by the ASEAN leaders to include the introduction of the Brokers Telegraph System, Inter-ASEAN Bulk Pool System, Point-to-Point Shipping Services, and the establishment of Freight Booking and Cargo Consolidation Centres. These, quaint by current standards, set the region off to begin harmonising their standards of operations.

A most significant initiative in this context is the draft Bimstec Agreement on Maritime Cooperation signed in March this year.¹³ The key clause in this draft is for plans to set up a standard operating procedure for the nations that will allow shipping in the region to operate a la domestic routes even across national boundaries. There are plenty of room for disagreement like those on the mandates for cooperation among port authorities. But each of those differences have less to do with the loss of business in future and are more a throwback to past concerns.

It is axiomatic that an agreement is inevitable given that the pace at which these economies are developing. This makes cooperation rather than competition, the inevitable business model. Just as the spread of airlines business has only served to expand the range of services offered by each airport on their flight path instead of cutting off anyone's business, ports offer the same narrative cutting across seas.

The risks these nations presently perceive is that of being the first mover. Such a position has often political costs with their citizens back home. It is difficult to offer a set of benefits in the future against a present set of loss for a political formation. This straitjacket has often set back the clock on the narrative of connectivity.

Curiously, however, as these nations expand rapidly and the prospect of trade with other zones like those in Europe and even other geographies beyond Asia stagnate or in some cases seem set to decline, the investments by the

Bay of Bengal countries within this region, seems set to expand fast and possibly soon enough.

The appendix to this note offers the details of the steps, in no strict chronological order, of the menu of specific connectivity measures, currently on and envisaged in the Bay of Bengal and in the ASEAN Region.

Appendix

BIMSTEC and Connectivity

The 'Connectivity' sector (former named as "Transport and Communication") is one of the main 7 sectors in the area of cooperation in BIMSTEC since it was established in 1997. Recognizing the fact that Transport Connectivity is a fundamental requirement of the member states for regional cooperation and integration to accelerate economic growth and social development. A well-established transport network is a prerequisite for reaping the benefits of a free trade area, including the promotion of trade and investment, as well as progress in other areas of cooperation, such as tourism, people-to-people contact, and cultural exchange.

Coastal Shipping

Ports:

- Coastal shipping, also called Short Sea Shipping (SSS), is defined as "the commercial shipment of cargo or passengers by domestic and international maritime transport. In general, this subsector of marine transportation operates in coastal and inland waterways, does not cross an ocean and often competes with road and rail networks."
- Socio-economic benefits of SSS include direct and indirect job creation, lower emissions compared to land transport, and generation of revenues for government. This mode has been a fairly recent one adopted by developed countries such as the United States and in Europe.
- India inaugurates Sittwe Port in Myanmar.
- Since five out of the seven BIMSTEC states are coastal frontiers, coastal shipping has immense potential in generating connectivity and commerce for the littorals.
- Programmes like 'Sagarmala' should be supported by "enhancing port connectivity

to hinterland by optimizing cost and timing of cargo movement through multi-modal logistics solution.” India therefore, is busy exploring all means of building linkages between sea and land, connecting them with national and neighbouring destinations. Recently built modern ports like the Krishnapatnam Port (KPCL) are helping to bypass transshipments through foreign ports.

- The Indian subcontinent is considered the least developed sub-region of Asia. Its contribution to global GDP is around four percent, even as it is home to 23 percent of the world’s population. In the global connectivity index, specifically on infrastructure, almost 80 per cent of the ports in the Indian subcontinent need massive investments for infrastructure as well as productivity and skills upscale in order for them to be well-connected and to facilitate trade growth with competitive pricing.

Shipping Lines

- Compared to the international, long-distance shipping liners whose sailing time could take at least one month, the timeline for coastal shipping could be anywhere between a few hours to a maximum of one week, depending upon the coastline of the countries concerned
- The Indian National Shipowners Association (INSA) and the Container Shipping Lines Association (CSLA) have impressed upon the shipping ministry the need to create a conducive climate for coastal trade growth and specifically identify more coastal trade opportunities. INSA has highlighted the imperative of reviewing first- and last-mile logistics costs, as well as marine charges, to rejuvenate the coastal market sentiment. The government agreed to review domestic carrier concerns about the overall cost picture.
- The fact that 56 rivers flow between India and Bangladesh is seen as offering ample scope for interstate river transportation. While not all these rivers are useful for navigation, there are also geo-political and the security related issues that hamper the full potential of these rivers to ferry cargo between the adjacent BoB littorals

Regulation

- BIMSTEC Master Plan for Transport Connectivity
- BIMSTEC Coastal Shipping Agreement: draft text finalized by BIMSTEC member states.
- The combined pressure of national and international traders is forcing coastal states to reshape their coastal infrastructure and amend regulations. India, the largest of the BoB littorals, in response to these forces is modifying rules relating to Coastal Zone Regulation (CZR), freight, cabotage, and flag ship participation.
- There is also a scope for reforms in India’s coastal regulatory and shipping practices. For example, a dedicated coastal ports to enable more movement of more coastal vessels, allowing foreign feeder vessels, relaxation of cabotage laws and sign bilateral and multilateral coastal shipping agreements with the BoB maritime neighbours.
- Further studies in this domain can pave the way for smoother and simplified regulations.

