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Anchoring the Bay of Bengal in a Free and Open Indo-Pacific

Editors

Anasua Basu Ray Chaudhury and Harsh V. Pant

Durham University

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Edited by
Anasua Basu Ray Chaudhury
and Harsh V. Pant

Observer Research Foundation
20 Rouse Avenue, Institutional Area
New Delhi, India 110002
contactus@orfonline.org
www.orfonline.org
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INTRODUCTION

For centuries, the Bay of Bengal has been the space for commercial and cultural interactions among its littorals, especially between the eastern seaboard of India and the land of Suvarnabhumi (continental Southeast Asia), and Suvarnadvipa (maritime Southeast Asia) (1). The ancient 'Maritime Silk Route', or the 'Spice Route' (2), was one of the most important sea trading passages that connected the eastern part of the Indian subcontinent with its Southeast Asian neighbours. With the influx of the European powers, competition for building colonies grew. Apart from the British Raj, the French and the Dutch masters also ruled around the Bay. Commerce expanded as the colonial rulers became large exporters of raw materials and agricultural products. As a result, the colonial period intensified inter-Bay connectivity (3). However, following the First World War, decolonisation and emerging nationalism immersed the Bay littorals. Consequently, the newly independent countries were interested in prioritising their own political and economic agendas, gradually making the Bay a 'strategic backwater'.

Spread across 2,173,000 square km (4), the Bay of Bengal is now gaining in importance again as part of a strategic maritime space. The Bay's rich repository of vast hydrocarbon reserves and the vital shipping routes for trade in oil and natural gas passing through this region have transformed this marine space into a geostrategic, geopolitical, and geoeconomic hotspot. As a quest for seamless energy and aspirations of states to fulfil their national interests loom large, the Bay has become a theatre of conflicts and collaborations for its littorals and extraregional actors. Under the circumstances, how to treat the Bay as a common strategic space and an area of resource-sharing between the powers involved remains a crucial point of consideration. Undoubtedly, the huge repository of the Bay's vital resources has contributed to the regional powers' ability to influence this area. These changing dynamics are particularly relevant for India and China, whose rising economies are dependent on the steady flow of resources, most importantly oil.

Situating the Bay in the Wider Strategic Marine Space

Geographically, the Bay of Bengal appears as an offshoot of the Indian Ocean, a buffer zone between South and Southeast Asia, home to nearly 22 percent of the world's population (nearly 1.5 billion people) and a combined GDP of US$2.7 trillion (5). The region is situated at the heart of the Indo-Pacific, a new geostrategic construct combining the wide marine space of the Indian and Pacific oceans. First proposed as a regional arrangement in 2007 between Japan, India, Australia, and the US, the Indo-Pacific gained momentum after the then Prime Minister of Japan, Shinzo Abe, launched the 'Free and Open Indo-Pacific' (FOIP) initiative in 2016. To develop the Indo-Pacific as a region of shared prosperity, FOIP has become increasingly significant for global powers to fulfil national interests and aspirations. However, different nations interpret the territorial demarcation and strategic significance of the Indo-Pacific differently. Over the years, the Indo-Pacific has become a part of US national strategy and received strong support from Australia. Major stakeholders operating in the Indian Ocean Region interested in maintaining stability in the region, such as the US, Japan and Australia, have also begun to perceive India as an emerging power in the area and have encouraged its prominent role, given its geographic centrality in the Indian Ocean.

The Indo-Pacific region comprises a massive market: 38 countries, with 60 percent of the global population (6), 60 percent of the world's GDP, and 50 percent of the world's merchandise trade (7). The region is also a potential source and destination of foreign direct investments. However, for this market to be optimally utilised, there is a need for greater connectivity and freedom of navigation, including ensuring safety and security from maritime threats. At this juncture, the importance of the Bay looms large. In recent years, the Bay littoral states (and the extraregional states in collaboration with the littorals) have made several initiatives to cultivate greater solidarity in the Bay of Bengal and, thereby, in the wider Indo-Pacific, by developing ties with Southeast Asian countries and other key powers. This is done by nurturing logistical linkages, enhancing supply chain mobility, extending maritime domain

awareness, exploring joint military exercises, strengthening humanitarian assistance and disaster relief activities, and promoting dialogue and diplomacy to attain collaborative growth.

ASEAN centrality is the core concern for the wider Indo-Pacific as the region possesses vital sea lanes of communications (SLOCs) and checkpoints. It is, therefore, important to understand the region's perception of the Indo-Pacific. As far as foreign policy objectives are concerned, most Southeast Asian countries look towards the ASEAN for direction and leadership. The 'ASEAN Outlook on the Indo-Pacific' (2019) declares the aim of "promoting cooperation in the Indo-Pacific region, with ASEAN-led mechanisms, such as the East Asia Summit (EAS), as platforms for dialogue and implementation of the Indo–Pacific cooperation to ensure a rules-based order following international law, transparency, inclusivity, openness and a commitment to promote economic engagements in the region" (8). The Outlook complements India's vision for an inclusive Indo-Pacific, and it envisions the expansion of cooperation with the Indian Ocean Rim Association and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) (9), (10).

Securing the Bay

The primary traditional security concern in the Bay is protecting freedom of navigation along the SLOCs that are critical for trading energy and other resources. Many of these routes are straddled by the Andaman and Nicobar Islands chain. Notably, one of the world's busiest shipping lanes, the East-West shipping route, is just eight nautical miles below the southern tip of this archipelago before flowing into the Strait of Malacca (11). Therefore, protecting these trade routes is important for the Bay littorals and the other stakeholders in the region. Indeed, China's assertive presence in this maritime space has raised apprehensions among the regional countries and the major powers over the Bay's stability and militarisation. Nonetheless, most of the littorals depend on China for trade and investments and would not be willing to get involved in overtly political-military activities that could annoy Beijing. Notably, BIMSTEC has espoused "non-interference in internal affairs" since its

inception (12), a stance that was re-endorsed by the BIMSTEC Charter (adopted at the 5th Summit in 2022), which does not provide any conflict resolution mechanism but rather leaves it to the member states to settle disputes (13).

The Bay also encounters several other non-traditional maritime threats, including maritime piracy, human and drug trafficking, undocumented and unregulated fishing, marine pollution, sea level rise, natural disasters, and pandemic-like health crises. These concerns are transnational in nature, and the shared destinies of the people in the Bay region demand a comprehensive sustainable approach. The sustainable use of marine resources through seamless and integrated spatial planning (as part of the 'blue economy') has emerged as a key collaboration area in the Bay region. The blue economy tries to transform ocean resources into development instruments, but a basic requirement for this is information sharing in the issue-based maritime domain. Realising the benefits of shared economic prosperity, the Bay littorals are trying to collaborate to mitigate the non-traditional security threats. As such, BIMSTEC's mandate is purely non-traditional security (14).

Notably, at the 17th BIMSTEC Ministerial Meeting in November 2021, the grouping streamlined its priority sectors from 14 to seven, with each country designated as a lead: trade, investment, and development (Bangladesh); environment and climate change (Bhutan); security (India); agriculture and food security (Myanmar); people-to-people contact (Nepal); science, technology, and innovation (Sri Lanka); and connectivity (Thailand). Cooperation on security at BIMSTEC comprises three sub-sectors: counterterrorism and transnational crime, energy, and disaster management (15). India's responsibility to lead the 'security' sector aligns with its vision of 'security and growth for all in the region' (SAGAR), an important pillar of its foreign policy. Indeed, India has announced its Indo-Pacific Oceans Initiative (based on SAGAR) to support the building of a rules-based regional architecture.

Connecting Nations

Considering these factors, a common understanding and cooperation among the Bay littorals is necessary for the sustainable growth of the

region. It is needed not only to ensure improved security but also to strengthen regional connectivity (physical, commercial, digital, and people-to-people). As such, there is a need to engage Malaysia, Indonesia, and Singapore (the Bay littorals but not the official members of BIMSTEC) in the region's development discourse (16).

The pandemic has disrupted global supply chains and taught an important lesson about nurturing ties with one's neighbours. Intra-regional trade, therefore, needs to flourish, which is a fundamental requisite to identify other sectors with comparative advantages, explore regional value chains, enable conditions for investment, conduct business, and have low transaction costs. Neither security nor trade (including investment) can be successfully operationalised without seamless connectivity. Multimodal networks form the bedrock of the Bay of Bengal region and must be well developed for its prosperity.

On realising its full potential, the Bay can act as a bridge between the two geopolitical blocs of South and Southeast Asia, thereby gaining prominence as a major maritime space for cooperation and prosperity in the Indo-Pacific. It is for this reason that several major powers are interested in the Bay and are investing in its littorals. A free and open Indo-Pacific is, therefore, a necessity for the Bay's well-rounded growth.

About the Volume

Anchoring the Bay of Bengal in a Free and Open Indo-Pacific is conceptualised to explore the multifaceted dynamics of the Bay of Bengal within the evolving Indo-Pacific realm. The compendium will further knowledge of the Bay of Bengal, and will be an interesting study for students, researchers, and policymakers. It is divided into four major sections comprising 13 essays.

The first section, 'Securing the Bay: Awareness, Arrangements, Action', discusses several security concerns in the Bay region that must be mitigated to ensure commercial prosperity and hassle-free maritime connectivity under the purview of dynamic cooperative mechanisms. In this context, the emphasis is on maritime domain awareness, at the heart of which lies information collection. Abhijit Singh argues that since the

Bay is a dynamic space, there is a need for quality information sharing, fusion, and dissemination. Therefore, an effective partnership among the Bay littorals is necessary, along with establishing a rules-based order and a common vision for the development and security of the region. Gilang Kembara focuses on Indonesia and analyses to what extent the country has realised that the Bay of Bengal could serve as a catalyst of growth, not just for it but also between the Southeast Asian region and the Bay of Bengal 'sub-region'. While accounting for a constructive format of cooperation based on reciprocal partnerships, Pratnashree Basu emphasises Japan's proactive role in the region. She also argues that the Bay has gained strategic salience recently mainly because of two geopolitical factors: first, China's increasing presence in the Bay littorals; and second, Bay littorals' initiatives coupled with the engagements of the extraregional actors of the wider Indo-Pacific, such as Japan and the US, to establish functional cooperation mechanisms. Next, Satoru Nagao tries to answer three fundamental questions in the purview of regional security: What is the current security situation in the Bay of Bengal? What are the features of China's activities? And how should the Quad respond to China?

The second section, 'Rewiring Connectivity for a Bay of Bengal Community', explores several aspects of connectivity in the Bay of Bengal region. In the modern interdependent world, certain links need to be in place to develop a functioning and fruitful system of interactions. These connections may be in the form of infrastructural links, diplomatic and political exchanges, people-to-people contact, and, importantly, trade ties. Srabani Roy Choudhury aims to delineate Japan's new FOIP vision and analyse how infrastructure is an important tool to fulfil the country's vision of connectivity and security in the Bay region. She explores the role of the aid programme disbursed by the Japan International Cooperation Agency in achieving these objectives. Her paper concentrates on mapping developments in India's Northeast, where Japan is heavily engaged in infrastructural development. In their joint essay, Sohini Bose and Anasua Basu Ray Chaudhury focus on the increasing importance of ports and ports-led development in enhancing maritime connectivity across the Bay. They seek to estimate major challenges to the efficiency of key ports in the Bay and analyse the challenges faced by

specific deep-sea ports in the BIMSTEC countries. Next, Takashi Suzuki examines the economic potential of the Bay of Bengal region by focusing on the activities of Japanese companies. He also analyses the potential for regional development through improved linkages and connectivity between Northeast India and Bangladesh.

Given the importance of economic connectivity for the overall benefit of the Bay of Bengal, the third section. 'Seamless Commercial Connectivity: Bedrock for Regional Development' explores several concerns and opportunities in hassle-free commercial activities across the Bay. Sineenat Sermcheep focuses on Thailand and argues that BIMSTEC presents an opportunity for the country to accelerate its post-pandemic economic recovery. She examines Thailand's digital trade, particularly cross-border e-commerce, with the Bay of Bengal in general and especially with India, the region's largest digital market, and evaluates the potential role of cross-border e-commerce in fostering regional integration. In her chapter, Aparna Sawhney highlights the significance of recent regional connectivity initiatives for boosting trade in goods and services in the Bay, particularly that of grid connectivity, in pursuing sustainable development. Easing cross-border electricity trade is critical in harvesting renewable energy efficiently and transitioning to net zero for the Bay nations. The last essay of this section, by Soumya Bhowmick and Debosmita Sarkar, argues that, as geoeconomic and geopolitical disruptions call into question the feasibility of a globalised economy, the localisation of goods and services gains importance in meeting regional economic needs. The essay examines India's strategic position to create an alternative to China in the global economic landscape and emerge as the growth pole of the Bay of Bengal region.

The last section, the 'Blue Economy in the Bay of Bengal: Riding the Waves of Sustainability', deals with multiple aspects of the blue economy. Punyasloke Bhadury and Nilanjan Ghosh argue that sustainability concerns should be a built-in phenomenon in terms of its accepted definition. While dealing with various opportunities and challenges associated with the blue economy in the Bay region, the paper ends with some recommendations to manage these challenges. Moutusi Islam focuses on Bangladesh's blue economy initiative and its approach to balance

development and conservation. Yoji Natori discusses the adaptive capacity to climate change of five Bay countries (Maldives, Bangladesh, Indonesia, India, and Sri Lanka) that are among the most vulnerable worldwide to climate impacts.

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SECURING THE BAY: AWARENESS, ARRANGEMENTS, ACTION

MARITIME SECURITY IN THE BAY OF BENGAL: ASSESSING OPPORTUNITIES AND IMPEDIMENTS

ABHIJIT SINGH

Maritime security in the Bay of Bengal has recently received much attention and scholarly debate. The Bay is often described as a region with a dual character: a social-economic space important for livelihood, communities, resources, and national prosperity, and a strategic theatre where an intense geopolitical contest is playing out between India and China (1). This two-fold character gives the region unique qualities.

As the largest and most powerful state on the Bay's rim, India has significant authority and influence in the eastern Indian Ocean (2). The Indian Navy has long been a security provider and preferred security partner for navies in the Bay region and has helped the latter develop the capacities for shared security missions. New Delhi, however, feels challenged by Beijing in the maritime domain (3). There is a growing sense in India that China's growing political, economic, and military presence in India's neighbourhood limits New Delhi's room to manoeuvre, rendering security cooperation between the Bay states more challenging (4). While India has sought to rebalance naval forces towards the east, strengthening naval bases on the eastern seaboard and expanding surveillance in the Andaman Sea, New Delhi's China problem is far from settled (5).

Aside from the traditional security threats, there are also irregular challenges. The prevalence of illegal fishing, drug trafficking, human trafficking, and armed robbery has long been a source of concern for regional security agencies (6). The illicit networks often comprise

autonomous groups financed by money laundering, drug trafficking, and illegal armaments trade. The littoral is also vulnerable to natural disasters like cyclones, which account for the great majority of disaster-related deaths worldwide (7). The principal imperatives driving the Bay states concern humanitarian crises and the need to improve crisis response in vulnerable littoral spaces.

With many of the Bay's most pressing problems, however, no solutions seem readily forthcoming. The most persistent nontraditional security concern is overfishing. The region has long grappled with the problem of overexploitation of fish stocks, with flawed regulations promoting destructive practices such as bottom trawling and seine net fishing. The issue is rooted in socioeconomic factors but is exacerbated by the lack of law enforcement capability in the region and flawed policies that seek to subsidise deep-sea fishing and unregulated fishing. Of the more than 200 million people living along the Bay of Bengal's coast, a significant proportion are partially or wholly dependent on its fisheries. Despite efforts by authorities, there is a low level of compliance with fisheries management rules and legislation (8). It does not help that there are limited means of data collection and few ways of monitoring the frequent violations of maritime boundaries by fishing boats. Although exclusive economic zones (EEZs) in the Bay are largely uncontested, fishermen are routinely apprehended and held captive by neighbouring countries (9).

The second area of concern in the Bay is illegal migration and drug trafficking. In recent years, there has been an increase in the number of Rohingya refugee boats headed southward from Myanmar in search of safe havens in Southeast Asia. The number of Rohingya refugees fleeing Myanmar has doubled between 2019 and 2020 (10). The number of illegal migrants was so significant that, in May 2020, the United Nations High Commissioner for Refugees, the International Organisation for Migration, and the United Nations Office on Drugs and Crime issued a joint statement expressing worry that the 2015 'boat crisis' could reoccur (11). The issue has received little attention in the Indian media, which remains preoccupied with Chinese activities in the Bay region and the arrests of Indian fishermen by Sri Lanka and Bangladesh (12).

The interstate illicit drug trade is another quagmire for the Bay states. It has grown enormously in recent years, with smugglers exploiting the Bay of Bengal as a transit route for drugs originating in the Golden Triangle region (13). According to media reports, drug usage in Bay countries has increased significantly, with a sharp rise in the trafficking of amphetamine-type drugs. Worryingly, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), the region's premier multilateral organisation, is struggling to respond (14). The group recently reorganised its cooperation sectors, with maritime security emerging as a primary area of focus. But beyond marginal improvements in information exchange and operational coordination, nothing substantive appears to have been achieved on the ground. Although regional security officials have met regularly since 2018, helping establish a joint working group to combat terrorism and transnational crime, the report card on maritime security makes for grim reading (15).

This essay, seeking to comprehend the impediments to maritime security cooperation in the Bay of Bengal, discovers that, despite increased engagement in the maritime domain, regional states continue to prioritise distinct security challenges in the Bay's littorals. While Bay nations are willing to leverage partner governments to make security agreements more enduring and sustainable, regional officials are divided on the difficult concerns surrounding China's expanding presence. Any convergence is at best issue-based to the extent that regional states are prepared to improve collaboration in three crucial areas: capacity building, burden sharing, and maritime domain awareness (MDA).

Understanding Security in the Bay

From a policy perspective, there are three ways to look at the Bay of Bengal. The first is to view the region as a self-contained strategic system that has its own peculiar dynamics, interplay, and interactions (16). This approach stresses the need for institutional mechanisms to strengthen security and governance in the Bay, with the spotlight firmly on nontraditional human security challenges like terrorism, trafficking, the environment, and climate change. While acknowledging traditional security threats, proponents emphasise human security challenges, such as illegal fishing activity, forced migration, and marine conservation. They

also point to the problems of environmental security and rising sea levels that threaten coastal communities. Inevitably, supporters tend to downplay contentious state challenges—not as a way of denying state conflict, but rather to focus on shared human security challenges. As they see it, the Bay is a coherent maritime space, with organic interconnections that facilitate connectivity, growth, and economic development; the region's importance for commerce, connectivity, and culture remains the driving factor for regional cooperation. Geoeconomics takes precedence over all else in the view of the Bay, with frequent references to the region as a "bridge", a "link", and a "gateway" to prosperity (17). The effort—perhaps not unreasonably—is to minimise conflict over prickly issues and optimise cooperation in areas where regional states agree to collaborate.

This preference for economic development is especially strong in policymaking circles, where leaders and government officials underscore BIMSTEC's founding principles of "political independence, non-interference in internal affairs, non-aggression, peaceful coexistence, mutual respect, and mutual benefit" (18). But Bay states offer no pretexts for their reliance on China for growth and investment; their reluctance to discuss Chinese presence in the Bay stems from their seeming dependence on Beijing for national development. These states also choose to focus on non-traditional threats because information sharing and multiagency exercises help them better govern their marine spaces (19). Nonetheless, joint patrolling with foreign security agencies within the overlapping EEZs makes some Bay states apprehensive. Granting foreign agencies access to the littoral, regional policymakers believe, could be geopolitically risky. They are also seized by the reality that law enforcement agencies in the Bay are constrained by the lack of surveillance capacity, with information gathering in vast swaths of the maritime domain sporadic and patchy.

The second way of looking at the Bay of Bengal is to situate it within the larger framework of the Indian Ocean. According to some observers, the Bay is an important subsystem within the Indian Ocean region (IOR), where strategic contacts between regional governments serve a common security aim. In this telling of security dynamics in the Bay, regional states seek to safeguard sea lines of communication (SLOCs) by forging strong security relationships. The proponents of this strain of thinking

also argue that Bay of Bengal interactions should not be examined in isolation because several of the region's most important participants are extraregional states (20). China, they point out, is an important player, even if Chinese infrastructure building under the Belt and Road Initiative (BRI) is a cause for concern. As one of the least integrated regions in the world, South Asia needs a project like the BRI to fill in the investment vacuum. To the extent that regional policymakers ought to be wary of China, it is on account of Chinese infrastructure projects and the conditionalities attached to Chinese aid that create dependencies among South Asian countries, potentially serving Beijing's future military interests in the Indian Ocean. Proponents recognise the challenge posed by China, but do not go so far as to implicate Beijing, its military capacity-building effort in South Asia, or the People's Liberation Army Navy deployments in the eastern Indian Ocean, as a direct threat to India.

The third way of looking at the Bay is to view it in relation to the larger Indo-Pacific as a strategic buffer zone between the eastern IOR and the Western Pacific. Proponents say the region is a driver of a larger contest playing out in the Indo-Pacific, where China has emerged as a rival to the US (21). The Bay's strategic location—at the crossroads of South and Southeast Asia—they argue, makes it a catalyst for strategic contestation between Asia's powerful navies; it is, in the manner of its Pacific "twin"—the South China Sea—a key battleground in maritime Asia (22). Indeed, at the borderline of two major geopolitical blocs—the Association of Southeast Asian Nations (ASEAN) and BIMSTEC—the Bay remains a potential flashpoint for military conflict (23). This description, however, seems focused entirely on hard security issues, and is in contrast to the first frame, which is concerned mainly with development and prosperity in the Bay, and the second, which makes the balance of economic power its primary focus. Notably, this understanding of the Bay places geopolitics and great power rivalry at the heart of maritime security.

From a policy standpoint, it is relevant that Bay states mostly subscribe to the geoeconomic framing of the Bay, with some states unwilling to take decisive steps to combat common security threats. India, which leads

the security group within BIMSTEC, recognises strategic challenges in the Bay, but balances them against the interests of regional states. India's principal dilemma is that China remains a key development partner for other Bay states. While they are happy to defer to Indian assistance in the maritime domain, India's neighbours are not amenable to discussing the threats posed by China and even have different perspectives about tackling irregular threats in the littorals.

Not unexpectedly, BIMSTEC has remained focused on trade, connectivity, and geoeconomics. Since the group's revival in 2016, when India brought together BIMSTEC members to address challenges multilaterally at the joint BRICS–BIMSTEC Outreach Summit in Goa, much talk has revolved around law enforcement, intelligence sharing, and maritime security, but Bay leaders have prioritised development issues such as free trade, power grid interconnectivity, and transport connectivity on the ground (24). India, the principal regional player, has, in recent times, urged member states to "go big on connectivity, food security," stressing health, energy security, and technology solutions (25). Other Bay countries have also kept their eyes firmly on economic goals. For instance, in its Bangkok Vision 2030 (to be published later this year), Thailand, the current BIMSTEC chair, has pushed for a "prosperous, resilient, and open" Bay region that puts countries on a sustainable growth path (26). Maritime security—officially a priority area for BIMSTEC—seemingly remains an afterthought.