Factors for investing capital into mega infrastructure in the transportation sector¹⁴

- Availability of commercial cargo in volumes
- Availability of infrastructure
- Efficiency and technology to handle modern ships, which includes factors such as turnaround time, congestion and diversion time from major maritime corridors
- Availability of ship’s main cost factor-i.e., bunker-at reasonable prices

The combination of these factors will determine what kind of a fleet is allocated to a country, depending on its geography and the proximity to major shipping lanes. The current logical shipping transportation model in the Bay of Bengal region for containerised cargo is based on coastal shipping services linking to regional gateway ports and connecting feeder services to international shipping hubs.

Need for strategic planning of the investments in BoB region

The focus should be on developing suitable infrastructure that is required by ship operators

¹⁴ “Short -sea shipping in Bay of Bengal takes baby steps,” <http://www.ipcs.org/article/india/short-sea-shipping-in-bay-of-bengal-takes-baby-steps-5386.html>

depending on the fleet allocation. For example, the coastal port connectivity network will have container ships ranging from 500 TEUs to 2000 TEUs, whereas a regional port needs to develop capacity for ships carrying between 2000 TEUs to 6000 TEUs to accommodate modern feeder ships. Port authorities will have to upscale technology, increase turnaround times and remove congestion to be competitive to attract better connectivity and services. Meanwhile, ports that would want to have 6000 to 13000 TEU direct callers will need to continue investing on new infrastructure and expanding port basins to facilitate trade. Transshipment ports will have to provide 10000 TEU to 25000 TEU vessel handling capacity to compete with other transshipment hubs.

Efficiency

Efficiency remains a crucial concern for all ports in South Asia and the Bay of Bengal region. A report by the World Bank and Asian Development Bank shows that except for Colombo, all other ports in the Indian subcontinent performed at only 50-percent efficiency. This is certainly not helpful to increasing trade and connectivity.

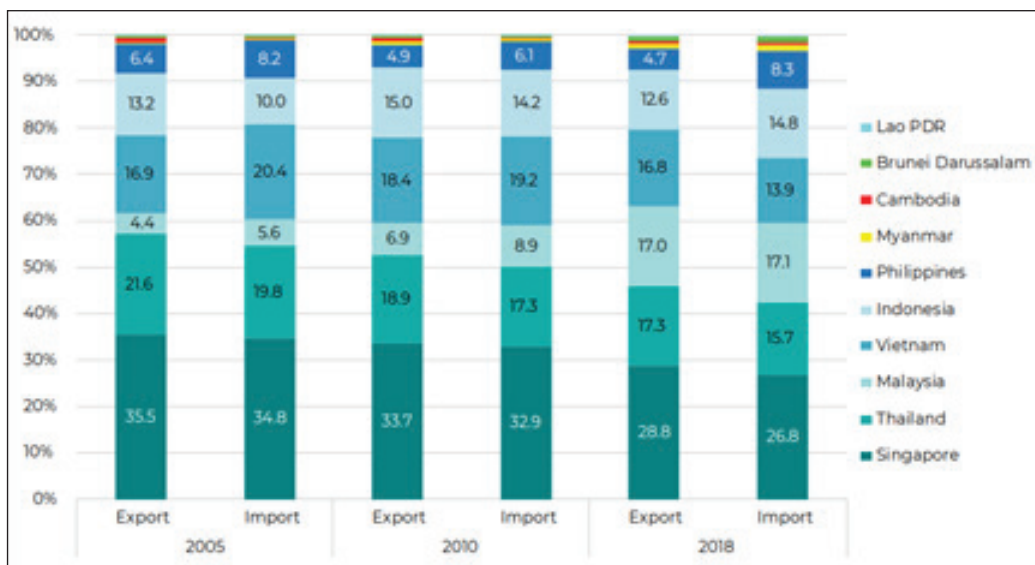
ASEAN Connectivity

The Singapore Strait, a 105-kilometer-long waterway that runs between Singapore and Indonesia and connects the South China marine

with the Strait of Malacca, is the marine route that connects the ASEAN countries. With the Strait of Singapore being regarded as the second-largest port in the world and receiving an average of 140,000 vessels yearly, it is currently one of the busiest commercial routes in the world. Singapore, Johore, in Johor, Malaysia, Belawan, in Medan, the capital of Sumatra, Penang, in Georgetown, the state of Penang, Malaysia, and Klang, the key trade hub for Peninsular Malaysia, are the major international ports in the Malacca Strait.