It comes as little surprise that Bay of Bengal states differ on the specifics of maritime security cooperation. India, for example, is focused on maintaining its maritime primacy, securing the SLOCs, and protecting coastal interests. Bangladesh seeks to combat nontraditional security challenges, such as illegal fishing and human trafficking, in its extensive deltaic region (27). In Myanmar, internal conflicts take precedence over external maritime security concerns (28). Sri Lanka, meanwhile, is focused wholly on making the most of its geostrategic location, diversifying interactions, and balancing the interests of powerful players (29). Thailand, too, demonstrates a preference for a more deliberative form of policymaking within BIMSTEC (30). As a member of ASEAN, Bangkok seems to prefer consensus-based decision-making, even if it

has the inadvertent effect of slowing the tempo of security cooperation among member states.

The Critical Elements of Maritime Security

Notwithstanding differences in their essential approaches, Bay states are willing to do more in three critical areas of maritime security: capacity-building, burden-sharing, and MDA. Capacity building remains a key priority, especially in coastal patrolling, surveillance, and disaster relief. India continues to be a pillar of support for the region, with generous assistance in patrolling and reconnaissance, and offers to create maritime infrastructure. The Information Fusion Centre Indian Ocean Region, located in Gurugram, has emerged as a prominent hub of maritime security information in the region, enabling a cohesive and collective response to maritime security challenges in the Bay and the wider IOR (31).

Regional policymakers, however, realise that not all forms of assistance are equal; some security aid is more 'political' than other forms. A gift of a frigate or submarine, for example, has a different meaning than support in the shape of patrol boats for coastal security. Giving a Bay state a maritime patrol aircraft implies more geopolitical intent on the part of the donor than the gift of shallow-bottom boats for humanitarian aid. Similarly, the construction of an airfield with foreign assistance causes more concern in the country receiving assistance than a radar station installed with external help.

The opinions of Bay countries on burden-sharing, too, vary significantly. Despite their agreement to do more with each other, regional states have different perspectives on security cooperation. Some believe military interactions are intended to develop the habit of strategic cooperation (32). Others see security engagement between Bay states as a means of efficiently administering the littorals as well as a way of evolving norms to enforce a rules-based order in a common security space (33). Yet, many states are reluctant to allow foreign security agencies access to their EEZs because of the potentially adverse geopolitical implications that such access entails. The Bay states also do not contribute equitably

to regional maritime security, with the political elite in some regional states opposed to Quad states playing a larger security role (34).

Parsing Maritime Domain Awareness

MDA is widely seen as the core of security cooperation in the Bay of Bengal. It is, however, a complex undertaking. First, the concept of MDA is not limited to expanding situational awareness; the idea is to have more information in a broad swath of sea space without having to invest too much in surveillance assets. This means not having to constantly deploy warships and planes on patrol, saving valuable engine hours and cutting expenditure. MDA signifies greater bang for the buck for naval fleets, which is a crucial necessity in the current fiscal scenario. Yet, barring India, the Bay states have not made investments in MDA in ways that would render the information exchanged actionable.

Second, MDA in confined spaces differs significantly from surveillance in open waters. The Bay area is a dynamic place where threat scenarios evolve quickly; what is required here is a faster rate of information collection, processing, and dissemination. Regional law enforcement agencies recognise these imperatives but lack the necessary information processing capability to facilitate an efficacious and agile response. However, as noted earlier, the information exchanged between maritime agencies is not often actionable. Most data transmitted is routine information (about regular interactions, ship sightings, and so on) (35); much of it is unhelpful in identifying actual threats to security. Useful information is not often generated because many Bay states lack expert systems to spot anomalies and, in some cases, are unwilling to share data in particular areas, such as illegal fishing and illegal migration.

As the lead country for ‘security’ within the BIMSTEC, India has been a motivating force behind the joint MDA effort. Since the 26/11 terror strikes, New Delhi has driven data collection through initiatives such as the National Maritime Domain Awareness project, which connects all maritime agencies, and coastal states and union territories into a single network (36). Data pooling via interfaces with additional data sources, such as those from the shipping and fishing industries, has aided

in the development of a tactical picture. White shipping agreements with Bangladesh, Myanmar, and Sri Lanka have enabled the exchange of commercial shipping information (37). Nonetheless, regional law enforcement agencies have struggled to track activities of strategic interest in the Bay region. Despite the threats that China's military and nonmilitary activity poses in the region, navies and coastguards have been hard-pressed to develop a real-time picture of Chinese movements in the Bay (38).

A third concern is that the Bay states do not use commercial satellite services. The commercialisation of space activities is a recent phenomenon. While private-sector services use earth observation satellites, radio frequency satellites, and synthetic aperture radars to accurately detect suspicious contacts, governments are leery of working with non-government organisations. The Bay states also harbour reservations about using software that has been externally developed. It also does not help the cause of MDA that most small fishing boats in the region do not have AIS transponders (39).

From an Indian Lens

For India, security in the Bay of Bengal is more critical than ever. The Bay assumes increasing significance in view of the growing contestation between leading Indo-Pacific powers as the strategic interests of powerful actors in East and South Asia intersect. The region is also contiguous with the Andaman Sea, home to some of the busiest worldwide maritime lanes, allowing for massive volumes of goods to flow between Europe, Africa, and East Asia. The sea lanes in the Bay of Bengal lead up to the Malacca Strait, arguably the world's most strategic chokepoint. New Delhi, however, is seized with the reality that not all Bay states share its perspective. While they recognise the need to secure the chokepoints in the eastern Indian Ocean, many regional states lack the capacity to enforce maritime rules in the littorals.

Worryingly, BIMSTEC has yet to make security arrangements in the Bay region that are durable and sustainable. Despite efforts to leverage partner capabilities to improve security responses, member states remain

unwilling to deliberate on the uncomfortable questions surrounding China. In particular, the Bay states have been reluctant to counter Chinese military presence in the region. They also have seemingly different priorities in tackling nontraditional security challenges.

The coming months are going to be a test for Bay nations in terms of their willingness to acknowledge the full spectrum of maritime security challenges. Even the holistic provisioning of security goods would require a comprehensive discussion of the whole gamut of traditional and nontraditional security threats. The Bay states must know that an effective response to regional security challenges requires unity of action. The primary criterion for such an engagement is strategic trust. Without solidarity and shared end goals, it would be hard to achieve sustained collaboration in the Bay of Bengal.

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THE OTHER SIDE OF THE SEA: HOW INDONESIA COULD DEVELOP THE BAY OF BENGAL

GILANG KEMBARA

As the largest archipelagic state in the world, Indonesia sits strategically between the Indian and Pacific Oceans, providing important sea lanes of communication that connect east to west and vice versa. For decades, Indonesia's maritime focus has been eastwards, towards the Pacific Ocean. This is due, in part, to Indonesia's top market destinations for both export and import being mainly Japan, China, and the US, which utilise the Pacific (1).

However, trade through the Indian Ocean—mainly with India and the European Union—also shows strong annual growth. Indonesia's increasing reliance on the Indian Ocean, along with Indian Ocean sub-regions, especially the Bay of Bengal, has led it to put greater emphasis on strengthening relations with Indian Ocean Rim countries. It has also improved the connectivity of several industries in Sumatra through the Indian Ocean, to enable more efficient trade access between the Pacific and Indian oceans.

Indonesia has realised that the Bay of Bengal could serve as a catalyst of growth, not only for itself but also for the entire Southeast Asian region and the Bay of Bengal sub-region (2). This paper addresses how Indonesia could help to enhance the importance of the Bay of Bengal. It examines key challenges Indonesia currently faces stemming from the Bay of Bengal and provides recommendations on how to better engage with the Bay of Bengal countries to address them. It suggests linking Indonesia's efforts to existing multilateral organisations in the area, such

as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and explores ways in which the Association of Southeast Asian Nations (ASEAN) can do the same.

Key Challenges

The Indonesian province of Aceh shares a maritime border with India's Andaman and Nicobar Islands, as well as Malaysia and Thailand, which make up the northern entrance to the Malacca Strait. It can also link to Sri Lanka, Myanmar, Bangladesh, and the eastern coast of India through the Bay of Bengal. However, Aceh's proximity to the Bay of Bengal has also led to problems that have directly affected the livelihood of its people.

Chief among them is the irregular movement of people stemming from the Rohingya crisis. The issue escalated in the summer of 2015, with the mass migration of hundreds of thousands from Myanmar, particularly ethnic Rohingyas, towards Bangladesh and other Southeast Asian countries by boat. This created a wave of refugees that the region had never seen since the exodus of 'boat people' from South Vietnam in the 1970s. These refugees are vulnerable targets for criminal networks involved in arms and drugs smuggling, sea pirates, and Islamist militants (3). Being at the northern end of the island of Sumatra, Aceh is one of the first entry points of Rohingya refugees.

Aceh is different from other regions of Indonesia in that it is allowed to enforce Islamic Shari'a law. This attracted the Rohingya refugees, who are also Muslim. The Acehnese responded with kindness. Based on their experience of the 2004 Indian Ocean tsunami—when Aceh was the worst hit region and received global support in its reconstruction—they are eager to help strangers in need and welcomed them (4). But the Indonesian government was far less willing to allow undocumented migrants to shelter on Indonesian territory. It feared that its resources would be overstretched. It has asked the United Nations High Commissioner for Refugees (UNHCR) to help resettle the Rohingya refugees in a third country (5). The latest information gathered from UNHCR Indonesia's fact sheet from July 2023 noted around 879 refugees from Myanmar,

out of a total of 12,000+ refugees within the country (6). Additionally, the latest influx of Rohingya refugees from Myanmar brought the total number of Rohingya refugees to about 1,200 (7). However, this number only shows the number of Rohingya refugees in the province of Aceh.

The Bay of Bengal is also highly vulnerable to natural disasters – earthquakes, tsunamis, cyclones, floods, and sea level contamination. All of these have been exacerbated by climate change, which has increased their frequency. The worst among them was the 2004 Indian Ocean tsunami, which had its highest death toll in Indonesia (though countries such as Sri Lanka, India, and Thailand also lost thousands of lives) at a time when regional humanitarian assistance and disaster relief (HADR) cooperation was still underdeveloped. The long-term effect of the tsunami was widespread destruction of the natural environment of the region, as well as groundwater contamination, which led to secondary diseases and illnesses.

The Bay of Bengal is also frequently struck by cyclones, hitting mostly Bangladesh, India, Myanmar, and Sri Lanka. Indonesia has often engaged in HADR cooperation to mitigate cyclone impact, such as during the 2008 Cyclone Nargis in Myanmar – the country's worst natural disaster, which killed around 140,000 people. Indonesia, through ASEAN, convinced the ruling Myanmar military junta to allow Southeast Asian assistance in the form of an assessment team, and 30 medical personnel from ASEAN member states (8). It also sent financial assistance upwards of US$1 million, as well as food and medicines. The disaster highlighted the need for greater HADR engagement and cooperation.

Lastly, one of the main challenges facing the Bay of Bengal is the rivalry between China and India. Indonesia understands New Delhi's ambition to take on a more prominent security role in the Bay of Bengal. This is due to India's growing economic prowess, and its need to counter China's increasing economic, political, and strategic ties with the subcontinent, particularly around the Bay of Bengal. China depends on security within the sea lanes of communication (SLOCs) for safe sea trade. It has made key infrastructure investments in countries across the Indian Ocean region, through its Belt and Road Initiative (BRI), to pursue reviving

its Maritime Silk Route (MSR), such as the development of a deep-sea port in Kyaukpyu, Myanmar (9), expansion of the Chittagong port in Bangladesh (10) for US$8.7 billion, as well as that of the Hambantota port in Sri Lanka, and another US$500 million investment in the Colombo South Container Terminal (11).

The threat of an open conflict between India and China, or of any other major power in the sub-region with China, is minimal. However, there is concern that India-China tensions could escalate and lead to incidents at sea. Chinese coercive activity in the South China Sea is also a cause of concern. Though China has no maritime disputes in the Bay of Bengal at present, there is no telling how far Beijing might go to secure its interests in the coming years.

Linking Indonesia's Interests and Policies

The challenges of the Bay of Bengal are considerable. But they should be an impetus for Jakarta to look for solutions, alongside countries in the sub-region with which it has shared interests. BIMSTEC already exists. Indonesia is not a member but has been involved in several discussions with it on key issues, such as disaster relief, fisheries, irregular migration, and economic cooperation. Being already deeply involved with ASEAN, the G20, the Indian Ocean Rim Association (IORA), and other multilateral organisations, Indonesia cannot commit under the BIMSTEC multilateral mechanism. It seems content to engage bilaterally with each of the Bay of Bengal states or as an observer at BIMSTEC. Even so, there is a possibility that Jakarta could prioritise the Bay of Bengal more in future.

Regional connectivity between Indonesia and the Bay of Bengal is still very underdeveloped. Indonesia's westward trade is mostly with European countries and India, and extra effort will be needed to expand economic ties with countries such as Sri Lanka, Bangladesh, Nepal, Myanmar, and others around the Bay of Bengal. The ongoing crisis in Sri Lanka has weakened economic ties between the two, but Jakarta is keen on resuming them once Sri Lanka stabilises. Relations with Bangladesh are steady, and trade is growing, from around US$1.7 billion in 2020 to US$3 billion in 2021, but could rise further (12).

Indonesia's biggest trade partner in the Bay of Bengal is India. Through its Act East policy, India has prioritised developing economic and political ties with its Asia-Pacific neighbours. Indonesia and India have opened several communication forums—on energy, coal, health and pharmaceuticals, marine and fisheries, infrastructure, trade promotion, and more. There are regular exchanges and visits between their leaders, with Indonesian President Joko Widodo having travelled to India thrice, and Indian Prime Minister Narendra Modi to Indonesia twice. The two countries recorded a total trade volume of more than US$38 billion in 2022, an increase of 48 percent over 2021 (13).

For a secure and stable Bay of Bengal, the Malacca Strait needs to be secure too. It is a very strategic waterway that serves up to 40 percent of world trade, but it is also infamous as one of the most dangerous sea lanes owing to the high number of armed robberies that have occurred within it (14).

It is not being suggested that the Bay of Bengal countries should be directly involved in the security of the Malacca Strait. But regular exchange of information between these countries and Indonesia would surely benefit all of them. Both parties have a shared interest in ensuring the free flow of goods through the strait without any impediment. Relevant institutions from both sides could come together and look into areas of cooperation, such as joint exercises, training, exchanging personnel, sharing best practices, and perhaps establishing a coastguard forum.

The use of 'white hulls' or coast guards (15) rather than navies to protect territorial waters has been shown to greatly alleviate maritime insecurities, without increasing political tensions. As Prabhakaran Paleri, former director general of the Indian Coast Guard has noted, "The functions of the coast guard are humanitarian in outlook and character; they are not adversarial, but may lose their acceptability once they become adversarial" (16). The use of coastguards allows countries to enforce maritime regulations, as set out in the UN Convention on the Law of the Seas (UNCLOS), without the use of their combat/military force. An awkward confrontation, such as that of a military-grade frigate apprehending mere fishing vessels suspected of illegal fishing, could thus be avoided.

Cooperation between maritime law enforcement agencies of Indonesia and the Bay of Bengal countries would help alleviate any possible tensions that may arise between them while upholding the law in their respective maritime domains. It would also assist in aligning their perspectives on the various maritime insecurities that are occurring. As Paleri has suggested, "The existing appreciation of the coast guard in maritime partnerships can be enlarged if national policies of governance in relation to geostrategic security are relocated to include coast guards as one of the instruments of diplomacy"(17).

Finally, civil society organisations (CSOs) must also be mobilised to bridge the cultural differences between Indonesia and the Bay of Bengal countries. Indonesians are accustomed to cooperating with their immediate neighbours in Southeast Asia, and the more distant ones in East Asia. But despite historical affinities, there has not been such cooperation with the South Asian countries. This may not be a serious impediment to cooperation, but it does minimise the average Indonesian's level of awareness of the issues facing the Bay of Bengal. No doubt, several issues are shared across the region, but there are certainly differences in approaches. Hence, CSOs and academic institutions (to some extent) should become an important channel of communication between the societies and governments of the Bay of Bengal nations and Indonesia.

Multilateral Linkages: ASEAN and BIMSTEC

The year 2023 is an important year for Indonesia as it has assumed the chairmanship of ASEAN. One of the key initiatives Indonesia has put forward is the development of an ASEAN Maritime Outlook (AMO), which it first announced before its chairmanship in November 2022 (18). The first draft of the AMO was released at the 43rd ASEAN Summit in September 2023. Various drafts and announcements of the AMO have maintained that the document is a call to ASEAN to conduct a stock-taking of its various maritime plans and programmes over the past two decades. Maritime issues have generally been tackled by ASEAN sectoral bodies, with no single body being responsible for them. ASEAN does have the ASEAN Maritime Forum (AMF) and the ASEAN Extended Maritime Forum (EAMF), but they have not been effective.

The draft AMO refers to some priorities listed in the ASEAN Outlook on the Indo-Pacific (AOIP). The most promising of these is a resolve to increase maritime cooperation between ASEAN and other multilateral organisations (since maritime issues transcend geopolitical boundaries), particularly BIMSTEC (19). At least two members of BIMSTEC, Thailand and Myanmar, are also members of ASEAN. There are many areas where the two organisations can start to cooperate, such as:

Search and Rescue Cooperation

In January 2023, ASEAN finalised an Agreement on Aeronautical and Maritime Search and Rescue Cooperation. It is designed to strengthen search and rescue (SAR) cooperation between ASEAN member states and other external partners without prejudice to the sovereignty of ASEAN member states (20). ASEAN can thus start SAR cooperation with Bay of Bengal countries through bilateral agreements.

Combating Climate Change

Cooperation on combating climate change, and increasing maritime environmental protection, is urgently required. One of the most important aspects of marine environmental protection is maintaining a healthy level of fish stocks, which are vital to the livelihood of millions of coastal communities in both the Bay of Bengal and the Southeast Asian region. The concerned countries already have several Regional Fisheries Management Organisations (RFMOs). These can cooperate to conduct marine scientific research projects under the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). They could also work with the IORA under the Maritime Transport Council (MTC), the Fisheries Support Unit (FSU), and the IORA Centre of Excellence on Ocean Science and Environment (21). Together, they could promote the blue economy further.

Potential areas of cooperation between ASEAN and the Bay of Bengal region, especially through BIMSTEC, are many. The regions are

connected through land and maritime borders and share similar maritime insecurities. As this year's ASEAN chair, Indonesia is best positioned to promote such cooperation.

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THE RISING SUN IN THE BAY OF BENGAL: JAPAN'S REGIONAL ROLE

PRATNASHREE BASU

The Bay of Bengal, the largest bay in the world, has captured the imagination of commentators, scholars, and policymakers over the last few years. The Bay of Bengal, a vast body of water nestled between the Indian subcontinent and Southeast Asia, has historically played a significant role in terms of trade, commerce, and cultural exchanges. Its shores are dotted with ports that have served as gateways to the Indian Ocean, facilitating the movement of goods, people, and ideas for centuries. Although climatically turbulent, the Bay of Bengal has been relatively calm in geopolitical terms for the most part of recent history. Nevertheless, with the rise to prominence of the Indo-Pacific as a geostrategic space, the Bay too has found interest and attention among countries in the Indo-Pacific, particularly China, Japan, and the US, and therefore among other stakeholders, policymakers, and practitioners.

There are several non-traditional security threats that compound the Bay (1); these waters are prone to extreme weather events, illegal and undocumented migration, illegal, unregulated, and unreported (IUU) fishing, the smuggling of drugs and small arms, and maritime piracy. Although piracy and robbery at sea have declined in recent years, the other threats mentioned continue to persist. Together with low volumes of contemporary intra-regional trade, these factors impede the augmentation of enhanced maritime ties among the Bay littorals.

Besides these concerns, the Bay has also gained prominence because of two geopolitical factors: first, attempts by China to gain footholds among the Bay littorals, and second, efforts by Bay littorals as well as countries

of the wider Indo-Pacific, such as Japan and the US, to establish and sustain functional cooperation mechanisms that would serve to build greater interconnections for regional development.

The first aspect was an important project for Beijing to ensure sea access for its landlocked southwestern provinces and an alternate shipping route to the West, as well as to consolidate its inroads into the subcontinent for access to alternate energy reserves. Beijing's quest for maritime access is not benign, as has been demonstrated across several geographies across the Eurasian continent. Therefore, apprehensions regarding its ulterior motives have prompted countries like India and Japan, and belatedly, Bangladesh, Sri Lanka, and a few others, to respond and build strategies that would act as a guardrail against China's advances. China's southwestern access strategy is now over two decades old, and, while it is still an approach that is important for Beijing, much has transpired across the region over the years geopolitically. The Bay littorals, particularly India and Bangladesh, have grown economically and politically, and while Sri Lanka and Myanmar are entangled in their domestic issues, there are at least stepping stones worth of bulwarks in place against unilateral advances by China with work underway to strengthen regional security and stability regardless of the latter.

The second aspect, pertaining to the establishment of functional cooperation platforms for greater regional exchanges, is what has largely prompted the push for partnerships for the development of infrastructure connectivity. This aspect also covers partnerships for enhanced maritime security, which remains a significant part of the efforts being led by Japan and India in the Bay of Bengal. This essay argues that the strengthening of port infrastructure across the Bay forms a vital component of efforts at boosting maritime security, both traditional and non-traditional, in these waters and maps Tokyo's investments and engagements in contributing to the same. This is because Japan's engagement with littorals across the region has attempted to fill the gaps (2) and address the concerns that typically accompany China's involvement and, therefore, accounts for a constructive format of cooperation based on reciprocal partnerships (3).

Port and Maritime Security

Ports are not merely points of entry and exit; they are economic engines that drive trade, create jobs, and catalyse industrial growth. Investments in port infrastructure also hold strategic implications, serving as a testament to the evolving geopolitical landscape in the Indo-Pacific. Today, port facilities are the linchpin of international trade. They act as the interface between land and sea transportation, serving as critical transfer points for goods moving between ships and land-based transport networks. Ports efficiently manage the transshipment of cargo, reducing time and costs in the supply chain. Well-developed port infrastructure enhances connectivity not only within a region but also with global markets. It reduces transportation costs and transit times, making goods more competitive in international markets. This, in turn, encourages trade partnerships and foreign investments, driving economic expansion. Ports also play a crucial role in disaster resilience and humanitarian aid efforts serving as entry points for emergency relief supplies during disasters and facilitating rapid response and recovery efforts. Besides, resilient port infrastructure can be designed to withstand natural disasters, minimising disruptions to supply chains.

The Bay of Bengal has historically been a pivotal crossroads for maritime trade. Its sheltered waters provided a natural haven for seafaring vessels, and its shores were dotted with thriving port cities that facilitated trade between the Indian subcontinent, Southeast Asia, China, and the Middle East. Ports such as Chittagong (now in Bangladesh), Chennai (formerly Madras, India), and Colombo (Sri Lanka) have served as vital nodes in maritime exchanges, facilitating the exchange of goods, knowledge, and ideas. These ancient ports were also a testament to the engineering prowess of their times. From the impressive wharves and warehouses of the Mauryan Empire in India to the well-organized harbours of the Khmer Empire in Cambodia, the historical infrastructure of Bay of Bengal ports demonstrated the importance of efficient cargo handling and storage. These early developments laid the groundwork for the modernisation of port facilities in the region (4).

While the primary ambit of ports is securing vessels, cargo, and the port area per the International Ship and Port Facility Security (ISPS) code (5),

ports make a significant contribution to maritime domain awareness by providing landing and shipping documentation thus transforming into maritime security partners (6). Boosting port infrastructure around the Bay therefore has the potential to positively impact intra-region trade while concurrently having a much wider bearing on augmenting domain awareness for mitigating threats at sea.

Despite their historical significance, Bay of Bengal ports have faced many challenges that threaten their efficiency and competitiveness in the global trade arena. These challenges include outdated infrastructure, insufficient capacity, inadequate handling equipment, and inefficient logistics systems. The result is longer turnaround times for vessels, higher costs for shippers, and delays in the delivery of goods.

The maritime forces of Bay littorals also face capacity and funding constraints along with divergent security priorities. While multilateral efforts have been initiated, including the Bali process, they have largely not been successful due to domestic issues and structural constraints that impact implementation efforts, such as inequitable burden sharing (7).

In the Bay region, India has always played a larger and more active role than any other country (8) supplying essential maritime security services to the area, such as training, capacity building, and intelligence sharing, much of it through the Joint Operations Centre and Coastal Security Scheme networks led by the International Fusion Centre–Indian Ocean Region. The Sri Lankan navy is also well-experienced in tackling nontraditional coastal threats. Bangladesh needs capacity enhancement in terms of maritime governance and special operation skills but is expected to make significant improvements as Dhaka is following the Forces Goal 2030 program to augment its maritime enforcement capabilities. Myanmar has also invested substantially in the establishment of a coast guard force and procurement drives to increase its naval capacity but remains hamstrung due to its domestic political situation as well as funding limitations. While Thailand has also faced financial constraints, it has progressed ahead of other Bay littorals in modernising its naval capabilities and capacity enhancement primarily through its Maritime Enforcement Coordinating Centre and effective inter-agency coordination

among the navy, coastal and marine resources department, fisheries department, and others (9). The following section explores the evolution of the strategic presence maintained by Japan in the Bay of Bengal and its role in the capacity building of Bay littorals, which in turn has contributed to the strengthening of maritime security in the Bay.

Japan's Strategic Presence in the Bay of Bengal

Although geographically distant from the Bay of Bengal, Japan has had a historical interest in the region. Maritime trade routes, known as the Spice Routes, brought goods from Southeast Asia, including the Bay of Bengal, to Japan. Japanese traders and sailors plied these routes, facilitating cultural exchanges and trade relations that stretched across vast distances. Japan's interest can also be traced back to its post-Second World War economic expansion (10). Seeking raw materials and export markets, Japan turned its attention to Southeast Asia and the Indian subcontinent, leading to increased economic interactions and cooperation.

Over the last few years, Japan's strategic policy outreach and engagement has prioritised the Bay of Bengal. Japan's interest in the Bay of Bengal region is underpinned by a confluence of strategic, economic, and geopolitical factors with an investment strategy that involves forging bilateral and multilateral agreements with Bay of Bengal littoral countries. Per the country's official development assistance (ODA) priorities in the South Asian region, India and Bangladesh are the key focus areas, with India being recognised as an indispensable partner (11).

Currently, Japan has arrangements in place for port development in Sri Lanka, Myanmar, and Bangladesh. The provision of patrol boats and planes to the Sri Lankan Coast Guard (12), financing the improvement of the Trincomalee Port (13) (one of the best deep-water natural harbours in the world), and, more recently, the development of the West Container Terminal at Colombo Port (14), are just some of the measures that Japan and India have set in motion to boost port and maritime infrastructure in Sri Lanka, where these are an economic imperative.

Tokyo has also been engaged in funding and developing the Thilawa port in Myanmar. With Thailand and Malaysia, cooperation in the maritime

domain is primarily focused on defence, with the Japan Maritime Self-Defence Force and the Royal Thai Navy having recently established terms of reference for closer bilateral naval interactions (15). Japan also put in place arrangements that support Malaysia in enhancing the security of the Malacca Strait alongside the creation of the Malaysian Maritime Enforcement Agency and capacity building of the country's coast guard (16).

In Bangladesh, the Matarbari Port project, comprising a container terminal and a coal-fired power plant, has been a vital component of Japan's developmental and strategic efforts. The deep-sea port, funded by the Japan International Cooperation Agency, will enhance the cargo handling capacity of Bangladesh and also serve as a strategic cornerstone to balance China's access to the Bay, particularly since the much-touted Sonadia port, to be built by China, never materialised (17). The port will be a vital strategic and security asset due to its locational advantage at the head of the Bay of Bengal and because it is set to be the only competitor to the China-supported Kyaukphyu port in Myanmar. The latter, although important strategically for China, has its own set of challenges.

To date, the Kyaukphyu deep-sea port is China's only direct access point to the Bay. The port, part of the larger Kyaukphyu SEZ (KPSEZ), is a vital node of China's Belt and Road Initiative. But many locals have raised multiple concerns, including threats to their livelihood due to fishing restrictions resulting from the construction and, later, operation of the port. Fish stocks have reportedly declined since the oil pipeline and parallel natural gas pipeline running to Kunming in China's Yunnan Province started functioning in 2013 (18). Concerns regarding the potential dual use of the port for military purposes by China have also been prevalent, but the junta is likely under duress from China to move forward with the projects. While an environmental and social impact assessment for the deep-sea port project is expected to be completed this year, the junta has expedited the construction of the KPSEZ, taking advantage of the ceasefire with the Arakan Army to revive stalled projects (19).

While the Kyaukhyu Port makes economic sense for China, it is the dual use implications that are a cause for worry among neighbouring

countries along with debt trap concerns for Myanmar. The Rakhine State, where the KPSEZ is located, is one of the most ethnically troubled areas in Myanmar and is also an area of competing interests as it is also the location of the long-awaited Sittwe Port, which began operations earlier this year (20) after having been under construction for decades. Funded by India, the Sittwe Port, located just 65 nautical miles from the Kyaukphyu Port, is part of the multimodal Kaladan project and is important for enabling maritime access to India's landlocked northeastern states, giving fresh impetus to their value chains. The area is politically sensitive for neighbouring Bangladesh as well (21) due to the repatriation of Rohingya refugees, which has been a longstanding yet complex issue for Dhaka.

Across the Bay, Japan has helped build maritime capacities, strengthened maritime law enforcement, supported coastal infrastructure projects, and helped reduce non-traditional maritime security threats. Yet, while Japan has for years been closely engaged in enhancing regional security and infrastructure capacities across the Bay littorals, there remains a lot of room for enhancing port infrastructure. Most importantly, prospects for short-sea shipping across the Bay have increased (22) due to plans for the revival of old ports and the establishment of new ones along the Bay in areas such as Matarbari, Dawei, Thilawa, Myeik, Pathein, and Ranong in addition to existing ones such as those along India's eastern seaboard, located in Dhaka, Chittagong, and Yangon. Additionally, a BIMSTEC Agreement on Maritime Cooperation, which allows cabotage-free intra-BIMSTEC water transportation, is scheduled to be signed at the BIMSTEC Summit on 30 November 2023. The agreement will boost merchant shipping and maritime transport among member countries (23). These developments signal a potentially busier Bay in the coming years (provided there is an uptick in the intra-Bay trade), calling for upgraded maritime security mechanisms in which ports dotting the Bay are set to play an important role.

Japan's Blueprint: Contributions to the Development of the Bay of Bengal

One of Japan's key contributions to infrastructure development in the Bay of Bengal is through financial support. Japan has extended loans and

grants to countries in the region to fund port construction and related projects. These loans often come with favourable terms, including low interest rates and extended repayment periods, making them attractive options for countries seeking to finance critical infrastructure (24). Japan's expertise in advanced technology and engineering practices has been instrumental in enhancing the efficiency and sustainability of Bay of Bengal ports by providing cutting-edge equipment, systems, and solutions for port operations. These technological contributions not only improve the ports' competitiveness but also set higher environmental and safety standards. Japan's investment strategy also emphasises capacity building and skill transfer. This involves training local personnel in modern port management, maintenance, and environmental sustainability practices, as in the case of Bangladesh, for instance (25). By empowering local communities with the knowledge and skills to manage and maintain these facilities, Japan ensures the long-term success and sustainability of these infrastructure projects.

Tokyo's approach recognises the importance of regional integration and cooperation, and leveraging financial support, technology transfer, capacity building, and regional cooperation to drive the development and enhancement of port infrastructure. In addition to bilateral collaborations, Japan strategically cooperates with multilateral organisations in the region, such as the Asian Development Bank and the World Bank. These partnerships pool resources, expertise, and knowledge to address the complex challenges of port infrastructure development. Multilateral organisations often provide a platform for coordinating investments, ensuring project feasibility, and promoting best practices in governance. These approaches align with Japan's ethos of quality and reliability, which it has consistently upheld in its infrastructure projects worldwide.

Tokyo's strategic interests in the region align with the broader goals of fostering economic growth, stability, and sustainable development in the Bay of Bengal littorals and thereby harmonise with broader regional initiatives. For example, it complements the Indian government's '*Sagar Mala*' programme, which aims to modernise India's ports and develop a comprehensive maritime infrastructure. This alignment fosters regional integration and connectivity, creating a seamless network of ports and trade routes in the Bay of Bengal region.

The pursuit of sustainable infrastructure development lies at the heart of Japan's involvement in enhancing port facilities across the Bay of Bengal. Japan is acutely aware of the environmental challenges posed by port infrastructure development. Bay of Bengal ports are located in ecologically sensitive areas, often near fragile coastal ecosystems (26). As the impacts of climate change become increasingly apparent, Japan has sought to integrate resilience measures into its infrastructure projects (27). This means ports that can withstand rising sea levels, extreme weather events, and other climate-related challenges.

Japan's own history of overcoming environmental challenges and disasters has provided it valuable insights on sustainable infrastructure development. The country's experience with managing its own ports in earthquake-prone zones has led to the development of innovative technologies and engineering practices that enhance the resilience of port facilities (28). These lessons are shared and applied in the Bay of Bengal region, contributing to safer and more sustainable port operations.

In the Bay region, as in the wider Indo-Pacific, the China factor has become a systemic challenge (29), particularly because of its predatory diplomacy and aid structure, which creates debt burdens for partner countries and, because of its territorial and geostrategic advances, and will continue to impinge on and shape geopolitical dynamics for the foreseeable future. Consequently, while the China factor will determine the course of regional partnerships and responses, the scope and extent of cooperative mechanisms have diversified and expanded in a way that would ensure their sustenance even beyond the driving force of Beijing's assertions. In contrast, Tokyo's engagement across the Bay recognises regional concerns and offers structure, support, and direction for functional and comprehensive partnerships. The 2023 ODA Charter (30) recognises the urgent need for development finance for sustainable growth and underscores the need for strategic use of development cooperation. As its earlier iterations, the 2023 Charter also underscores the rule of law, avoidance of development cooperation for military purposes, and debt sustainability, among other components, as vital principles underpinning the country's financial and strategic engagements.

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SECURITY ASPECTS OF THE BAY OF BENGAL COOPERATION: WHAT THE QUAD MUST DO

SATORU NAGAO

Over the last decade, the importance of the Bay of Bengal region has been on the rise. In February 2018, when China sent 11 warships to intervene in the political turmoil in the Maldives, India deployed its warships in the Bay of Bengal. The Chinese warships eventually returned to the Pacific side (1). There are some reports that the Quadrilateral Security Dialogue (QUAD), comprising of India, Japan, Australia and the US, is establishing an anti-submarine network system to detect China's submarine activities in the Bay of Bengal (2). For instance, India's transport planes and anti-submarine planes have recently been landing in the Cocos Islands of Australia, which is a strategic place to detect Chinese submarine activities (3). Furthermore, India is developing military facilities in the Andaman and Nicobar Islands, and it has also agreed to develop Indonesia's Sabang port (4). Along with India, the US is planning to establish a First Fleet in this region (5). In July 2023, the US naval warships were repaired in India for the first time (6). These repair facilities are designed to promote US deployment in the Bay of Bengal.

These actions indicate that the Bay of Bengal region is increasingly important in terms of regional security. Three questions need to be asked to understand why this is happening now: i) What is the current security situation in the Bay of Bengal? ii) What are the features of China's activities? iii) How should the QUAD respond to China? The subsequent sections explore these questions in more detail.

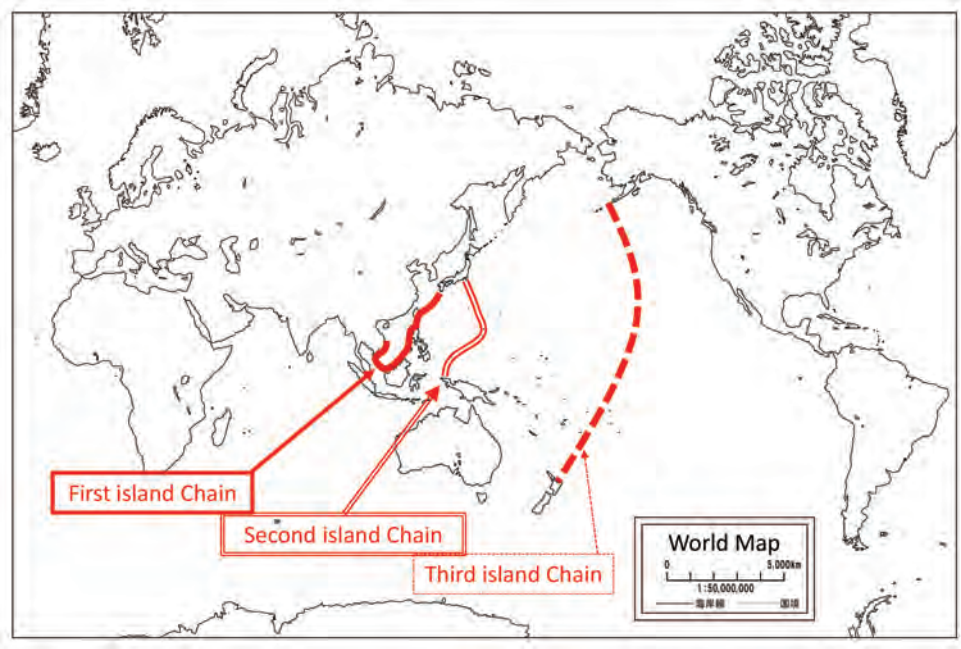
Current Security Situation in the Bay of Bengal

First and foremost, the Bay of Bengal connects the Indian Ocean and the Pacific Ocean geographically, which is why it has become the focal point for both China and the QUAD.

For China, this is the core place for safeguarding its sea lanes of communications

For China's security, maintaining the development of coastal cities such as Shanghai and Hong Kong is critical. Therefore, China wants to expel foreign militaries from the sea that face these cities and has therefore established defence lines to enable this. The first, second, and third island chains are set up based on this idea (see Map 1). The first island chain looks like a line between Japan–Taiwan–the Philippines and includes the East China Sea and the South China Sea. The second island chain forms a line between Japan–Guam–Palau and is set up to limit the approach routes to the first island chain. To limit access to the second island chain, China set up a third island chain around Alaska–Hawaii–South Pacific–New Zealand.

Map 1: First, Second, and Third Island Chain

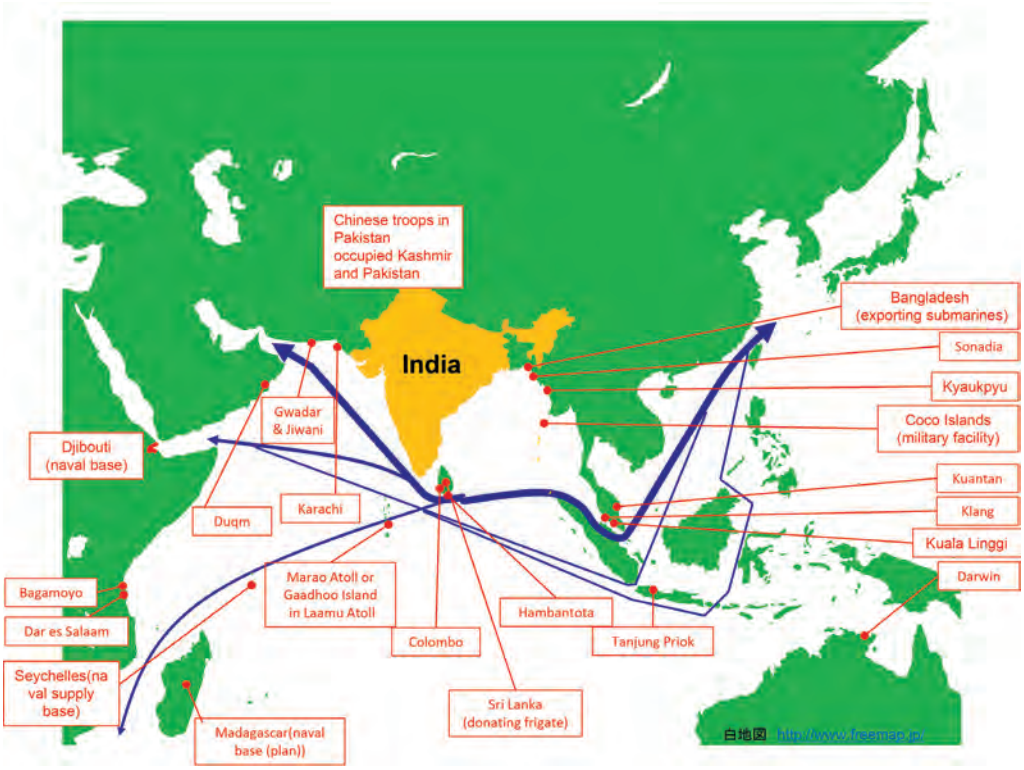


Source: Author's own

Along with these defence lines to protect its coastal cities, the supply routes for these cities are also a matter of security concern. The supply of water to these cities relies on the water source, Tibet, and its route. China's provocations along the India–China border region have risen because the importance of that region for China is also rising. Simultaneously, China is focusing on the Bay of Bengal as a supply route.

For China, the Bay of Bengal is vital for its security and for protecting its sea lanes of communications (SLOC). Since China's coastal cities rely on imported oil from the Middle East, the country is worried about the Malacca Dilemma. The Malacca Dilemma is a situation in which China relies on oil carried through the Malacca Strait despite that area being secured by the US, a country China does not want to rely on. To avoid this, China has developed alternative routes, including building ports and land routes in Pakistan to chart out the Middle East–Pakistan–Xinjiang Uygur route. To build the Middle East–Myanmar–China energy supply

Map 2: China's Activities in the Indian Ocean Region



Source: Author's own

route, China is building a port and pipeline in Myanmar. Besides these, China has also built ports in both the Indian Ocean and the South China Sea sides of the Malay Peninsula and connected them by a land route. If China uses the Malay Peninsula route, it can avoid using the Malacca Strait. However, even if it uses these alternate routes, China still needs to cross the Indian Ocean, including the Bay of Bengal. For China, securing the Bay of Bengal means securing its supply route.

Therefore, China has deployed military forces to secure the Bay of Bengal. In the mid-2000s, China set up naval communication facilities in the Coco Islands of Myanmar near India's Andaman and Nicobar Islands (7). There is a strong possibility that this facility can guide China's naval fleet to enter from the South China Sea into the Bay of Bengal.

Additionally, since 2008, China has been conducting countermeasure operations against piracy off the coast of Somalia, using it as an excuse to deploy naval ships in the Bay of Bengal. For example, China has dispatched both nuclear and conventional submarines in the name of counter-piracy measures, even though submarines are generally not useful weapons to deal with piracy. In the past, the Netherlands has deployed submarines in the same coastal area, but in that case, submarines were useful because their communication system was well-coordinated with other surface ships as part of a multinational operation (8). In the case of China, its submarines did not share much information with other countries. Indeed, its submarines did not operate off the coast of Somalia even though they claimed the purpose of the deployment was anti-piracy measures.

China's deployment of submarines in the Bay of Bengal could be a threat to India. Consequently, India is developing an underground naval port for submarines in Rambilli near Vishakhapatnam, and deploying nuclear ballistic missile submarines against China. However, if China's submarines stay in the vicinity of India's nuclear ballistic submarines, they would be able to sink India's nuclear ballistic submarines easily, affecting India's nuclear deterrence against China.

In addition, India's nuclear activities could be affected as well. If Chinese submarines are operating in the Bay of Bengal, India's aircraft carrier

battle group needs to be careful as China can limit India's access to the South China Sea by deploying its submarines.

Establishing its presence in countries around India, China's fleet has called at ports in Pakistan, Sri Lanka, and Bangladesh. Apart from this, China has exported submarines to Pakistan and Bangladesh, donated a frigate ship to Sri Lanka, and negotiated with the Maldives to buy unmanned islands to set up a naval base (see Map 2) (9). Providing weapons to other countries facilitates Chinese weapons specialists and instructors to be deployed in these states to collect information. China's military presence in the Bay of Bengal could be the factor that persuades regional countries to accept China as a security provider. This means that India and other QUAD members would lose their regional influence.

Therefore, for China, the Bay of Bengal is the place to secure to safeguard their SLOC by minimising the influence of India, the US, and other QUAD members. China's infrastructure development, deployment of naval ships, including submarines, and provision of weapons all stem from this strategic purpose. If China continues this course, it is reasonable to expect that it will deploy an aircraft carrier battle group in the Bay of Bengal to show more military presence in the future.

For the QUAD, the Bay of Bengal is a strategic spot in the Indo-Pacific

Geographically, the Bay of Bengal is vital for the Indo-Pacific region because it is the joint point between the Pacific and Indian Oceans. In response to China's deployment, the QUAD countries have cooperated on many projects.

First and most importantly, the QUAD has cooperated to enhance India's anti-submarine capabilities. Although a US aircraft carrier was dispatched to support India in the 1962 war against China, in the 1970s and 1980s, however, it became the main target of the Indian Navy when a carrier was dispatched to warn India against its involvement in the third Indo-Pakistan war. The Indian Navy imported many anti-ship missiles and

submarines against US aircraft carriers, but it lacked the capability to deal with submarines. Since the 2000s, in the wake of China's deployment of submarines in the Indian Ocean, anti-submarine capabilities have been a priority for India.