According to the ASEAN Statistical Year Book 2019, Singapore emerged as the primary exporter within the region in 2018, commanding a 28.8 per cent share of ASEAN's total exports. It was followed by Malaysia (17.3 per cent), Vietnam (17.0 per cent), and Thailand (16.8 per cent). In terms of imports, Singapore also took the lead, accounting for 26.8 per cent of ASEAN's total imports. Vietnam ranked second in imports (17.1 per cent), followed by Malaysia (15.7 per cent), and Indonesia (14.8 per cent). Notably, Vietnam experienced a significant increase in its export and import shares in ASEAN's total, rising from 4.4 per cent and 5.6 per cent in 2005 to 17.0 per cent and 17.1 per cent in 2018, respectively. Myanmar, Cambodia, and Lao PDR also witnessed growth in their export and import shares during the same period. These statistics indicate two key

Figure 1: Share of Exports and Imports of Good (%) by ASEAN Member States (2005-15)



Source: ASEAN Secretariat, ASEANstats Database.

observations. Firstly, the maritime states in ASEAN are well-positioned to benefit from their proximity to manufacturing centers. They offer advantages such as affordable labor, robust production infrastructure, and efficient transportation networks, making them attractive as manufacturing hubs. These factors have played a significant role in shaping these maritime states' development as vital manufacturing centers.

Contribution of Maritime Sector in Promoting Economic Growth -

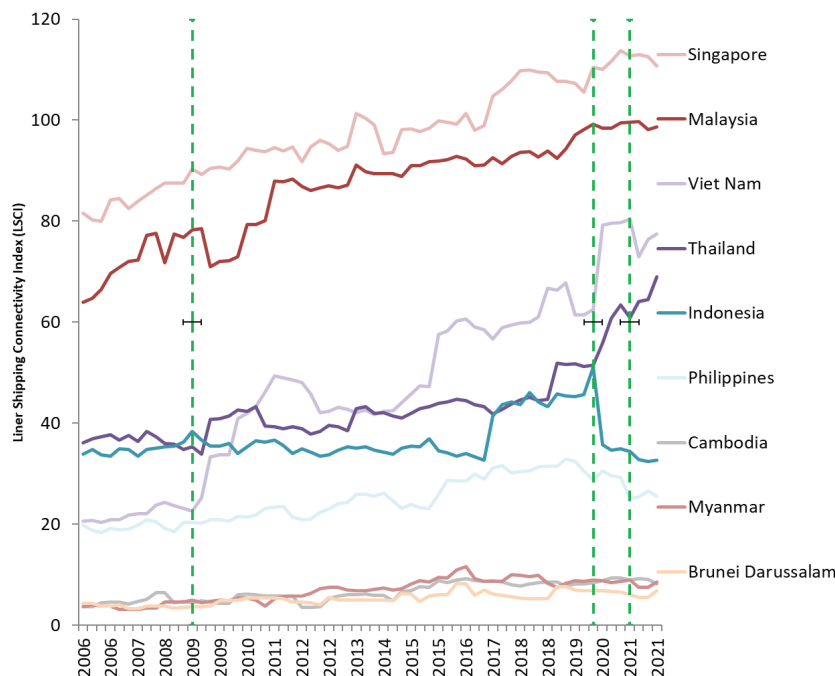
Among ASEAN nations there is a clear three-level hierarchy of countries in terms of LSCI (Liner Shipping Connectivity Index (LSCI) captures how well countries are connected to global shipping networks), which has not changed much over the 2006-2021 period, as shown in. Countries in the category of best-connected routes have seen their connectivity improving in due course of time. But the most salient changes took place in the intermediate category, with a progress of the LSCI for Viet Nam (+ 277 per cent) and Thailand (+91 per cent), and a slight decrease for Indonesia (- 5 per cent).