India, the US, Japan, and Australia are now partners in the QUAD. The US provides anti-submarine equipment such as P-8 anti-submarine patrol planes, MH-60R anti-submarine helicopters, and SeaGuardian unmanned patrol planes to detect submarines. Along with equipment, know-how is also provided. Japan has one of the largest anti-submarine forces in the world. Moreover, the 2017 "Japan–India Joint Statement: Toward a Free, Open and Prosperous Indo-Pacific" clearly mentioned "the ongoing close cooperation between the Japan Maritime Self-Defence Force (JMSDF) and the Indian Navy in various specialised areas of mutual interest, including anti-submarine aspects" (10).

India's Andaman and Nicobar Islands form strategic locations to detect Chinese naval activities. India set up the Andaman and Nicobar Command as an integrated three-service command and has begun to strengthen its capabilities. Japanese-US infrastructure projects are also coordinating to support these moves. For example, Japan used Official Development Assistance (ODA) to invest in India's electric power project to build power plants in the Andaman and Nicobar Islands (11). The Japanese company NEC also took charge of connecting a light fiber cable between Chennai and the Andaman and Nicobar Islands (Port Blair, Little Andaman, Car Nicobar, Kamorta, Campbell Bay, Havelock, Long, and Ranghat Islands with a cable length of 2,300 kilometers and a design capacity of 100GB/second) (12). These infrastructure projects enhance the military capabilities of India because electric power and internet connection are directly linked to the capability of military facilities.

Along with the Andaman and Nicobar Islands, the Cocos Islands (Keeling) of Australia are an important strategic place from which to monitor China's submarine activities. Since 2012, the US has planned to deploy the unmanned surveillance plane Global Hawk to the Cocos Islands (13). In 2023, India sent P-8 anti-submarine patrol planes and transport planes to the Cocos Islands. Australia has also sent P-8 anti-submarine

patrol planes to bases in India (14). Thus, via the Cocos Islands, it looks like the anti-submarine patrol by the QUAD in the Bay of Bengal has already begun.

Owing to such cooperation, some experts believe that there are big plans to deal with Chinese submarines (15). Chinese submarines deployed in the Bay of Bengal arrived from the Hainan Islands in the South China Sea, which is where the QUAD wants to track their activities. During the Cold War, the US, and Japan had set up a network of sensors to detect magma movement, tsunamis, and earthquakes, but the same system could also detect Soviet submarine activities. Thus, if a similar submarine detection sensor network is set up in the Bay of Bengal, there is a precedent.

Indeed, India has set up submarine detection censors around the Rambilli base to detect Chinese submarines sent to monitor the activities of India's submarines. The Andaman and Nicobar Islands are also equipped with anti-submarine forces. The connection that Japan's initiative helped establish between Chennai and the Andaman and Nicobar Islands through light fiber internet cables may prove to be crucial: if submarine detection sensors are connected to light fibers, these sensors can send information through the fibers. In 2023, the QUAD summit stated, "Today we announce a new 'Quad Partnership for Cable Connectivity and Resilience'. The Partnership will strengthen cable systems in the Indo-Pacific, drawing on Quad countries' world-class expertise in manufacturing, delivering and maintaining cable infrastructure" (16). Thus, it is expected that the QUAD will establish an anti-submarine network in the Bay of Bengal if threats posed by Chinese submarines are real.

Along with this anti-submarine network, Japan's infrastructure projects also point to counter-China aspects. Since 2014, Japan has invested in infrastructure projects in Northeast India. Although this infrastructure development is happening outside of Arunachal Pradesh, which China also claims, the Indian Army can use these infrastructures to deploy military forces to the Indo-China border. At the same time, the road in Northeast India connects with the road in Myanmar, Thailand, Laos, and Vietnam to facilitate trade between India and Southeast Asia. Japan has also undertaken several infrastructure projects, such as the Chennai Port

in India and the Trincomalee Port in Sri Lanka, to promote connectivity between India and Southeast Asia. If trade increases between India and Southeast Asia, it may neutralise Southeast Asia's dependency on China. Thus, infrastructure projects in the Bay of Bengal region will affect India–Southeast Asia relations and neutralise China's influences.

Japan has tried not only to promote India–Southeast Asia trade, but also to counter China's infrastructure projects in the Bay of Bengal. The Matarbari port project in Bangladesh is a typical case. When China proposed the Sonadia port project, Japan countered with the Matarbari port project, despite the two projects being very close in proximity. Bangladesh examined the two competing proposals carefully and finally choose Japan's project. This is very important because China's infrastructure projects have involved high interest rates and created huge debts for the recipients, giving China leverage over them. If there are alternative projects, developing countries should not accept China's debt trap.

Such efforts by Japan have delayed China's ambition. Central to the QUAD's Indo-Pacific strategy, the Bay of Bengal could be the platform for the competition between the QUAD and China to play out.

The Features of China's Activities

China's territorial expansion in the Bay of Bengal has many similarities to what it has done in the East China Sea, Taiwan, the South China Sea, the South Pacific, the Indo-China border area, and the Arabian Sea. Its territorial expansion has three features. The first of note is the country's repeated disregard for current international law when laying claim to new territory. In the East China Sea, China did not claim the Senkaku Islands before 1971, but its attitude has since changed because the Senkaku Islands are in a strategic location that would enable China to pressurise Taiwan, and they also have potential oil reserves. Like it did in the East China Sea, there is a possibility that China will expand its territorial claim anywhere in the future if necessary.

The second feature of China's territorial expansion is its exploitation of 'power vacuums'. For example, China occupied half of the Paracel

Islands just after France withdrew in the 1950s; in the 1970s, after the US withdrew from South Vietnam, China occupied the other half of the islands. In the 1980s, China expanded its activities in the Spratly Islands and occupied six features there, after the Soviet Union decreased its military presence in Vietnam. In the 1990s, China occupied Mischief Reef after US troops withdrew from the Philippines (17). These activities demonstrate that China tends to expand its territorial reach when military balances change and power vacuums are created. A similar event occurred in the case of the Bay of Bengal. After the Cold War, Soviet submarines disappeared from the area, and the US naval presence reduced, too. But the Indian Navy has not been able to fill that gap. Because of this power vacuum, there is room for China to expand its activities in the Bay of Bengal.

China's non-military control is the third feature of the country's territorial expansion. China has used foreign infrastructure projects such as the Belt and Road Initiative (BRI) to expand its sphere of influence. For instance, China's port project in the Hambantota port in Sri Lanka was a debt trap. The interest rate was six to eight percent, as compared to World Bank or Japan-led Asia Development Bank rates, which were 0.25 percent to three percent. This created a huge debt for Sri Lanka (18). China then succeeded in acquiring the right to control the Hambantota port for 99 years. Thus, economic dominance is always a part of China's strategy.

How Should the QUAD Respond to China?

A lack of respect for international law, expansion of territorial claims where there are power vacuums, and attempts at economic dominance or other non-military methods to expand influence abroad are all common themes of China's exploits in the whole Indo-Pacific, including the Bay of Bengal region. Thus, how should the QUAD countries respond? The knowledge of the pattern of China's behaviour points towards the answer: the QUAD should do the opposite of what China wants.

First, the QUAD must continue to respect and insist upon a rules-based order grounded in current international law, which the joint statements of the QUAD, the North Atlantic Treaty Organization (NATO), and many

bilateral summits have repeatedly emphasised. For example, the joint statement from the QUAD summit in 2023 said: "We emphasize the importance of adherence to international law, particularly as reflected in the United Nations Convention on the Law of the Sea (UNCLOS), and the maintenance of freedom of navigation and overflight, in addressing challenges to the maritime rules-based order" (19). Such an emphasis helps protect a rules-based order.

Second, the QUAD countries must fill perceived power vacuums by maintaining a military balance. The QUAD's essential focus is on improving India's anti-submarine capabilities, which have indeed improved drastically. However, there are still some problems. For example, India's current conventional submarine fleet consists of eight Kilo-class and four 209-class that are obsolete, which were inducted between 1986 and 2000. However, not enough alternative submarines have been inducted. Since 2001, only five French-designed Scorpène-class submarines have been inducted. During that same time, China has inducted more than 42 conventional submarines. Compared with China, India is extremely slow. Indeed, not only India but also other QUAD members need to up their speed in equipping themselves with new weapons. Australia will not possess nuclear submarines before they receive three US Virginia-class nuclear submarines under AUKUS in 2030 (20). The number of US warships has not yet increased (21). Despite Japan raising its defence budget, it is facing a shortage of manpower because of its aging society (22). Thus, the QUAD needs to understand the seriousness of the situation and coordinate better. Sharing information, deep coordination, and effective use of limited military assets are of utmost importance.

Third, the QUAD has done well to expose China's foreign infrastructure projects in the Bay of Bengal as the non-military methods of control that they are. The tragedy of the Hambantota port situation is well-known now and many countries in this region have hesitated to accept China's proposals without careful review. At the same time, however, China is still the only choice in many business enterprises. For example, with the 5G communications network, China's system is far cheaper than others. The QUAD countries need to develop cost-effective systems that regional developing countries can accept.

In the Bay of Bengal, China has been expanding its influence. The situation demands that the QUAD cooperate more deeply and strike back.

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REWIRING CONNECTIVITY FOR A BAY OF BENGAL COMMUNITY

JAPAN'S CONNECTIVITY INITIATIVE: NORTHEAST REGION OF INDIA A GATEWAY TO THE INDO-PACIFIC

SRABANI ROY CHOUDHURY

Connectivity is synonymous with networks, which are a set of interconnected nodes. It is a measure of how well-connected any one node is to all other nodes in the network (1). A node, in turn, can be a person, firm, city, country, or other spatial entity. Connectivity serves multiple utilities for countries today. By investing in a robust connectivity infrastructure, countries can position themselves competitively on the global platform and reap the benefits of an interconnected world. Further, connectivity facilitates understanding and cooperation among nations, and fosters strategic partnerships.

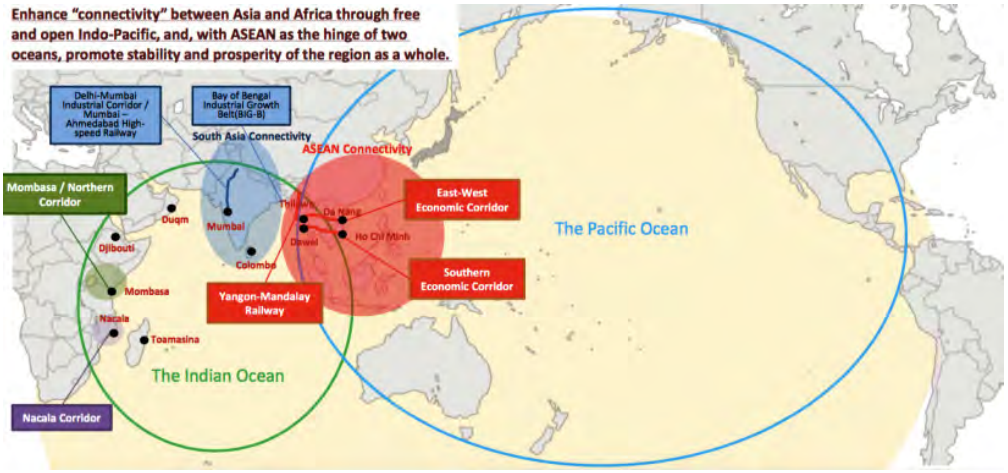
Since Japan's rise as an economic powerhouse, the relevance of aiding infrastructure investment and development cooperation offering mutual benefit to both Japan and the host nation was a policy drive to sustain Japan's economic growth. It has, over time, evolved in form, becoming structured, with strongly defined objectives taking into account domestic needs, the nation's security, and regional dynamics. Today, Japan contributes significantly to the infrastructure development of South Asian and Southeast Asian countries by supporting their infrastructure while keeping its national priority of securing a Free and Open Indo-Pacific (FOIP) (2).

This essay aims to assess Japan's new FOIP vision and how infrastructure serves as a tool to fulfil its vision of connectivity and security. It will examine the role of the aid programme disbursed by the Japan International Cooperation Agency (JICA) to achieve these objectives, elucidated by mapping developments in India's Northeast region, wherein

Japan has worked in tandem with India's economic, political, and security needs. This essay will also put forth the BIG-B initiative (an infrastructure connectivity agenda) that Japan has envisioned to connect the Bay of Bengal area to the Indo-Pacific region, thereby creating a long chain of connectivity through roads, highways, and ports. The vision of an integrated South Asia and Southeast Asia with East Asia continues as Japan shifts gears to promote its policy of "Proactive Contribution to Peace" (3).

Japan's Policy of Free and Open Indo-Pacific: Focus on Connectivity

Map 1: Connectivity Mapping of Japan's 'Free and Open Indo-Pacific' Vision



Source: Ministry of Foreign Affairs, Japan (4).

The late Japanese Prime Minister Shinzo Abe envisioned a 'Free and Open Indo-Pacific' (see Map 1), articulating it in a 2007 speech known as the 'Confluence of the Two Seas' (5). However, the concept found salience only after 2016, when India, Australia, and the US took steps to conceptualise their notions of the Indo-Pacific region. At the same time, the Association of Southeast Asian Nations (ASEAN), too, established the acceptance of 'ASEAN centrality'. Disruption caused by the COVID-19 pandemic, which exposed the vulnerability of nations, followed by the Ukraine crisis that unveiled the weakness of protecting the 'rule-based order' have brought the liberal order closer, manifesting in various

forms of multilateral engagements. As Fumio Kishida took over the reins of Japan, he opined that "Ukraine today may be East Asia tomorrow" (6) and that Japan needed to prepare itself. Apart from diplomatically engaging with nations in the Indo-Pacific region and beyond, he also revised Japan's National Security Strategy (NSS) in December 2022 (7), giving strong direction to the country's future security and strategic agenda by stating that Japan aims to strengthen deterrence in response to a worsening regional security environment (8). This has become the guiding principle for all the policies formed in Kishida's cabinet.

Expanding the Indo-Pacific orientation, Kishida, in March 2023, revealed a new plan for the FOIP (9), in which India is called an "Indispensable Partner". The four verticals identified are:

- Principles for Peace and Rules for Prosperity
- Addressing Challenges in an Indo-Pacific Way
- Multilayered Connectivity
- Extending Efforts for Security and Safe Use of the 'Sea' to the 'Air'

The Ukraine crisis and China's posturing in the region have considerably impacted this policy and seen an expansion in security dimension by including 'safe use of air' too. Nevertheless, in many ways, the third vertical has remained the kingpin of Japan's agenda of keeping the Indo-Pacific peaceful and within the rule of law. This vertical identifies the geographical regions of South Asia, Southeast Asia, and the Pacific Islands and the centrality of connectivity as a tool to further free up and open the Indo-Pacific region. Digital connectivity, knowledge connectivity, human connectivity, and physical connectivity are aspects of connectivity that make it more organic. Multi-layered connectivity is, therefore, an excellent example of how Japan differs from other nations in giving aid.

Amid Southeast Asia's criticism of Japanese aid serving Japanese private business, Japan reoriented its aid policy and disbursement structure, leading to the establishment of the JICA in 1972. Japan incorporated human security and capacity building in its aid programme in the 1980s

and 1990s, and it now also includes security concerns and the rule of law. Japan's current Development Cooperation Charter (June 2023) follows the direction of the NSS 2022. Referring to the disruption in the world as a historic turning point, the charter presents a "new direction for development cooperation in order to further a more effective and strategic use of development cooperation as one of the most important tools of its diplomacy" (10). The charter outlines its objectives by asserting that Japan will maintain enhanced cooperation by coordinating with host nations on a transparent and fair rule. It further states, "Loans by emerging donors that disregard debt sustainability are not contributing to the growth of developing countries" (11). It prioritises quality infrastructure, digital transformation, and co-creation with the participation of various actors (through the public-private partnership model). What emerges is a new dimension of "offer-type" (12) cooperation, in which Japan identifies projects through dialogue and collaboration with partners, leveraging its extensive expertise and, finance, and readiness to provide these to address localised and wider consequences posed by geopolitical and geostrategic risks. Accordingly, the 'multi-layered connectivity' objective in the new FOIP finds action orientation in the charter and augurs well for India, an indispensable partner for Japan. Indeed, this charter places Japan as a force for global good, riding on the strength of the Partnership for Quality Infrastructure (13) to take it to the next level of engagement to secure the Indo-Pacific.

India's Northeast: A Gateway to the Indo-Pacific

India's Northeast is a conundrum of diversity in politics, economics, society, and culture. Geographically, the Northeast is a triangular wedge of land sharing 96 percent of its borders with China, Tibet, Bhutan, Nepal, Bangladesh, and Myanmar. Its connection with mainland India is through the Siliguri Corridor. The region is host to a unique biodiversity and has the potential to contribute to India's economic growth.

Unfortunately, because of its inaccessibility and political instability, this region is little explored and has remained at the periphery of India's development programme. Since the 1990s, efforts to integrate the region have gained steam through India's Look East policy. However, with a

strong trust deficit and an often top-down bureaucratic and political approach, the momentum was slow. The weakest link for this region continued to be road connectivity and neglect of waterways, making the movement of goods and people difficult, and curbing any economic growth.

However, in recent times, geopolitical and geostrategic developments in the Northeast have fundamentally shifted the focus of the political leadership to the region. For instance, China's presence across the borders, its Belt and Road Initiative (BRI) in the Mekong region and its contestation of territory has raised security concerns. Furthermore, the transfer of the production hub to the ASEAN countries along with other newly industrialised countries of this region has created a new economic dynamism. Thus, with its proximity to the ASEAN economic zone, the Northeast became a priority for India's economic integration with Southeast Asia. At the local level, there was also the need for a domestic developmental policy to link this region with mainland India, enabling economic growth and regional prosperity. However, connectivity has proved to be the Achilles heel.

India has devised several policies, such as the Act Fast Act First Policy for the Northeast, to better integrate the region and involve it in South Asian organisations such as South Asian Association for Regional Cooperation (SAARC) and ASEAN. With a vision to link India to the global value chain, India has also put forth highway projects with the Northeast at the centre, including: the Bangladesh–China–India–Myanmar Economic Corridor, India–Myanmar–Thailand Trilateral Highway, Agartala–Akhaura railway project, Kaladan Multi-Modal Transit Transport Project, the Bangladesh–Bhutan–India–Nepal Motor Vehicles Agreement, and the South Asia Subregional Economic Cooperation Road Connectivity Project.

Along with efforts to establish connectivity, New Delhi also formulated policies to locate industrial corridors, which could allow for economic growth and capacity building. The Northeast industrial corridor, from Dawki (on the Bangladesh border) via Shillong via Guwahati to Nagoan, and Golaghat via Dimapur via Imphal to Moreh (on the Myanmar border), charts the gateway to Southeast Asia, as it would facilitate seamless

connectivity and position India favourably in regional value chains and production networks.

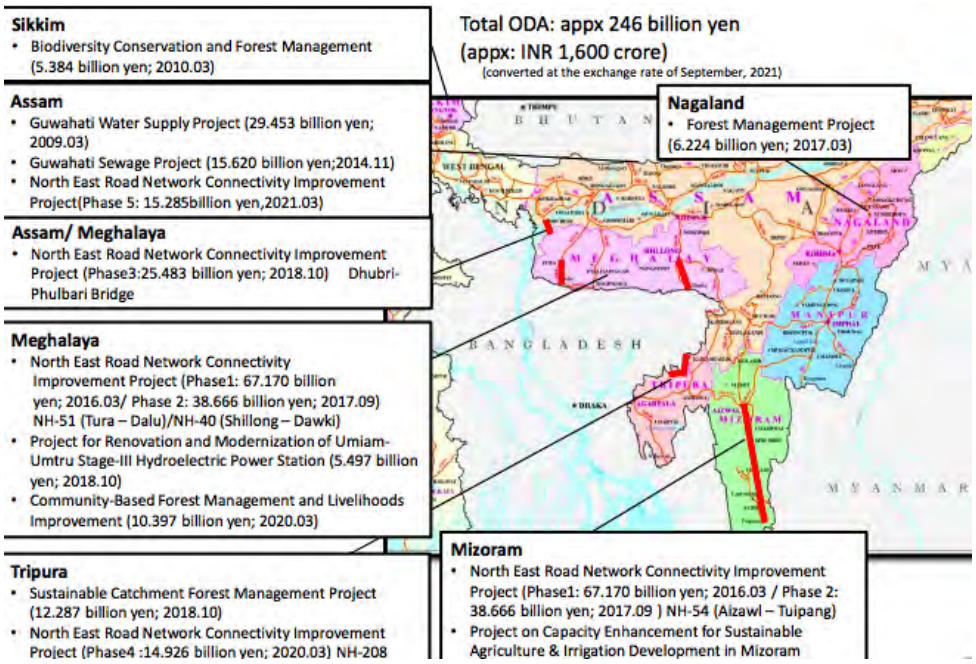
As China's BRI became a game-changer in the Asia-Pacific region, Japan promoted the FOIP by providing developmental aid, including infrastructure connectivity. Japan found itself contesting China in many projects in the Mekong region, which is critical in Japan's strategic calculation because of its location and economic contribution. The Mekong-Japan Initiative for SDGs toward 2030 (14) substantiates Japan's interest in keeping a hold on this region. As a result, it has been in constant dialogue with host nations formulating projects to address concerns particular to the nations and the region. Other nations of the ASEAN also form part of the value chain. The Mekong region, along with the ASEAN nations, is the landmass that connects the Indian Ocean and the Pacific Ocean. It is, therefore, crucial to keep the Indo-Pacific free, open, and prosperous.

Northeast India, Bangladesh, Nepal, and Bhutan form an extension beyond Myanmar. In 2014, Japan fostered a plan to integrate this region through roads, bridges, and waterways and create a gateway to the Indo-Pacific. For long, Japan had comprehended that the Bay of Bengal is to the Indian Ocean what the South China Sea is to the Pacific Ocean, and that both are lynchpins of the Indo-Pacific region. As part of this bigger picture, Japan constructively provided developmental aid to ensure connectivity infrastructure in Northeast India, Andaman Nicobar Island, Myanmar, and Bangladesh. Japan's initiative in the Bay of Bengal follows Japan's recent aid orientation of connectivity projects to look beyond development and address security concerns.

India's Act East Policy found credence in Japan. In their summit meeting in 2017, the joint statement noted that the prime ministers of the two countries welcomed cooperation on the development of India's Northeast as a concrete symbol of developing synergies between India's Act East Policy and Japan's FOIP strategy (15). Through the JICA, the country's nodal agency to disburse and implement projects, Japan has given a loan of around JPY 23,129 million (approximately INR 1,492 crore) to the North East Road Network Connectivity Improvement Project (Phase 6) (16). Map 2 details the projects that the JICA is involved in the

Northeast, and shows that while the major focus is on connectivity, projects for forest management, irrigation, sewage, and agriculture are also being carried out (in keeping with JICA's commitment to capacity building and sustainable development), some in collaboration with the Asian Development Bank (such as the Dhubri–Phulbari bridge across the Brahmaputra River and the Gelephu–Dalu corridor).

Map 2: Japan International Cooperation Agency Projects in India's Northeast



Source: Japan International Cooperation Agency 2021

The joint statement issued during Kishida's visit to India in March 2022 reinforced the importance of the Northeast. The India–Japan Sustainable Development Initiative for the North Eastern Region (17), stated in the 2022 joint statement, shows Japan's long-term interest in prioritising this region by strengthening connectivity projects with livelihood options by creating an agro-industry through the bamboo initiative (18), thereby advancing the value chain and capacity building.

Since 2008, the JICA has extended JPY 404,665 millionbillion Japanese Yen (approximately INR 26,107 crore) (19) as concessional official development assistance (ODA) loans for the development of the Northeast

region, with enhancing connectivity a prioritised area. Japan has extended JPY 161,530 million (approximately INR 10,421 crore) between Phase 1 and Phase 5 of the North East Road Connectivity Improvement Project to help develop and improve national highways (NHs) in the Northeast states, including NH-40 and NH-51 (in Meghalaya), NH-54 (in Mizoram), NH127B (Dhubri–Phulbari bridge access road in Assam), and NH-208 (in Tripura).

Additionally, the Act East Forum (AEF) was established in 2017 to promote cooperation between India and Japan in the Northeast, and highlights the synergy between India's Act East policy and Japan's FOIP vision. Six meetings of the AEF have taken place so far, while the coordination team meets more frequently for necessary groundwork (20). The Japan-India Coordination Forum for the Development of North Eastern Region is yet another joint initiative by the two governments to promote the development of the Northeast. These multi-platforms, along with India's Ministry of Development of North Eastern Region, are institutional structures that work to execute projects, enable coordinated work between India's Northeast states and Bangladesh, and address bottlenecks.

Japan's BIG-B Initiative: Linking the Northeast Region to the Indo-Pacific

The Bay of Bengal is distinctively positioned, seemingly rising from the Indian and Pacific oceans to form a bay. The Bay of Bengal outlines India's longest coastline on the east coast. The Andaman and Nicobar Islands are nested in the Bay of Bengal, while Myanmar, Bangladesh, and Thailand lie in its east and Sri Lanka in its west. The Bay of Bengal is approximately 1,600-km wide, with an average depth near 2,600 m, and occupies an area of about 2.2 million sq. km. About 30 billion tonnes of oil deposits have been identified, (21) and it is said to hold enormous gas reserves of 21 trillion cubic feet (22). Several rivers flowing into the Bay of Bengal make it rich in natural resources. As the blue economy gains popularity, the region encircling the Bay has untapped economic opportunities. Historically, the Bay of Bengal has been a major transporter of goods, and today, over a quarter of the world's trade travels through its water, including oil from West Asia.

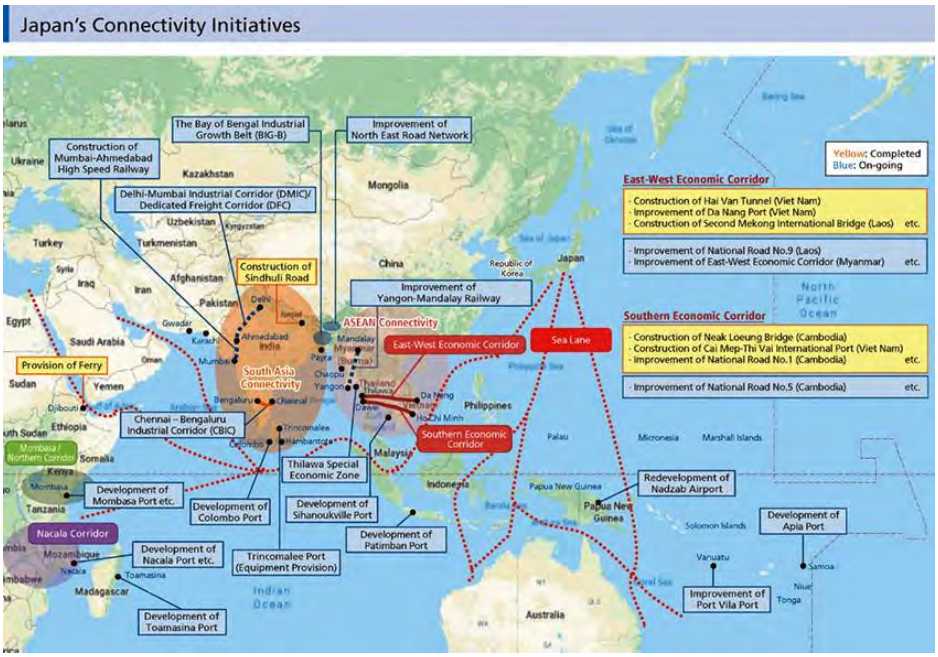
Strategically, it has gained visibility because the non-littoral states apart from India's Northeast, Bhutan, Nepal, and China benefit immensely from its development. The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) was established in 1997 to enhance participation between the SAARC nations and Southeast Asia. In recent times, with the ascendency of the Indo-Pacific region, the Bay has become as much a connecter as it is a battlefield for the US and China, with India keen to protect this region from any power play.

At the turn of the century, the shift in the international environment impelled Japan to foray into this region. It began by inking a 'global partnership' with India in 2001. As China grew in economic and military strength, it involved itself across nations in the Asia-Pacific region. Alarm bells rang in Japan about its national security and protection of its sea lines of communication (SLOC) as Japan depended on critical resources travelling through the seas. China's 'String of Pearls', followed by the BRI and its territorial claims, exemplified its intention in this region. In 2006, Japan had enlarged its bilateral engagement with India through the inking of a Strategic and Global Partnership agreement. The direction of its engagement took shape in its commitment to connectivity enhancement and infrastructure development, which factored in strategic elements along with economic consideration. Japan signed similar agreements with Bangladesh, Sri Lanka, and Myanmar (23), undertaking a large number of connectivity projects. Like in India's Northeast, Japanese ODA in Bangladesh and Myanmar has been directed to building highways, roadways, and ports. While Myanmar's political crisis has complicated the ways in which Japan can facilitate integration of this region, the commitment to keeping the Bay free and open is paramount, and aligns with the vision of the littoral states as much as it addresses the needs of the landlocked ones.

The vision of Japan's infrastructure connectivity is to nurture—a club of nations on an economic growth path connected through network of physical connectivity. While roads and railways would link the inland territories, the ports would be the linchpin to connect to the world. Existing ports in this region face the problem of silting, and deep-sea ports need to be built to overcome the issue. Several are already under

construction with many more proposed. For these ports to work at an optimal capacity, a vibrant economy is needed that will use these ports to transit of goods in a few trillion. This is where Japan, through its BIG-B initiative, proposed an integration of the Northeast with Bangladesh, linking the production hub of Southeast Asia. Japan's connectivity model is to link entire Northeast, West Bengal, and the Odisha coastline to the Matarbari Port in Bangladesh through a network of roads and waterways. This will ensure the seamless transit of goods to East Asia.

Map 3: Japan's Connectivity Initiative



Source: Ministry of Foreign Affairs, Japan (24).

The most significant of Japan's connectivity initiatives is the Southern Economic Corridor (SEC), which was originally supposed to run from Myanmar to Vietnam, but, given the ongoing political instability in Myanmar, now runs from Thailand to Vietnam (see Map 3). This land route shortens the transit and avoids the Malacca Strait, a chokepoint in the SLOC. This brings Matarbari Port into the picture as a nodal point from where it could transfer goods to Thailand. The landlocked Northeast could take advantage of this by linking up through road and water and gain from the BIG-B initiative. The deep-sea ports allow for large ships and submarines to dock, with airports for landing of aeroplanes thus serving strategic purpose too.

In April 2023, Japan's Ambassador to India Hiroshi Suzuki noted that the value chain in Northeast India and Bangladesh could prosper if both nations put the Matarbari deep-sea port to good use. Japan envisages recreating the SEC that has grown in the Mekong region (25) along the connectivity route. The SEC is a vibrant production hub with many big and small businesses that create a value chain with over 30 percent of the production happening in Asia-Pacific. Suzuki stated that Japan would like to see the SEC replicated in the connectivity route between Northeast India and Bangladesh. As such, the BIG-B initiative is emerging as the new theatre for Japan's vision of FOIP.

Conclusion

As a trusted partner of India, Japan has contributed towards India's stability, security, and economic capability. What started as a 'global partnership' now stands as an 'indispensable partnership' in expending Japan's new plan for a FOIP. The connectivity agenda began in the early days with Delhi-Mumbai Industrial Corridor, followed by Chennai-Bengaluru Industrial Corridor, and the Metro Rapid Transit System, focusing on the existing industrial locations. The Northeast outreach has been accomplished because of a strategic calculation. The joint statement released at the conclusion of the summit meeting between the two countries' prime ministers in March 2022 (26) makes a strong case for India to prioritise the Northeast, keeping in place the capacity-building commitment of the Development Cooperation Charter.

The current approach towards the Northeast, in which India has upped its game by setting administrative frameworks and presenting a strong commitment towards the economic growth of this region in adherence to its society, sustainability, and environmental concerns, is commendable. Overall, Japan's connectivity initiative in the Northeast is a significant step towards building economic and strategic ties between Japan, India, and the Indo-Pacific region. It will contribute to regional development, while also benefiting the people of the Northeast region.

However, as with every vision, there are challenges. The Northeast is unique as it is a diverse tribal society having differing priorities. Often, what works for one state does not work for another, leading to complications in

project implementation. Balancing its pristine ecology with industrialisation is an effort necessitating an unconventional approach. Many projects are behind schedule, which is a matter of concern. While there is a dialogue between various stakeholders of these projects and the commitment of the various governments is steadfast, operational challenges often hinder progress.

As for the BIG-B initiative, it is of prime importance for Japan to recognise that the decision to integrate Bangladesh into the Northeast rests on India and Bangladesh, consequentially requiring substantial groundwork in reaching out to respective authorities to gain acceptance. There are challenges in the movement of goods between borders. Furthermore, creating industrial hubs is a long-term commitment. It requires cultivating the interest of some big businesses, nurturing of local entrepreneurship, and attracting human resources.

As a gateway to the Indo-Pacific, India's Northeast has the prerequisites to transform into a vibrant industrial hub, pulsating with activities. There are, however, challenges that require attention and adept management. Japan has proven to be a dependable partner, with a strong commitment to integrating this region into Indo-Pacific, which instils confidence about promising outcomes in the future.

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PORT SUPPORT: ANALYSING REGIONAL MARITIME CONNECTIVITY FOR THE BIMSTEC

SOHINI BOSE AND ANASUA BASU RAY CHAUDHURY

Maritime connectivity is at the core of the Bay of Bengal Multi-Sectoral Technical and Economic Cooperation's (BIMSTEC) *raison' d'etre* of promoting regional cooperation among its member countries that form the coastal arc and hinterland of the Bay of Bengal (1), the largest bay in the world. To utilise this long coastline for economic benefit, BIMSTEC proposed a Coastal Shipping Agreement at the Leader's Retreat in 2016, which has the potential to boost inter-country trade as ferrying cargo and passengers in small vessels along the coastline is more economical than deep-sea shipping across the Bay (2). By 2017, India, then the lead country for the BIMSTEC sector on 'transport and communication', had prepared a first draft of the agreement along with a standard operating procedure for its implementation (3). Its finalisation was delayed by the COVID-19 pandemic, which gave rise to a realisation that, beyond enhancing coastal shipping, it was also important "to develop a resilient regional transport connectivity system- capable of withstanding future disruptions with an enhanced focus on the development of coastal shipping, waterways" (4). Accordingly, the scope of the agreement was broadened, becoming the draft Agreement on Maritime Transport Cooperation (5), (6).

At the 2016 Retreat, the BIMSTEC leaders also appointed the BIMSTEC Transport Connectivity Working Group to, with technical assistance from the Asian Development Bank, develop a Connectivity Master Plan to enhance regional networks as various initiatives with overlapping domains had been initiated in regions where many others had been completed or were near completion. The Master Plan was formulated in

2018 and updated in 2022, taking note of regional connectivity projects, addressing missing infrastructure requirements, and producing a long-term development programme effective through 2028. It was adopted by BIMSTEC at its 5th Summit Meeting in March 2022, and serves as "a strategic document to guide actions and promote synergies among various connectivity frameworks, to achieve enhanced connectivity and sustainable development of the region" (7).

Given the vitality of sea linkages in the region, the Plan devotes an entire section to 'port and maritime connectivity', outlining regional issues that merit attention. It notes that compared to other sectors of development, such as road and railways, improving port connectivity is challenging as each port differs the other in terms of its physical infrastructure, layouts, cargo, services provided, and container handling performance. The ports are designed to serve their immediate hinterland, and as the distance from the port increases, so does the potential competition from other ports. Thus, ports operate in isolation and do not consider regional cooperation to be critical. For example, although India's Northeast is closer to the Chattogram Port in Bangladesh, most of its cargo is ferried through India's Kolkata Port, which is farther away. Similarly, for western Bangladesh, the port of Kolkata is much closer than Chattogram, but its businesses prefer to route their cargo through Chattogram to avoid transit through a foreign country. However, with increased trade and changing geopolitical dynamics, Bay of Bengal littorals are keen to forge maritime cooperation. Accordingly, Bangladesh Prime Minister Sheikh Hasina urged India to use the ports of Chattogram and Mongla for the development of the Northeast, and the BIMSTEC leaders are intent on realising regional coastal shipping (8).

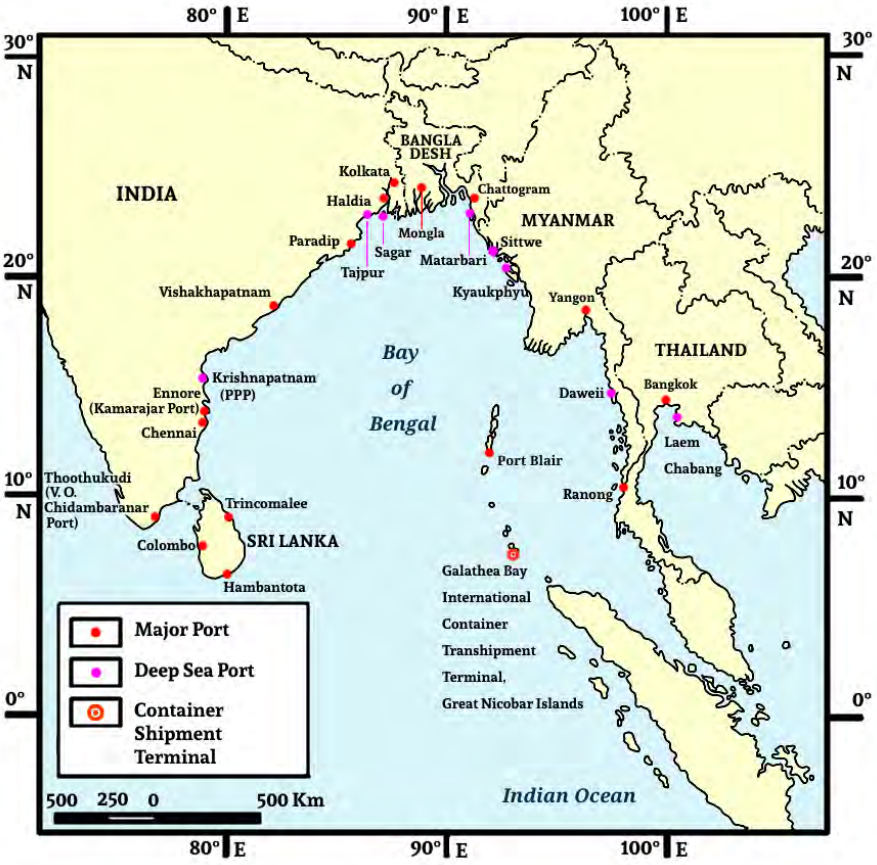
However, there exist challenges in implementing such regional initiatives in a short span of time. Referring to an earlier study by the South Asian Sub-Regional Economic Cooperation (SASEC) (9), the BIMSTEC Master Plan highlights two major concerns about the maritime ports in the Bay that have regional ramifications—first, about the container handling performance at some of the key ports; and second, problems with access to deeper water for larger vessels. Considering these factors,

the Plan analyses these issues, and lists policies, strategies, and projects undertaken by BIMSTEC countries to address them. However, there are other challenges that affect port efficiency and compromise regional maritime connectivity. While not all key ports are affected by these issues, each of these is common to at least two or three principal ports in the Bay and affects their performance. Furthermore, deep sea port development is facing its own challenges in the BIMSTEC countries, and coastal shipping, although bilaterally operational between some member states, suffers logistical challenges in regional implementation. These issues need to be analysed with the Agreement on Maritime Transport Cooperation, expected to be signed at the Sixth BIMSTEC Summit Meeting later this year (10). Towards this aim, the essay has three objectives: to estimate major challenges to the efficiency of key ports in the Bay, to analyse the challenges faced by specific deep-sea ports in BIMSTEC countries, and to evaluate the feasibility of coastal shipping in the region.

Challenges Affecting the Efficiency of Key Ports Around the Bay

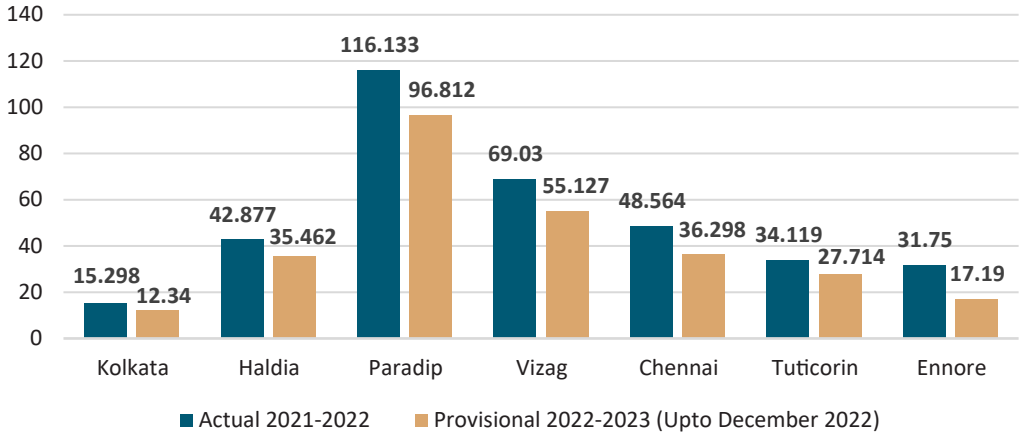
All the BIMSTEC member countries, even landlocked Nepal and Bhutan, are highly dependent on the sea for their international trade. As such, these ports are cardinal nodes of commerce and connectivity amongst the BIMSTEC coastal countries (see Map 1). India has six major ports on its eastern seaboard: the Kolkata Port (Syama Prasad Mookerjee Port) (11), comprising the Kolkata Dock System and Haldia Dock Complex; Paradip (Odisha); Visakhapatnam (Vizag), Ennore (Kamarajar Port), Chennai, and Tuticorin (V.O. Chidambaranar Port). The seventh eastern major port is Port Blair, located in the Andaman and Nicobar Islands. As per the 2020-2021 Annual Report of the Indian Ministry of Ports, Shipping, and Waterways, the Paradip Port handles the most traffic, among all the major ports on India's east coast (see Figure 1) (12). In terms of total container traffic in India, the east coast ports handle about 4 mTEUpa, and 65 percent (2.6 mTEUpa) of its cargo is transshipped (13).

Map 1: Major Ports and Deep-Sea Ports of BIMSTEC Countries in the Bay of Bengal



Source: Jaya Thakur, an independent researcher, based in Kolkata, India.

Figure 1: Traffic Handled by Major Ports on India's East Coast (in million metric tonnes)



Source: Authors' own based on data from the Ministry of Ports, Shipping and Waterways, Government of India (14).

In neighbouring Bangladesh, the Chattogram Port (15) handles the most traffic, followed by the Mongla Port. The port of Yangon is the busiest in Myanmar, although Sittwe and Thilawa New Port, located on the coast of the Bay, are important for the region. Sri Lanka has the Trincomalee and Hambantota ports in the Bay. Still, the largest chunk of its shipping traffic is catered to by the Colombo Port and transshipment hub that overlooks the Indian Ocean. Similarly for Thailand, although most of the cargo is handled by the Laem Chabang Port in the Gulf of Thailand, the Ranong Port, situated on the shores of the Andaman Sea, holds the potential for boosting maritime connectivity in the Bay.

These select ports are important for the Bay, and challenges to their operability affect regional maritime commerce. However, in terms of traffic handled, only three of these ports—Colombo, Chattogram, and Laem Chabang—have consistently made it to Lloyd's list of the top 100 ports of the world. India's Mundra and Jawaharlal Nehru ports on the West Coast are also on the list (See Table 1). Of the ports located on the coastline of the Bay of Bengal, only Chattogram makes it to Lloyd's list. as the Port of Colombo opens into the Indian Ocean and the Port of Laem Chabang is on the Gulf of Thailand, as has been mentioned previously. Chattogram is a 'gateway port' where customs clearance occurs for cargo and freight moving from one territory to another (16). All five ports from the BIMSTEC member countries that have made it to Lloyd's list undertake transshipment activities, but the efficiency of a port lies primarily in its container handling capabilities (17) as it is the cardinal function of any port facility.

Table 1: Traffic Handled by BIMSTEC Ports As Per 2021 Lloyd's List

Ports	2020 annual throughput	2019 annual throughput	Ranking (2021)
Laem Chabang (Thailand)	75,46,500	81,06,928	22
Colombo (Sri Lanka	68,54,762	72,28,337	24
Mundra (India)	56,56,594	47,32,699	26
Jawaharlal Nehru (India)	44,70,000	51,00,891	39
Chittagong (Bangladesh)	28,39,977	30,88,187	67

Source: The authors created the figure with data from Lloyd's List (18).

Note: The Indian ports are not designated for the BIMSTEC maritime connectivity enhancement project.