One of the key reasons is that these nations contain five of Southeast Asia's busiest ports. These five ports collectively contribute to the

dynamic maritime trade in Southeast Asia, connecting the region to the global economy and facilitating the movement of goods and commodities across borders. Their strategic locations, state-of-the-art infrastructure, and significant handling capacities make them key players in the maritime industry. The nations of the Association of Southeast Asian Nations (ASEAN), namely Indonesia, Malaysia, the Philippines, Singapore, and Thailand, are recognized as significant players in the maritime sector. As of 1997, these countries collectively possessed 2,143 vessels (measuring 1,000 gross register tons [GRT] and above), amounting to a combined tonnage of 32.7 million deadweight tons (DWT). This accounted for approximately 7.7 per cent and 4.6 per cent of the global fleet, respectively. In terms of container port operations, these five nations handled around 21.53 million twenty-foot equivalent units (TEUs), representing about 14.6 per cent of the global container traffic in 1996. The primary ports in ASEAN, including Singapore, Bangkok, Manila, Tanjung Priok, and Port Klang, witnessed a combined throughput of 19.9 million TEUs in 1996 and 22 million TEUs in 1997.

The Port of Singapore, the second busiest port in the world after Shanghai, is the largest and busiest in Southeast Asia. The only port on

Figure 2: Linear Shipping Connectivity Index (LSCI)



Source: Analysis of Maritime Connectivity in ASEAN and Pacific Small Island Developing States (SIDS) 2022.

this list to rank in the top 10 worldwide is this one. It transported 37.2 million TEU in 2019, up 1.6% from 2018. Malaysia's Port Klang and Port of Tanjung Pelepas are the second and third-largest ports in Southeast Asia, respectively. The Port of Laem Chabang in Thailand, which is barely outside the top 20 ports in the world, is the fourth-largest port in Southeast Asia. It is home to Terminal D, Thailand's most modern container terminal, which Hutchison Ports inaugurated in January 2019 and has an annual throughput of 8 million TEU. With an annual traffic of 7.6 million TEU, the Port of Tanjung Priok, popularly known as the Port of Jakarta, is the sixth largest port in Southeast Asia and barely outside the top 20 ports worldwide.

The Philippine Ports Authority (PPA) oversees 19 base ports and 89 national ports within the country. Additionally, numerous municipal and private ports contribute to the local economy. In Indonesia, there exist five major ports: Belawan, Tanjung Priok (Jakarta), Tanjung Emas (Semarang), Tanjung Perak (Surabaya), and Makassar (Ujung Pandang). Supporting remote and underdeveloped regions, there are also 107 primary ports, 544 government ports, and 1,233 private ports throughout the country.

Regulatory Framework to Promote Connectivity

Several agreements have been signed in ASEAN nations to promote regulatory growth in the maritime sector. The ASEAN Resolution on Shipping and Trade, adopted at the 10th ASEAN Economic Ministers Meeting, recognized the significance of shipping and ports for ASEAN's trade and economy. The resolution aimed

to strengthen self-reliance and cooperation in shipping, as well as improve and develop ASEAN ports. In 1987, the ASEAN leaders agreed to pursue new initiatives, including the introduction of the Brokers Telegraph System, Inter-ASEAN Bulk Pool System, Point-to-Point Shipping Services, and the establishment of Freight Booking and Cargo Consolidation Centres. During the Fifth ASEAN Summit in 1995, the focus of ASEAN cooperation shifted towards the safety of maritime transport and the prevention of pollution from ships. Efforts were made to ensure that ASEAN ships meet international standards and operate safely while preventing marine pollution. Under the ASEAN Framework Agreement on Services (AFAS), maritime transport was one of the priority sectors. Negotiations were conducted to liberalize trade in services related to international freight and passenger transport, freight forwarding services, maritime auxiliary services, and maritime cargo handling services.

The ASEAN Framework Agreement on the Facilitation of Goods in Transit aimed to simplify and harmonize transport, trade, and customs regulations for road and railway transport to facilitate goods in transit. The ASEAN Framework Agreement on Multimodal Transport enabled door-to-door shipment of goods within the ASEAN region. The implementation of the ASEAN Free Trade Area (AFTA) was advanced, allowing for tariff reductions on covered products to be implemented by 2002 instead of 2003. Member countries committed to achieving a minimum of 85 per cent of AFTA-related products with tariffs of 0-5 per cent by 2000 and a minimum of 90 per cent by 2001, with full implementation by 2002.

About CMEC at RIS: The Centre for Maritime Economy and Connectivity (CMEC) has been established at RIS under the aegis of the Ministry of Ports, Shipping and Waterways (MoPS&W), Government of India. The Centre is a collaboration between Research and Information System for Developing Countries (RIS) and Indian Ports Association (IPA). CMEC at RIS has been mandated to act as an advisory/technological arm of MoPSW to provide the analytical support on policies and their implementation. Among other, it seeks to work on the Maritime India Vision-2030 of the Government of India.

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