According to the BIMSTEC Master Plan, the low container handling performance of some key ports around the Bay, especially Kolkata and Chattogram, has regional implications. But there have been some improvements in recent years. Scheduling by carriers has decreased the use of feeder vessels on circuits for more direct calls connecting with hub ports. This has made cargo handling easier as the need for re-stowing and faster unloading with larger dedicated vessels has reduced. Ports have invested in container handling equipment, such as additional harbour cranes and ship-to-shore gantry cranes, to reduce the reliance on the cumbersome self-handling geared feeder ships. In 2007, the Chattogram Port handled 290 TEUs per hour with 45 percent equipment availability. By 2012, it handled 442 TEUs per hour with 74 percent equipment availability (19). Given the rising demand for trade, BIMSTEC encourages the ports to continue investing in modern container-handling equipment. Beyond that, the key ports in the Bay also face several challenges that compromise their efficiency and indirectly affect their cargo handling capabilities. Important among these are:

Problem of low drafts

The Sundarban Delta—shared between West Bengal in India, home to the Kolkata Port, and Bangladesh, which houses the ports of Mongla and Chattogram—lies north of the Bay of Bengal. Given the topography of the region, all three ports are riverine, built on the deltaic Rivers Hooghly and Haldi (Kolkata), Mongla-Prasur (Mongla), and Karnaphuli (Chattogram). These ports experience considerable siltation, which reduces their depth, naturally comprising the draft of these ports. The Kolkata Dock has a draft of 7.2-7.5 metres, the lowest among all major ports in India, making it difficult to accommodate large vessels with more than 8 metres depth. Large ships unload their cargo at other nearby ports, which are then carried to the Kolkata Port via small feeder vessels. The Haldia Dock, with a slightly deeper draft of 8 metres, experiences similar issues (20). Mongla Port has a draft of 8.5 metres while the Chattogram Port has a draft of 9.5 metres; the latter caters to more than 90 percent of Bangladesh's overseas trade (21). Yangon Port, with a draft of 9.5 metres on the Yangon River, also handles more than 90 percent of Myanmar's

shipping traffic. However, two bars within the channel—the Outer Bar near Elephant Point, and the Inner Bar near Monkey Point—make it difficult to access the port (22). To keep the ports functional, the authorities must spend a sizeable amount on dredging the river channels. Kolkata Port spends INR 3,500-4,000 million (US$41-47 million) a year to keep its channel navigable (23). Rising costs make its operations less competitive. In the absence of regular dredging, ships have to wait at the sea-mouth for days to get the required draft adding to operational costs and delays in cargo movement (24).

Unpredictability of Tides

During low tide, the already shallow drafts of the riverine ports are further reduced (the draft of Mongla Port falls from 8.5 metres to about 4.5 metres), severely compromising their usability (25). With navigability thus dependent on erratic high tides, the berthing schedules of ships are interrupted if accurate tidal forecasts are compromised. Predictability and dependability are important aspects of port operations, especially for those that handle high traffic. Comparatively, the Visakhapatnam Port is built on a natural harbour and maintains a steady berthing and turnaround schedule of vessels. This has contributed to its efficiency, and the port ranked third for cargo handling capabilities in a review of the performance of major ports between April-July 2023 by India's Ministry of Ports (26).

Congestions Suffocate Port Connectivity

Urban metropolises have been developed around many key ports in the Bay, in an unplanned manner, impeding their hinterland connectivity. The Chattogram Port, located within the second largest city of Bangladesh, contends with its growing urbanisation and population size. The increasing cargo traffic at the port, rising port-related vehicles, and the limited capacity of the railways add to congestion (27). The Kolkata Port, the oldest port in India, has a narrow main arterial road (Circular Garden Reach Road) marked with large potholes that slow down the pace of container-carrying trucks and trailers, increasing congestion (28). The

second largest port in India, the Chennai Port, faces challenges in cargo movement because of road congestion, resulting in a loss of cargo as it faces stiff competition from the nearby Kamarajar and Kattupalli ports (29), which serve the same hinterland (30). Port operations suffer in Myanmar, too, due to heavy traffic in Yangon City (31).

Space Crunch within Ports

In the Kolkata Port, only 30-40 percent of the containers used in imports are used for exports with the rest piled in plots adjacent to the port leading to the black marketing of available space and compromises in the port's business efficiency (32). In Chattogram, as the rent inside the port has remained low, importers prefer keeping their goods inside the port, adding to the space crunch (33). Congestion within the port has also been a recent issue at the Colombo Port in Sri Lanka. Earlier, goods were loaded into mother vessels soon after they reached the port, but in 2022, congestion within the port caused by disrupted truckload services extended the container loading time by three days and created a risk of missing the mother vessels (34).

To truly enhance the container handling performance of key ports around the Bay, the BIMSTEC must consider these issues and encourage overall port efficiency. The BIMSTEC countries have constructed deep-sea ports to overcome several of the above challenges, but complications are hindering their development.

Difficulties at Deep-Sea Ports

According to the Master Plan, although the emergence of mega container vessels requiring a 16-metre draft is cited as a reason for developing deepwater/deep-sea ports, volumes are relatively small for most ports in the region. Hence, there is and will continue to be insufficient demand for such large container vessels in the Bay. Even the Laem Chabang Port, which ranks highest in Lloyd's List amongst the BIMSTEC countries, has difficulty attracting such vessels. Only Colombo, as the transshipment hub close to the Southern Ocean Corridor, berths such ships. The need for deepwater ports in the region is thus exclusively for large feeder

vessels handling bulk cargo, such as oil, fuel, gas, grain, and steel, that are shipped in large volumes wherever economies of scale are pronounced (35). Increased trade in such commodities has created a need for deepwater ports in the northern parts of the Bay and the Andaman Sea. BIMSTEC is thus committed to promoting the development of deep-sea ports to enhance the region's capacity to handle more container traffic (36). Unfortunately, their pace of development has been sluggish, with many complications impeding their construction.

India

In 2013, the Sagar Islands and Tajpur in West Bengal were chosen as locations for building two deep-seaports that would serve large vessels for the Kolkata Port. The Indian government had planned to use funds saved from revoking the dredging subsidy to build the Sagar Port (37). This project, however, was stalled as the West Bengal government stated its decision to develop the Tajpur Port instead (38). In 2022, the responsibility of building the port was given to the Adani Group, though the company still awaits the completion of statutory formalities. Troublingly, a report by US short-seller Hindenburg Research has raised questions about the high levels of debt incurred by the Adani conglomerate and accused it of using offshore entities in tax havens to manipulate its companies. Whether this will create an obstacle to the port development remains to be seen (39).

To reduce India's dependence on external transshipment, the government has planned to develop a container transshipment terminal in the Great Nicobar Islands by 2028, in the heart of the Bay, worth INR 4,10,000 million (US$4,918 million) (40). The idea is not new and has been proposed recurrently since the 1980s, although little progress has been made due to the lack of viable business models and objections from the environmental lobby against large-scale developments in these areas due to the natural and anthropological rarities. Although the Great Nicobar does not come under the purview of the Tribal Act, unlike the rest of the Nicobar Islands, there is still a need to maintain a delicate balance between environmental preservation and tribal safety on one hand and economic development on the other. Additionally, for this port to survive,

it must be able to compete with the transhipment hub ports of Colombo, Singapore, and Klang, which lie in its vicinity (41).

Bangladesh

The Matarbari deep-sea port is being developed with Japanese investment to take some of the load off the Chattogram Port. Initially conceptualised to provide maritime connectivity to the Matarbari coal plant, Dhaka hopes that it will dock large-draught containers, eliminate the need for transshipment, and enhance the country's maritime trade competitiveness (42). However, environmental damage remains an issue in its implementation. According to a joint report by Greenpeace Japan and Southeast Asia on air pollution, within 30 years of its operation, the Matarbari power project will hike the number of premature deaths to 14,000 due to its hazardous emissions. This issue needs to be addressed before the port can be operationalised (43). Bangladesh's other deep-sea port, Payra, is yet to become fully operational as there are several difficulties in its construction, given its proximity to the ecologically fragile Sunderbans (44).

Myanmar

The Sittwe deep water port, built with Indian investments and having recently sent its first shipment to the Kolkata Port, cannot be optimally utilised unless the Kaladan Multi-Modal Project, of which it is a part, is completed. However, with Myanmar's political instability, the early completion of this project with India's financing is unlikely (45). The Kyaukphyu deep-sea port being built by China is also awaiting completion, but Beijing's urgency has been countered with clamours about lost livelihoods by local fishermen who suspect that the port will deplete fish stocks and cut off their access to important water bodies (46). The construction of the Thilawa deep-sea port by Japan has also faced local ire and environmental concerns, but its concession of a majority stake in the project has helped its functioning (47). The work on the Dawei deep-sea port has been stalled, with the Myanmar government dismissing the Thai construction company due to their slow progress and inability to

pay the concession fee. Myanmar's other partner in developing the Dawei Special Economic Zone, a part of which is the Dawei Port, is Japan. The country went into a memorandum of understanding with Myanmar and Thailand to develop the special economic zone in 2015 and has since then made initial investments in the project, the entire cost of which is estimated to be about US$1.83 billion. However, although committed to the project, Japan has decided to wait until the initial phase of development is over before taking an active role (48).

Thailand

Further south, the deep-sea port of Ranong is Thailand's only port on the Bay. It has been functional since 2003, yet attempts to enable coastal shipping between Thailand and Bangladesh via the Ranong and Chattogram ports, as per the pact of 2021, are yet to come to fruition, although this would save both time and cost. A final nod from the Bangladesh foreign ministry is pending as authorities discuss the scope of Bangladesh's business with Thailand and the initiative's success (49).

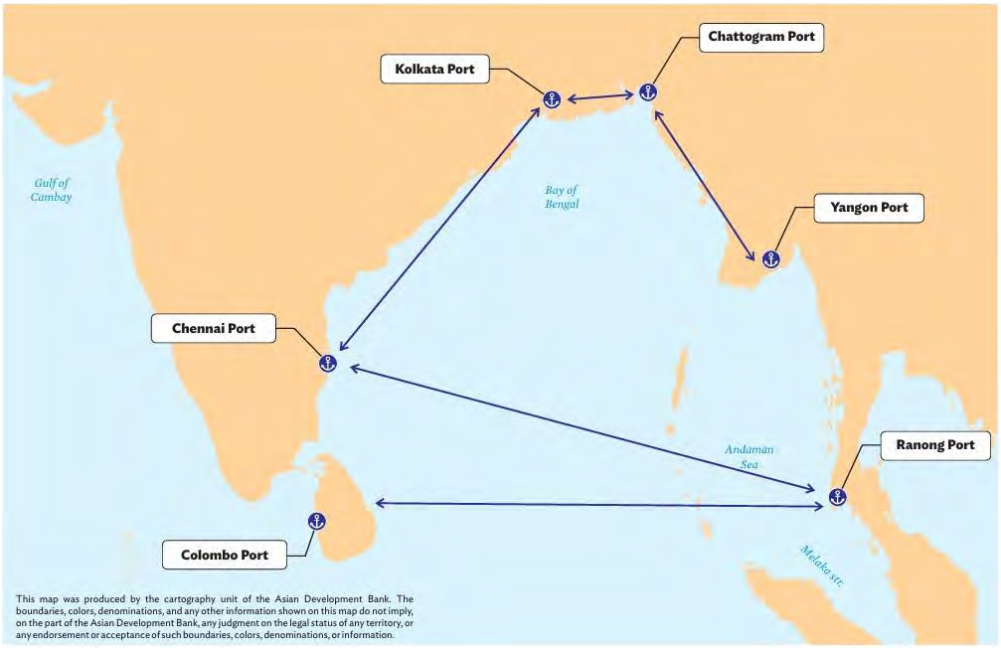
The above challenges hinder the effective functioning of deep-sea ports and need to be addressed by BIMSTEC to propagate effective maritime connectivity. While it is true that most of these issues are domestic, these also have a regional impact, not only in hindering regional maritime trade, but undermining coastal shipping as well.

The Cost of Coastal Shipping or Short Sea Shipping

The Master Plan advocates that there is a significant opportunity to leverage coastal shipping for regional trade among the BIMSTEC countries, given their geographic continuity. However, this opportunity is yet to be fully exploited as the commodities of further trade are yet to be identified, and coastal shipping agreements between the littoral countries are mostly absent, except those between India and Bangladesh. Furthermore, the BIMSTEC Coastal Shipping Agreement applies to shipping only within 20 nautical miles off the coastlines of the BIMSTEC nations. As per the coastal shipping routes suggested by Thailand from the Port of Ranong, the distance to the Port of Chennai and Colombo

far exceeds 20 nautical miles and amounts to shipping across the Bay (see Map 2). When implementing regional coastal shipping, BIMSTEC will thus have to reconsider the routes.

Map 2: Proposed Coastal Shipping Routes from Ranong Port



Source: BIMSTEC Master Plan for Transport Connectivity (50)

As is the case in the Bay region, the lack of separate berthing facilities and inadequate bulk cargo handling facilities at ports can also impede coastal shipping (51). These issues need further deliberation before an agreement is signed. Nonetheless, as an economical and green mechanism for fostering regional maritime connectivity, BIMSTEC must cultivate this further.

Conclusion

Promoting port-led maritime connectivity in the Bay of Bengal region is a complex and nuanced process. Given the diversity in ports around the Bay and their mutual competitiveness, it is difficult to attune them towards a streamlined vision of regional maritime connectivity. Nonetheless, as a regional organisation committed to improving regional

trade, it is important for BIMSTEC to be aware of the cardinal challenges thwarting port efficiency in the region, understand the domestic issues faced by its member countries in port development, and acquire an empirical estimation of the benefits of coastal shipping. To enhance maritime connectivity, the BIMSTEC countries must analyse the demand for trade and the pattern of commodities along with the development of the designated ports. Although the charter of BIMSTEC prevents it from engaging in the internal matters of member countries, a more holistic understanding will help the organisation devise an Agreement on Maritime Transport Cooperation that will help it to undertake strategies and policies that are more effective on the ground.

Endnotes

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ENHANCING REGIONAL COMMERCIAL CONNECTIVITY: A JAPANESE PERSPECTIVE FOR INDIA AND BANGLADESH

TAKASHI SUZUKI

In the history of the evolution of Japanese companies in Asia, the Bay of Bengal has recently drawn attention. Starting with their expansion into China in the 1980s, followed by their further expansion into major ASEAN countries such as Singapore, Thailand, Philippines, Malaysia, and Vietnam in the 1990s, Japanese companies strengthened their presence in the Mekong region, including Myanmar, Cambodia, and Laos. Since the late 2000s, the Japanese public and private sectors joined forces to stimulate the entry of Japanese companies into Myanmar. Consequently, rapid growth in the number of Japanese companies occurred. Myanmar's neighbour Bangladesh also began to attract the attention of Japanese companies in the late 2000s as a "China plus one" country (1), especially as the Japanese apparel industry sought to transfer production bases from China and ASEAN nations. As per 2022 data, the total number of Japanese companies registered in India is 1400 (2). However, over 80 percent of these are concentrated in Delhi NCR, Mumbai, Bengaluru, and Chennai. Consequently, few Japanese companies are based in India's eastern and northeastern states that face the Bay of Bengal region.

Accordingly, this examines the economic potential of the Bay of Bengal region, focusing on the activities of Japanese companies. It also analyses the potential for regional development through improved linkages and connectivity between the northeastern states of India and Bangladesh.

Situation in Bangladesh

The number of Japanese companies in Bangladesh has increased almost five-fold in the past 15 years, with 338 companies currently operational.

Consequently, bilateral trade (total value of imports and exports) has increased substantially from US$837.47 million (2006-07) to US$3,789.65 million (2021-21). Yearly investment increased from US$3.5 million (2006) to US$91 million (2021) (3). The amount of official development assistance (ODA) from the Japanese government or the Japan International Cooperation Agency (JICA) to uplift the expansion of Japanese companies into Bangladesh has increased rapidly from US$31.62 million (FY 2006/07) to US$2,207.82 million (FY 2021/22) (4). This makes Bangladesh the largest recipient of yen loans from JICA. Specifically, JICA is extending its support for economic and social infrastructure, which is again crucial to the activities of Japanese companies.

The Bangladesh SEZ, a public-private partnership developed by Sumitomo Corporation in a joint venture with the Bangladesh Economic Zone Authority (BEZA) in December 2022, is located about 30 kilometres east of the capital Dhaka. It has been constructed with earthfill and embankment measures to cope with a once-in-a-century flood. JICA's yen loans have directed this infrastructure development, including water, sewerage, internet, and substations. Furthermore, a "One-Stop Service Centre" has been established to encourage seamless and less complicated administrative procedures for obtaining permits and approvals, which has been an issue in the past. Additionally, all parties/individuals involved in the BSEZ are bound to sign a "Declaration on the Elimination of Corruption", ensuring transparency and seamless business operation for the occupants in BSEZ. On that account, JETRO Dhaka office has received multiple inquiries from Japanese companies expressing their wish to move into the BSEZ. Japan and Bangladesh are working together to make the BSEZ the flagship of their respective countries.

It has been long since "China plus one" and "Thailand or Vietnam plus one" movements were first mentioned in the Japanese business community. However, coupled with the political unrest in Myanmar, a movement to "shift to Bangladesh" emerged, especially among apparel-related companies. "Abundant & Inexpensive labour force" has played a key role in drawing attention from investors; the monthly basic wage for a factory worker is US$105, which is the lowest in the Asia-Pacific region. Several companies, which until now have been focussing on producing

only basic items like cotton products, are taking their production one step ahead and producing products like synthetic and chemical fibres. It has been a long-cherished desire of Bangladesh to expand its exports of high-value-added products. As such, Japanese investment is welcomed by the Bangladeshi public and private sectors.

In Bangladesh, Japanese companies have been exclusively focused on its low-wage labour force, although recently, many companies have begun focusing on Bangladesh's domestic demand as well. Bangladesh's per capita gross national product (GDP) is now US$2,688 (present value in 2022) (5), higher than India (US$2,277). However, with regard to Thailand, it is equivalent to that of 2004 (US$2,660), a time when Japanese companies were expanding into that country. Currently, the country is dependent on imports for transportation equipment, food products, and consumer goods, but some Japanese companies started aiming for the local production of motorcycles and consumer goods. As a result, Japanese companies such as Ajinomoto, Honda, Nipro, and Japan Tobacco have entered the market to fulfil domestic demand and are simultaneously developing their businesses to increase market share. Recently, Lion (consumer goods) has started its operations at its first Southwest Asian base. There are also examples of expansion into the service industry, such as Green Hospital Supply, which operates a general hospital with international standards in a joint venture with a local hospital. Japanese companies are not alone in targeting domestic demand. Thai President Food, famous for 'Mama Noodles,' produces instant noodles in a joint venture with a local company. MINISO, a Chinese company has also opened stores not only in central Dhaka but also in Chittagong. In BSEZ, as mentioned above, there have been many inquiries from companies targeting domestic demand, and SINGER, a Turkish home electronics company, has already decided to enter the market. Soon we will see companies from various countries seek to expand their operations to meet domestic demand in Bangladesh.

It is also interesting to note that local start-ups have recently become active and are providing various services. Ridesharing, e-commerce, food delivery, and mobile payments have become widely available, and there has been recent expansion into the agricultural and healthcare sectors.

Since many IT engineers who are fluent in English are developing the tech-based services. Japanese companies are also very keen towards offshore development and recruiting IT engineers. Bangladesh government has declared “Digital Bangladesh” and wants to portray Bangladesh as the world’s second largest textile export hub.

Existing Japanese companies are engaged in the export of textile machinery, construction materials and equipment, iron and steel, and agricultural materials and equipment. Many Japanese subsidiary companies in Thailand and Singapore used to serve Bangladesh in these fields, and recently the number of Japanese business travellers from ASEAN has been increasing rapidly. A business-to-business approach is mainly for local conglomerates and textile factories, many of which have very stable business operations.

Furthermore, the infrastructure development underway in Bangladesh is not limited to special economic zones; the Matarbari Deep-Sea Port bridge construction/repair and Dhaka International Airport expansion projects, in which JICA has extended their support, will certainly improve the economic infrastructure while directly leading to the development of a better business environment. Currently, more than 90 percent of imports and exports depend on the Port of Chittagong, which is already overburdened due to the year-by-year increase in logistics volume. Assuming the Port of Matarbari starts operation in 2027, the customs clearance situation is expected to improve drastically and will make Bangladesh a crucially important part of the global supply chain (6).

Significantly, intergovernmental discussions on a Japan-Bangladesh bilateral free trade agreement (FTA) have been initiated. Bangladesh plans to graduate from the Least Developed Countries (LDC) in 2026, and after graduation, preferential tariffs (GSP) for LDCs will no longer apply. While the FTA between Japan and Bangladesh is being concluded, it is expected that trade relations between the two countries will intensify and go beyond direct investment. The timing of the LDC graduation coincides with the commissioning of Matarbari Port operations. Consequently, enhanced connectivity is expected, sparking an enhanced phase of trade and investment relations between the two countries.

Situation in India

There seems little doubt that Japanese companies are beginning to view India as a realistic investment destination. According to the *FY2022 JBIC Survey (34th) Report on Official Business Operations by Japanese Manufacturing Companies*, released by the Japan Bank for International Cooperation in December 2022, India (40.3 percent of votes cast) has emerged as the top country for promising business expansion by Japanese companies in the medium term (the next three years) ahead of China (37.1 percent). Also, in the *Survey on Business Conditions of Japanese-Affiliated Companies* released by JETRO in December 2022, 72.5 percent of Japanese companies in India said that they plan to expand their business in the next one to two years. This ratio was much higher than the global average (45.4 percent) and was the highest among the world's major countries (7).

One reason for the interest of Japanese firms in India is the attractiveness of the country's macroeconomic indicators. India is expected to surpass China to become the world's most populous country in 2023. India's population is dominated by young adults, in contrast to China, which already has a declining birth rate and an ageing population. Apart from the population, India's economy is also expected to grow steadily; India's GDP is projected to surpass Japan's by 2027, making it the world's third-largest economy after China and the US (8).

India's political stability may also be a subject of re-evaluation. Considered the world's largest democracy, India holds general elections every five years. Prime Minister Narendra Modi has been in power since May 2014 and enjoys strong public support. While the international situation has been greatly shaken since COVID-19, with disruptions in global supply chains and Russia's invasion of Ukraine, India's omnidirectional diplomacy with a line of international cooperation may also be a reassuring factor in the country being perceived as relatively low-risk. Japan and India celebrated the 70th anniversary of the establishment of diplomatic relations in 2022. The friendly relationship between the two countries is also a positive factor for Japanese companies.

In terms of trade relations, exports to Japan in 2021 totalled US$6.07 billion, up 50.3 percent from the previous year, while imports from Japan

rose 41.5 percent to US$14.415 billion. In 2021, Japan was India's 21st largest trading partner in terms of exports (1.5 percent of total, 21st in the previous year) and 13th in terms of imports (2.6 percent, 11th) (9).

Looking at exports to Japan by category, petroleum products (15.3 percent of total, up 166.3 percent from the previous year), which declined sharply the previous year, recovered V-shaped and became the largest commodity for the first time in two years, while machinery and appliances including electrical machinery (9.5 percent, up 95.2 percent), organic, inorganic, and agricultural chemicals (8.4 percent, up 32.5 percent), plus telecommunications equipment (3.3 percent, up 5,178.9 percent). Significant growth can also be seen in marine products (7.5 percent, up 18.1 percent), the largest category in the previous year (10).

In terms of imports, general machinery such as machining centres (13.6 percent, up 34.9 percent) remained the largest item from the previous year, followed by chemical materials and products (13.4 percent, up 97.2 percent), which almost doubled, and ferrous and nonferrous metals (13.2 percent, up 41 percent) (11).

In 2021, direct investment from Japan (execution basis) increased by 27.3 percent over the previous year to USUS$1,839.97 million, ranking seventh among investment countries (10th in the previous year) (12). According to the Embassy of Japan in India and JETRO, the number of Japanese companies in India decreased by 16 companies from the previous year to 1,439, the first decline since the survey began in 2006. This is mainly due to COVID-19 and the slow diversification of the sectors where Japanese companies have invested in non-automotive business.

The following three points are the trends among Japanese companies, especially after COVID-19.

First, the trend of manufacturing in India and exporting from India to developing countries is accelerating. Many Japanese companies with production bases have plans to expand their existing plants or build a second or third plant. The purpose of these expansion plans is to increase production for exports.

Hitachi ATM is planning to move its export base from China to India. In addition to its existing ATMs for India, the company will manufacture ATMs for the Southeast Asian market. The company is also looking at exporting to the Middle East and Africa in the future (13). Yokohama announced the start of production of off-highway tires, including those for agricultural machinery, at its new plant in Visakhapatnam, India. The operations were moved up to meet increasing global demand. The total investment is approximately 45.7 billion yen (as per August 2022 data) (14). Daikin India has started the construction of its southern plant (near Chennai), which will be the company's second production base in the country. It will also be an investment of approximately 20 billion yen (as per April 2022 data). This manufacturing of unit compressors will have export capabilities to Middle Eastern and African markets (15). Nidec Corporation announced its next investment of 10 billion yen (as per June 2022 data) as an expansion of its plant in Neemrana, Rajasthan, to produce motors for electric motorcycles. Export is also the future scope (16).

On top of it, more than 20 Japanese companies in India have applied for the PLI Scheme, mainly in the automotive sector, taking advantage of PLI incentives. This expansion trend is expected to prevail in the future.

Second, a steady increase can be seen in Japanese companies, which are establishing R&D centres for global applications in India. In addition to major electrical and electronics manufacturers such as Panasonic, Sony, Toshiba, NEC, Hitachi, Fujitsu, etc. Daikin India announced that it would invest INR 5 billion rupees (approximately US$60 million; as per August 2022 data) over the next three years to establish an R&D centre in Neemrana, Rajasthan, India. The center will conduct R&D on air conditioners for India and for export, aiming to start operations in December 2023 (17). SUZUKI Motor corporation established Suzuki R&D Center India Private Limited (SRDI), a wholly owned R&D center in Delhi. The center aims to strengthen competitiveness in India, by efficiently linking the R&D departments of Japan and India.

The third prevailing trend is "Taking advantage of Indian IT industry and Indian IT human resources". While India has been strengthening its

software offshore development relationship with the US since the 1990s, Japan's development partners have mainly been China and Vietnam. The aforementioned China plus one or Vietnam plus one is happening within the Japanese IT industry after 20-30 years.

Opportunities in India's Northeast Through India-Bangladesh Connectivity

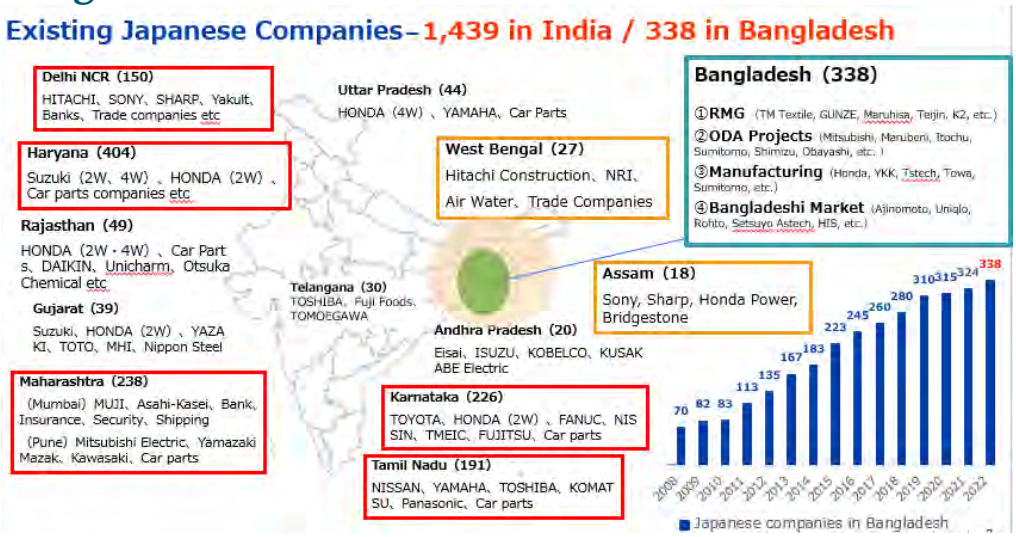
Having analysed the general situation of Japanese companies in Bangladesh and India, it is important to analyse the potential of economic development in the Northeast Region of India based on the activities of Japanese companies actively engaged in these two countries. This region is expected to evolve as the connectivity between the two countries grows.

The chart below maps Japanese businesses in India and Bangladesh. There are 1,500 Japanese companies in India, concentrated along the Western side, topped by Haryana with 404 Japanese companies. About 84 percent of the total is in these five states: Delhi NCR, Maharashtra, Karnataka, and Tamil Nadu. There are not many Japanese companies in the middle and eastern parts of India yet (18).

In the Northeast region, there are 18 Japanese firms in Assam; three each in Meghalaya, Sikkim, and Tripura; two in Arunachal Pradesh and Nagaland; and one each in Manipur and Mizoram. Almost all the companies are mainly engaged in insurance services, cars, and machineries sales, and only have sales branch offices.

On the other hand, there are already 338 Japanese companies in Bangladesh (19). The majority of the Japanese companies in Bangladesh are in the readymade garments industry, followed by ODA (JICA) project related work (see Map 1).

Map 1: Existing Japanese Firms in India and Bangladesh



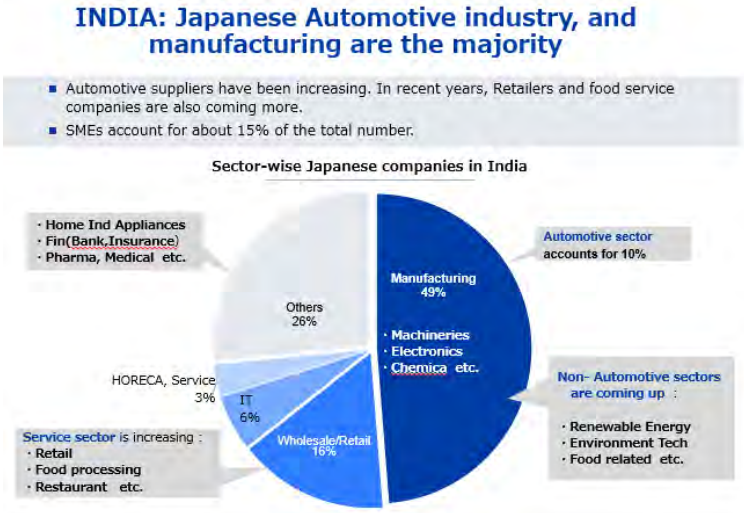
Source: Japan External Trade Organisation (20)

Note: The map has been edited by the author for necessary inclusions.

In India, on the other hand, the automotive industry is the major sector, followed by machineries, electronics, and chemicals (see Figure 1).

There is no major overlap in the sectors in which the Japanese firms operate in the two countries. It would thus be advantageous if these companies could take note of these differences to complement each other and diversify the existing Japanese industry structure in each country.

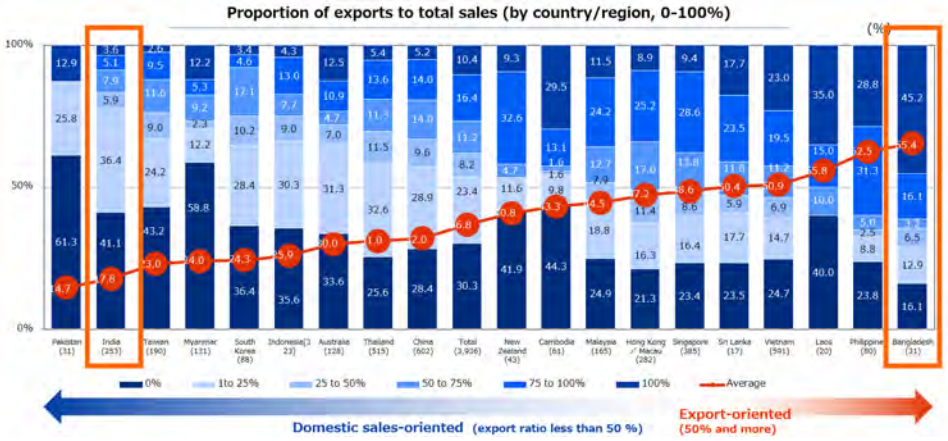
Figure 1: Japanese Firms in India (by sector)



Source: Japan External Trade Organisation 2023 (21)

An Interesting comparison can be seen in the export ratio between Japanese companies in India and Bangladesh (see Figure 2). Japanese companies in Bangladesh are the top exporters in Asia, mainly exporting readymade garments. On the other hand, Japanese companies in India are more domestic sales focused, though most are now keen to export from India. This comparison shows how trade exchange between India and Bangladesh can be promoted to create synergy between Japanese businesses in India and Bangladesh.

Figure 2: Proportion of Exports to Total Sales (by country/region, by percent)



Source: Author's own

Japanese small and medium-sized firms (SMEs) in India make up only 15-20 per cent of all of India's SMEs, while in Bangladesh, almost half of all SMEs are Japanese (see Table 1). Of companies in Japan, 99.7 percent are SMEs, and it is mainly such firms that have created tech and innovation for the Japanese industry. The business opportunity in Northeast Region in India is compelling, and, as such, more Japanese SMEs will likely seek to expand their business reach to India via Bangladesh.

Table 1: Japanese SMEs in China, ASEAN, India, and Bangladesh (as of December 2022)

Japanese SME's investment to India is still limited

Country/Region	Number of Japanese companies	Japanese SMEs ratio in total companies
China	13,000-15,000	40-60%
ASEAN	13,000	40-60%
India	1,439	15-20%
Bangladesh	338	40-60%

Source: Author's own (22)

The Way Forward

There are also many challenges for Japanese firms to contend with in India and Bangladesh (see Table 2).

Table 2: Top Five Challenges for Japanese Firms in India and Bangladesh

Problems by country/region (Top 5 items, multiple answers) (%)

India (All industries)		2021	2020
1	Increased wages(206)	75.7	58.5
2	Growing market shares of competitors (cost-wise competition)(133)	50.4	34.6
3	Complicated customs clearance procedures(135)	50.4	38.5
4	Quality of employees(124)	45.6	41.8
5	Time-consuming customs procedures(120)	44.8	37.9

India (Manufacturing)		2021	2020
1	Increased wages(102)	79.7	60.5
2	Increased cost in procurement of raw materials and parts(79)*	64.2	30.7
3	Complicated customs clearance procedures(77)	60.6	44.8
4	Customs clearance takes time(71)	55.9	42.8
5	Growing market shares of competitors (cost-wise competition)(68)	53.5	38.2

Bangladesh (All industries)		2021	2020
1	Quality of employees(31)	67.4	48.5
2	Increased wages(28)	60.9	48.5
3	Time-consuming customs procedures(21)	46.7	56.1
4	Complicated customs clearance procedures(21)	46.7	47.0
5	Restrictions on foreign remittance(21)	46.7	37.5

Bangladesh (Manufacturing)		2021	2020
1	Increased wages(17)	77.3	64.5
2	Quality of employees(14)	63.6	41.9
3	Increased cost in procurement of raw materials and parts(13)*	61.9	29.6
3	Difficulties in local procurement of raw materials and parts (13)*	61.9	66.7

(Note 1) The top five items in the response rate, excluding "No particular problem. Items highlighted in light pink are those that are not among the top 10 items in the total number of all surveyed areas in "3. Management Problems" (1) and (2).

Source: Author's own

In general, Japanese businesses are facing challenges with their import activities in both countries. This has been the biggest obstacle to developing connectivity between India and Bangladesh.

In this context, five factors need to be considered to understand the opportunities for connectivity between the two countries:

1. Accumulation and speedy growth of Japanese business in Bangladesh
2. Comparison of major sectors of Japanese businesses in India and Bangladesh
3. Contrast of export ratio of Japanese businesses in India and Bangladesh
4. Contrast of the size of Japanese companies in India and Bangladesh
5. The challenge of trade facilitation

Based on the current situation of Japanese companies in India and Bangladesh, this essay has tried to understand the potential of India's Northeast through connectivity between India and Bangladesh. However, the economic impact of Japanese business is a minor intervention in terms of the overall economic scale in the region. The challenges and possibilities that have emerged from this perspective apply to indigenous business players in both countries.

Leading trade associations in both countries are expected to play a central role in stimulating the interest of major companies and exploring the possibilities of business exchanges. The governments of India and Bangladesh should also act on these interests and issues. Indian motorcycle manufacturers like TVS and Bajaj have already gained a market share in Bangladesh, and Bangladeshi food giant Pran Food is doing business in the Indian market with factories in Tripura and West Bengal. It would be beneficial if Japanese companies in both countries took advantage of this momentum and participated more in business expansion between India and Bangladesh.

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SEAMLESS COMMERCIAL CONNECTIVITY: BEDROCK FOR REGIONAL DEVELOPMENT

DIGITAL TRADE WITH THE BAY OF BENGAL REGION: THAILAND'S PERSPECTIVE

SINEENAT SERMCHEEP

Digital trade has emerged as a major engine of economic growth by enhancing productivity and lowering trade costs. It enables individuals and firms of all sizes, particularly those from developing countries, to connect to the global market. The Bay of Bengal region holds immense potential for cooperation in digital trade, given its strategic location, bridging India in South Asia and Thailand in Southeast Asia, both among the fastest-growing digital markets in the world. By integrating digital trade, Thailand and India can both expand their online markets, complement each other in digital connectivity and prosper together. The governments of Thailand and India are also actively promoting digital trade through Thailand 4.0 and Digital India, respectively. Success in digital trade cooperation, particularly in e-commerce, can enhance bilateral trade between Thailand and India, increase intra-regional trade, and help move forward the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Free Trade Agreement (FTA).

BIMSTEC was established in 1997, comprising five South Asian countries (Bangladesh, Bhutan, India, Nepal, and Sri Lanka) and two Southeast Asian members (Myanmar and Thailand). The BIMSTEC FTA, which aims to promote intra-regional trade and investment, has been under negotiation since 2004, but the group has yet to reach a conclusion. BIMSTEC is an opportunity for Thailand to jumpstart its post-pandemic economic recovery. Furthermore, it is an agreement with trading partners beyond ASEAN and the Indo-Pacific, which will provide Thailand with greater diversity and balance (1). This essay examines Thailand's digital

trade, particularly cross-border e-commerce, in the Bay of Bengal region, notably with India, the region's largest digital market, as well as the potential role of cross-border e-commerce in fostering regional integration.

Emergence of Digital Economy in Thailand

Thailand ranks second among the ASEAN countries, behind Indonesia, in terms of the size of its digital economy. This rank is a result of the country's high internet penetration rates and booming e-commerce business in recent years. The internet penetration rate in Thailand has seen a significant increase, with the number of internet users growing rapidly from 67 percent in 2019 to 88 percent in 2022 (2). Smartphone penetration in Thailand has also grown, and Thai smartphone users are keen to shop online (3). On the supply side, numerous Thai retailers had already established online outlets for their clients before the COVID-19 outbreak. Thai consumers became accustomed to online shopping and social media use, and turned to online streaming during lockdowns and social distancing measures. As a result, the online shopping industry is fast expanding, particularly in business-to-consumer (B2C) sales and business-to-business (B2B) e-commerce (4).

According to a report by Google, Temasek and Bain & Company (5), the gross merchandise value of Thailand's digital economy, which includes e-commerce, transport and food delivery, online travel bookings and online media, is increasing at a rate of 17 percent year-on-year. Projections suggest that it will reach US$53 billion by 2025. This expansion is primarily driven by the e-commerce sector, which is expected to see its market value surge from US$22 billion in 2022 to US$32 billion by 2025.

The digital economy in Thailand is poised for further growth, as approximately 70–80 percent of Thai digital consumers plan to maintain or increase their use of online platforms for e-commerce, groceries, transportation, and food delivery. According to the Thailand Internet User Behavior report for 2022 by the Electronic Transactions Development Agency (ETDA), the top five categories of goods and services that Thai consumers buy online are clothing, shoes, sports equipment, and

accessories (constituting 68.16 percent of total e-commerce value), consumer goods (59.40 percent), cosmetics (28.42 percent), dry foods (26.79 percent), and fresh foods (21.96 percent) (6).

Thai Government and Digital Economy

The Thai government also plays a significant role in boosting the country's digital economy through the Thailand 4.0 initiative. This policy aims to promote and support innovation, creativity, research and development, higher technologies, and green technology. Through the initiative, funds are directed towards digital infrastructure development, including constructing a broadband network that spans villages across the country. This helps increase access to online network, bridging the digital divide and promoting economic development through e-commerce (7).

The government also facilitates and supports online activities by developing the next generation of digital application platforms, such as e-marketplace, e-payments, and e-government. The government's PromptPay service, which is part of the national e-payment scheme, is the primary engine of e-commerce activity. Furthermore, in recent years, numerous courier service firms have begun to develop their online platforms in Thailand, providing end-to-end delivery solutions in the local market (8).

Thailand's E-Commerce Competitiveness

The increased usage of the internet and smartphones, along with improved logistics and e-payment systems, collectively drive the growth of Thailand's digital economy. Compared to other BIMSTEC members, Thailand is highly competitive in e-commerce (see Table 1). Thailand ranks 42nd out of 152 nations in terms of its preparedness to facilitate online shopping. This ranking is based on factors such as the number of accounts held at financial institutions or with mobile money service providers, internet usage, postal reliability index, and the prevalence of secure internet servers. Additionally, indices like the ICT Development Index (IDI) and Networked Readiness Index also show well-developed ICT infrastructure and networks in Thailand.

Table 1: E-Commerce Competitiveness (2017–2020)

	Rank in UNCTAD B2C E-commerce Index (total = 152)	Rank in ITU ICT Development Index (total = 176)	Rank in WEF Networked Readiness Index (total = 134)
Thailand	42	78	51
India	71	134	88
Sri Lanka	91	117	83
Nepal	113	140	113
Bhutan	114	121	-
Bangladesh	115	147	105
Myanmar	130	135	-

Source: UNCTAD data (9)

Note: 1 = Best

Development of Thailand's Cross-Border E-Commerce

According to the ETDA, e-commerce in Thailand has increased by more than half between 2016 and 2020 (10), and is expected to grow more in the future. The expanding business opportunities in Thailand's e-commerce market have attracted major global e-marketplace firms such as Lazada, Shopee, Alibaba, Taobao, Tmall, JD, Amazon, and eBay. In 2021, Chinese cross-border e-commerce enterprises accounted for 52 percent of the total in Thailand, while Japan and the United States (US) accounted for only 14 percent and 7 percent, respectively (11). This entry of global firms not only provides entrepreneurs access to the Thai market but also opens doors to foreign markets.

Due to the high level of competition in Thailand's e-commerce market, some local entrepreneurs have chosen to expand into foreign markets. This has resulted in the share of cross-border e-commerce as a percentage of the total e-commerce value to increase from 13.47 percent in 2016 to 23.06 percent of Thailand's overall e-commerce market in 2017 (12), with nearly half of online shoppers having already made

purchases from abroad. In terms of export dimensions, the top three overseas destinations for Thai products are China, Japan, and the US (13). In 2018, Thai cross-border e-commerce accounted for around 8 percent of total e-commerce in Thailand. This is relatively low compared to the global share of cross-border e-commerce of 15 percent and 22 percent in 2016 and 2022, respectively (14), and this gives room for Thai entrepreneurs to increase their roles in cross-border e-commerce.

Cross-border e-commerce is one way for small and medium-sized enterprises (SMEs) to get access to the global market and improve their efficiency. Through the SMEs Pro-active Project, which promotes B2B via three platforms—Alibaba, KlangOne and GlobalConnect—the Thai government encourages the adoption of cross-border e-commerce among Thai SMEs for their overseas exports. This initiative helps Thai SMEs to access a global user base through Alibaba, while KlangOne assists them in exporting, particularly to the CLMV market (15), which boasts over 200 million internet users. Additionally, the Singaporean Business Federation's GlobalConnect initiative assists Thai SMEs in reaching international markets (16).

Thailand's Perspective on BIMSTEC

The COVID-19 pandemic has caused economic slowdowns and disruptions in countries around the world, and Thailand is no exception. After three years of the pandemic, Thailand's economy has finally begun to recover. BIMSTEC represents an opportunity for Thailand to kickstart its post-pandemic economic recovery by forming more diverse and balanced agreements with countries outside ASEAN and the Indo-Pacific (17).

The Bay of Bengal is a diverse region with huge untapped potential, with a population of over 1.7 billion people, a combined gross domestic product (GDP) of US$7 trillion and natural resources such as gas, oil, and minerals. It is also a crucial worldwide marine hub, connecting the Indian and Pacific oceans. This region has the potential to become a fast-growing economy with a conflict-free maritime environment (18).

BIMSTEC was established in 1997 to serve as a bridge between the two regions, with the goal of promoting a more attractive environment of

free trade and increasing cross-border investment and tourism. The exports of BIMSTEC countries to their members has climbed from 3.02 percent in 1998 to 7.7 percent in 2022, while the BIMSTEC import share has increased from 3.61 percent in 1998 to 5.39 percent in 2022. Despite increasing intra-regional trade share, data from the International Monetary Fund (IMF) shows that the value of trade among them remains limited, with a total trade value of only US$127 billion in 2022. This indicates a lack of linkage among BIMSTEC members. Cooperation between Thailand and India on digital trade could enhance trade between the two countries and become a starting point of more trade engagement in the region. A larger amount of intra-regional trade would also enhance the process of FTA negotiation and allow BIMSTEC countries to benefit from their FTA, once it is implemented (19). It is critical to successfully conclude the agreement since it assists in lowering trade and investment barriers, enhancing further intra-regional trade and enabling global value chain facilitation (20).

India as a Key Trading Partner in BIMSTEC

India is Thailand's primary trading partner within BIMSTEC and serves as a gateway to South Asia, a region that houses one-quarter of the world's population and beyond. Thailand and India have a long history of economic and commercial relations, which are rooted in history, sociocultural interactions, and considerable people-to-people relationships. Their deeper economic relationship had been strengthened by India's Act East policy, and Thailand's Act West policy (21).

Thailand-India total trade climbed from US$7.92 billion in 2015 to reach US$14.94 billion in 2021. Thailand's exports to India accounted for US$8.53 billion, while India's exports to Thailand accounted for US$6.40 billion in 2021. Additionally, approved Indian foreign direct investment (FDI) in Thailand accounted for US$124.73 million in the same year, while Thai FDI in India stood at US$533.86 million. Thailand also engages with India in regional cooperation, including BIMSTEC and the Mekong Ganga Cooperation (22).

In terms of the digital economy, India is one of the world's fastest-growing e-commerce markets. Its e-commerce value was US$46.2 billion

in 2020 and is expected to grow at 18.29 percent to reach US$136.47 billion by 2026 (23). The COVID-19 pandemic has accelerated growth across segments, and Indian people adapted to e-commerce activity, such as hyperlocal delivery, digital education, food delivery, digital health, digital media and entertainment. The growing acceptance of digital payment has accelerated the expansion.

India's large online consumer base, diverse demographics, low-cost digital infrastructure and services, and a well-developed supply chain ecosystem make it an attractive destination for firms focusing on online sales. In terms of segments, online retail claimed the largest share of the Indian e-commerce market in 2020, comprising 44 percent. Furthermore, its market share is projected to grow to 49 percent by 2026 (see Table 2). Indian consumers particularly favour online purchasing platforms for products such as accessories, apparel, footwear, personal care products, household supplies, and consumer electronics.

Table 2: Major Segments of India's E-Commerce Market

	2020	2026
Online retail	44%	49%
Online travel services	25%	14%
Online financial services	10%	12%
Online matrimony and classified	3%	3%
Other online services	18%	22%

Source: International Trade Administration (24)

India has been rapidly embracing a digital transformation policy as part of its ambitious Digital India plan. This initiative has not only enabled the rapid financial and business inclusion of disadvantaged populations in India but has also fostered the creation of world-class products built on its open-source application programming interfaces (APIs).

Role of Cross-Border E-Commerce in Fostering Regional Integration

The success of BIMSTEC FTA negotiations is critical for regional integration and economic growth since it helps to lower trade and investment barriers and allows businesses to join global supply chains. This will contribute to higher economic growth and the integration of regional and global supply chains (25). With unfinished FTA negotiations and limited intra-regional trade, BIMSTEC countries must identify a trigger to move the process forward and improve intra-regional trade. Collaboration on cross-border e-commerce could be a viable solution for two major reasons.

First, cross-border e-commerce can help promote trade between Thailand and India. The ASEAN-India FTA is an example of how e-commerce development leads to increased trade value. This is because e-commerce support leads to the development of digital economy and connectivity, and its lower entry costs help start-ups and micro, small and medium-sized enterprises (MSMEs) access local and global markets (26). E-commerce will help MSMEs and marginalised groups in both economies to diversify their client base at lower costs, while providing consumers with access to a diverse choice of products. Higher trade value between Thailand and India, and eventually higher intra-regional trade, can result in larger FTA benefits for BIMSTEC members and enhance BIMSTEC FTA negotiation.

Second, major member countries in BIMSTEC have already engaged in various regional and bilateral trade agreements with one or more member states. Therefore, the BIMSTEC FTA must actively seek additional trade opportunities for member countries (27).

A digital-oriented FTA, with specific focus on cross-border e-commerce, could inject new vitality into the BIMSTEC FTA agenda. Thailand and India, as well as other member nations, would especially benefit from a platform for cooperation on digital trade issues. This argument is supported by the following reasons:

- There are connectivity projects under BIMSTEC such as the Kaladan Multimodal Transit Transport Project, which connects India (Kolkata)

and Myanmar (Sittwe port); the Asian Trilateral Highway that connects India and Thailand via Myanmar, and Bangladesh, Bhutan, India, and Nepal. Once implemented, these will facilitate the seamless movement of goods and vehicles across borders.

- Furthermore, Thailand and other BIMSTEC countries, particularly India, share a high reliance on mobile phones for digital connectivity and alignment on issues such as the intellectual property treatment, including the protection of traditional knowledge and access to medicines (28).

The Way Forward

Collaboration on cross-border e-commerce will benefit Thailand and could be a feasible solution to the success of the BIMSTEC FTA negotiations, as digital trade could provide common ground to help overcome the current impasse within BIMSTEC free trade negotiations. In today's digital environment, all members require digital growth (29). Moreover, additional opportunities that the FTA could bring to the members stem from cross-border e-commerce expansion.

It is critical for Thailand, India and other members to enhance digital connectivity, which is essential for creating a seamless region. Establishing cross-border e-commerce collaboration is vital as a platform for e-commerce between Thailand and India, as well as the entire region. Thailand and India can begin by assisting each other in developing digital connectivity, encompassing digital infrastructure (such as internet backbone, fixed broadband networks and mobile telecommunications), digital skills, and rules and regulations related to digital transactions (such as cybercrime and data protection).

The existing differences and diversities between BIMSTEC countries can be transformed into opportunities if they share their experiences and knowledge. India has a technological advantage, although Thailand has a higher level of technological readiness (30). Furthermore, when compared to South Asian countries, Southeast Asian countries have more advanced infrastructure and a higher level of technical penetration. The

more developed countries can collaborate with the less advanced states to help them implement technologically essential policies (31). In terms of developing digital skills, India has a tremendous advantage and is positioned as the Global Digital Talent Nation, with one in every three employees having digital skills (32). Thailand and other members must improve this aspect of digital connectivity. Consequently, India can contribute to the group by assisting Thailand and other members with capacity building.

Thailand and India should collaborate to develop an integrated e-commerce platform. This platform can provide a list of industry associations and a business directory for business matching, information on incentives and regulations, a single-window system for data sharing and analytics, and details about fairs and events, education and training (33).

Through increased cooperation on digital connectivity development and the establishment of a Thailand-India integrated e-commerce platform, Thailand stands to benefit from an expanded bilateral e-commerce engagement with India. This could be the start of Thailand's post-pandemic economic recovery, paving the way for the country as a future facilitator for the BIMSTEC FTA.

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TRANSITION TO NET ZERO IN THE BAY OF BENGAL SUBREGION: THE ROLE OF TRADE AND CONNECTIVITY

APARNA SAWHNEY

The Indo-Pacific has emerged as a space for renewed regional cooperation and alliance in recent years. Amid uncertain geopolitical developments and China's growing economic prowess, several countries, including Australia, Japan, and the US, have been proactive in seeking ways to secure sea lanes and strengthen plurilateral economic relationships to realign global supply chains towards friendshoring and nearshoring. The new vision of the Indo-Pacific region has also turned the focus on increasing connectivity in the Bay of Bengal subregion, through road, rail, and marine lines, which play a critical role in reducing transaction costs and deepening commerce in the region.

Since the Bay of Bengal subregion serves as a conduit for deeper integration of South Asia to Southeast Asia via land and sea, easing commerce here is critical to achieving greater integration in the Indo-Pacific region. The seven countries bordering the Bay of Bengal and the Andaman Sea are the South Asian countries of Bangladesh, India and Sri Lanka and the Southeast Asian countries of Myanmar, Thailand, Indonesia, and Malaysia (1). Additionally, two smaller landlocked South Asian countries, Bhutan, and Nepal, depend on the Bay, albeit mostly via land routes through India.

Among the plurilateral economic cooperation groups within the Indo-Pacific, the 10-member Association of Southeast Asian Nations (ASEAN) has a more robust trading bloc (2) than that of the eight-nation South Asian Association for Regional Cooperation (SAARC) (3). South Asia is far less integrated than Southeast Asia due to relatively higher tariffs and

non-tariff barriers, including transport and connectivity frictions, which have prevented the realisation of potential benefits from greater regional commerce. For example, the average applied tariffs in South Asia on imports from Southeast Asia, at 6.9 percent, is substantially higher than the 2.8 percent tariff imposed by Southeast Asian countries on imports from South Asia (4). The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), a grouping of seven South Asian and Southeast Asian countries, envisions a free trade area, and has reinforced efforts to increase integration, especially in critical areas of transport and connectivity (5).

Greater connectivity through the Bay of Bengal subregion is crucial for the deeper integration of South Asia with Southeast Asia and the larger Asia Pacific. It is estimated that such deeper regional integration through tariff and non-tariff liberalisation, trade facilitation, and foreign direct investment (FDI) reforms could enhance the GDP of the two subregions, particularly for South Asia by 10.6 percent (6).

In the pursuit of greater integration of the region, India has been championing a free, open, inclusive and rule-based Indo-Pacific at multiple fora since 2018 (7). This effort is aimed at ensuring a secure space for regional development and prosperity of neighbouring countries, as is evident in more broad-based regional initiatives for maritime security such as the Security and Growth for All in the Region and Indo-Pacific Regional Dialogue.

India is viewed as an indispensable strategic partner in the realignment of global and regional production value chains away from China, and features in the Quadrilateral Security Dialogue (Quad) alongside Australia, Japan, and the US that is seeking a free and open Indo-Pacific, and the US-led Indo-Pacific Economic Framework (IPEF) that aims to reorient value chains towards friendly shores and looks beyond traditional sectors towards health security and energy security (8). Cooperation efforts have been particularly prominent in two sectors: clean energy and health. This is unsurprising as the current geopolitical situation has been accompanied by disruptions in the primary energy supply chain and hikes in oil and gas prices. For the Bay of Bengal countries, it reinforces the urgency to

reduce their dependence on conventional fuels through crude oil imports for their energy needs (9). Stable access to energy, particularly clean energy, is a priority in the development path.

Building supply resilience in energy and health is associated with some of the most knowledge- and technology-intensive production value chains, including that of renewable energy equipment, pharmaceuticals, medical devices, and electronics. These critical products have been heavily dependent on upstream imports from China. For instance, India, one of the largest exporters of generic drugs in the world, has been largely dependent on imports of active pharmaceutical ingredients from China. Similarly, India's remarkable growth in solar-based electricity capacity was based on imports of Chinese solar photovoltaic cells and modules. The current strategy of friendshoring and nearshoring has prompted countries to promote diversification of source countries away from China and domestic production. Energy security through international trade entails access to clean energy, renewable technology equipment and raw materials.

Given their severe vulnerability to climate change, the global transition to net-zero emissions and carbon neutrality is of utmost urgency for the Bay nations. This is evident in the long-term climate risk index, where Myanmar, Bangladesh, Thailand, and Nepal were ranked among the top ten countries worldwide most affected between 2000 and 2019 (10). Since the energy sector accounts for the largest contribution to anthropogenic carbon emissions, climate mitigation strategy has focused on transitioning away from fossil fuels to clean renewable energy forms, particularly in electricity production, transport, and emission-intensive industries.

Increasing connectivity of the Bay nations would enable integration and efficient utilisation of renewable energy forms. The subregion has witnessed substantive momentum in establishing supply resilience through cross-border electricity trading and looking beyond the well-established subregional supply value chains of textiles, apparel and autos. Tangible action and institutional reforms have addressed infrastructural connectivity inadequacies and procedural delays that lie at the heart of the high cost of commerce in the region. This is expected to enhance

the competitiveness of the adjacent nations and increase intraregional trade in the Bay subregion.

This essay highlights the significance of recent initiatives in regional connectivity for boosting trade in goods and services in the Bay, particularly that of grid connectivity in the pursuit of sustainable development. Easing cross-border electricity trade plays a critical role in harvesting renewable energy efficiently and transitioning to net zero for the Bay nations.

Increasing Connectivity for the Bay Nations' Nearshoring Strategy

The Bay of Bengal subregion has garnered attention due to its strategic location in the north-eastern Indian Ocean, serving as a critical maritime transit route for essential resources like energy from the West Asia and East Africa to East Asia (11). Deeper integration of the Bay of Bengal nations is expected to potentially benefit both consumers and producers through the availability of cheaper intermediate and final goods, as well as the generation of more jobs and higher wages following greater output. In line with the strategy of greater integration with its neighbours, India is pursuing regional connectivity with renewed vigour.

Table 1, summarising selected economic indicators of the Bay nations, shows that India boasts the largest economy in this group, even though its income or output per capita, is relatively low (at US$2,085) compared to Malaysia, Thailand, Bhutan, and Sri Lanka. In recent years, India has made significant progress in improving its ease of doing business, particularly by enhancing logistics services for trade and transport, as shown by an index score of 3.2/5 in 2022 (see Table 1). However, Thailand, Malaysia, and Myanmar stand out as the most globally integrated economies, as indicated by their share of trade and net FDI inflows to GDP.

Table 1: Selected Economic, Trade and Institutional Indicators of the Bay Nations, 2022

Country	GDP per capita@ (US$)	GDP@ (million US$)	Trade share (% of GDP)	Cost in US$ to#		FDI net inflows (% of GDP)	Logistics index**	EoDB score+
				Export	Import			
Bangladesh	1,785	305,523	33.78	*408.2*	*900.0*	0.34	2.3	45.0
Bhutan	2,977*	2,315*	84.56*	*59.2*	*110.1*	0.27*	2.2	66.0
India	2,085	2,954,978	49.37	*211.9*	*266.1*	1.48	3.2	71.0
Indonesia	4,073	1,122,285	45.4	*211.1*	*382.6*	1.64	2.9	69.6
Malaysia	11,372	385,944	140.8	*212.5*	*212.5*	3.72	3.6	81.5
Myanmar	1,347	73,005	72.37	*431.7*	*456.7*	3.17*	1.9^	63.2
Nepal	1,083	33,084	49.39	*102.9*	*190.0*	0.16	2.2^	46.8
Sri Lanka	3,988	88,460	46.52	*366.1*	*299.7*	0.68*	2.4	61.8
Thailand	6,278	450,126	133.91	*222.6*	*232.5*	2.03	3.7	80.1

Source: *Compiled by author from World Development Indicators database*

Notes:

@Constant 2015 (US$)

 # Cost to export and import for border compliance reflects the time and cost associated with compliance with the country's customs regulations and with regulations related to other inspections mandatory in order to cross the economy's border, as well as the time and cost for handling that takes place at its port or border. Data correspond to the year 2019.

** Data corresponds to the year 2021.*

***The Logistics Performance Index pertains to the quality of trade and transport-related infrastructure (1=lowest performance to 5=high).*

+EoDB is the Ease of Doing Business score with regard to regulatory performance (0=lowest performance, 100=best performance). Data pertains to 2019.

^ Data corresponds to 2018.

Thailand and Malaysia are the most commerce-friendly, with the best logistics in trade and transportation and ease of doing business. Although Bhutan is highly integrated through international trade and has the lowest trade costs for border compliance in the subregion, it has poor logistics due to high transport costs. For landlocked Bhutan and Nepal, subregional integration and connectivity is critical for efficient development.

To improve connectivity and ease commerce in the Bay of Bengal subregion, physical and institutional infrastructure across land and

marine routes needs improvement. For instance, a study of Indian land borders in the Northeast found that most of the existing land customs stations lacked cargo handling facilities, animal and plant quarantine, and cold storage and testing facilities (12). The study also noted that poor connectivity and traffic congestion on the roads to the customs stations cause severe delays and hamper cross-border trade. While there is still much distance to be covered to ease connectivity in the Bay of Bengal subregion, there has been some headway through initiatives taken of late. Efforts by India and Bangladesh to improve connectivity within the Bay of Bengal subregion have been particularly remarkable. For instance, seamless transit at the border is being stepped up at land border terminals, such as in Petrapole (India) and Benapole (Bangladesh) (13).

The transit passage of cargo and passenger motor vehicles between Bangladesh, Bhutan, India and Nepal has somewhat eased following the Motor Vehicle Agreement, but it is yet to achieve full efficiency. A recent study estimated that efficient motor vehicles passage between Bangladesh and India, which removes border frictions in bilateral trade, could increase income by 11.3 percent for Bangladesh and 5.6 percent for India (14). The analysis observed that opening new land transit routes in Northeast Indian states and Bangladesh would reduce transport and trade costs for Indian states closest to the border (West Bengal, Odisha, Mizoram, Tripura, Meghalaya and Assam) and significantly increase their competitiveness and higher real wages. The more distant states of Uttar Pradesh and Maharashtra would also gain due to improved trade opportunities with the northeastern states and Bangladesh, while in Bangladesh, the districts of Dhaka and Chattogram are expected to gain the most due to an increase in real wages following greater trade opportunities.

The new deepwater port in Sittwe (Myanmar), built under the Kaladan Multi-Modal Transit Transport project, became operational in 2023, and is expected to halve the cost of transportation from the cities in India's Northeast to Myanmar (15). Meanwhile, a trilateral highway connecting the town of Moreh (Manipur, India) to Mae Sot (Thailand) via Myanmar, currently under construction, is expected to transform trade in the Bay and boost land trade of South Asia with Southeast Asia (16).

Easing connectivity and improving border infrastructure has benefits not just in terms of reduced time and direct transport costs, but also in terms of carbon emissions and footprint of trade, as lower traffic congestion and idling reduce fuel consumption and associated emissions. Moreover, increasing connectivity for trade in energy, like the transnational Motihari-Amlekhgunj oil and gas pipeline between Nepal and India, obviates the transportation of petroleum products by road in tankers, and eliminates carbon emissions from transportation. Indeed, Nepal has proposed two more pipeline projects to India that will cut down on fuel transport costs (17). Moreover, cross-border electricity trade constitutes an integral component of the energy security strategy of the Bay subregion (18).

Advancing grid connectivity to boost energy services in the Bay region

Diversifying the energy mix to include renewables is essential to transition to net zero in climate mitigation and energy security. Among the Bay nations, India is the largest carbon emitter in the region, with the most carbon-intensive output of 0.9 kg of CO_2 per dollar GDP due to its high reliance on fossil fuels (see Table 2). Given the urgency of climate mitigation and transition to abate carbon emissions, India has pledged to reach net zero by 2070. Other Bay nations are expected to commit to net zero earlier, between 2045 and 2065. Nepal is largely based on hydropower and renewables and is expected to reach net zero early by 2045. Among the Bay of Bengal nations, only Bhutan has achieved carbon neutrality, owing to its reliance on hydro-based electricity and forest carbon sequestration.

Table 2: Total Carbon Emissions, Carbon Intensity, and Net Zero Targets in Bay nations for 2019

Country	CO_2 emissions (kt)	CO_2 /GDP (kg per $)@	CO_2 per capita (metric tons per capita)	Net zero / carbon neutrality target (2022)
Bangladesh	92,645	0.4	0.6	Net zero by 2050 — *in discussion*
Bhutan	1,433	0.6	1.9	Carbon neutrality by 2030 — *achieved*

Country	CO_2 emissions (kt)	CO_2 /GDP (kg per $)@	CO_2 per capita (metric tons per capita)	Net zero / carbon neutrality target (2022)
India	2,423,951	0.9	1.8	Net zero by 2070 — pledged
Indonesia	605,291	0.6	2.2	Net zero by 2060 — *in discussion*
Malaysia	244,882	0.7	7.5	Carbon neutrality by 2050 — pledged
Myanmar	33,995	0.4	0.6	Net zero by 2050 — *in discussion*
Nepal	13,861	0.5	0.5	Net zero by 2045 — *in policy document*
Sri Lanka	23,428	0.2	1.1	Carbon neutrality by 2050 — *in policy document*
Thailand	274,467	0.6	3.8	Net zero by 2065 — *in policy document*

Source: Compiled by author from World Development Indicators database and REN (2023)
Note: @ Emissions in kg per GDP in constant 2015 (US$)

Promoting energy trade and the development of an integrated power grid in the subregion will enhance the efficient utilisation of electricity from various sources. Encouraging trade in cleaner electricity can lower the carbon intensity output of countries that rely more on fossil fuels. India has a history of importing hydropower from Bhutan and Nepal while being a net exporter of electricity to Nepal. Table 3 shows the energy mix of power generation of the Bay countries, with Bhutan and Nepal being entirely emission-free, while only 1.7 percent of Bangladesh's electricity is green. There is potential to harness hydropower in Meghalaya in Northeast India, and export it to Bangladesh (19), subject to ecological costs (20).

Table 3: Electricity Generation by Energy Source (TWh) and Share of Renewable Sources, 2021)

Country	Total generation	Hydro	Renewables excl. hydro	Fossil fuels (oil, gas, coal)	Nuclear	Share of green power* (%)
Bangladesh	81	0.9	0.5	79	-	*1.7*
Bhutan	9	9	-	-	-	*100*
India	1,702	165	175	1,318	44	*20.0*

Country	Total generation	Hydro	Renewables excl. hydro	Fossil fuels (oil, gas, coal)	Nuclear	Share of green power* (%)
Indonesia	307	25	31	250	-	*18.2*
Malaysia	165	26	3.9	135	-	*18.1*
Myanmar	22	9	0.4	13	-	*42.7*
Nepal	6.1	6	0.1	-	-	***100***
Sri Lanka	16	5	1	10	-	*37.5*
Thailand	187	4.7	28	154	-	*17.5*

Source: Compiled from Energy Information Administration database
Notes:
** Share of green electricity = 100 x (Hydro-based + Renewables-based) / Total generation*
1 TWh or terawatt hour is equivalent to one trillion-watt hours

In 2021, the Indian Energy Exchange launched cross-border electricity trading, and by the following year, Bhutan and Nepal had begun electricity trading in the Indian day-ahead market (21). This development is expected to expand the Indian power market and optimise energy allocation among countries in the subregion. South Asian cross-border electricity trade was 3,900 MW in 2022, but has the potential of increasing to 43.8 GW by 2040 (22). Similarly, strengthening the India-Myanmar electricity grid can offer Myanmar access to the larger Indian market and foster greater connectivity to ASEAN for India and South Asia (23). India is now poised to sign a tripartite agreement with Bangladesh and Nepal to allow transit electricity trade, following which 500 MW of hydropower will be exported from Nepal to Bangladesh via Indian transmission lines (24). Going forward, establishing a supranational body for cross-border electricity trade governance is key towards creating an open and competitive electricity market for the Bay of Bengal subregion and beyond (25).

Conclusion

Renewed initiatives in Bay of Bengal connectivity are poised to boost trade in goods and services within the region. The growing status of India and ASEAN as prominent recipients of FDI in developing Asia (26) augurs well for the subregion, with increased integration leading to positive spill-over effects in the smaller Bay nations. Moreover, investment

in green hydrogen projects in India following the announcement of a joint venture with an Indian firm to develop solar, wind, and energy storage energy by Malaysian Petronas Hydrogen (27) and the Quad's Clean Hydrogen Partnership, will help in decarbonisation and promote climate-smart energy trade in the subregion through interconnected grid transmitting power across borders.

Given India's ambitious target of renewable-based power, especially in solar and wind, cross-border electricity trade would help smoothen the variability of renewable-based power across the subregion. The Bay nations need to enhance cooperation in developing a green electricity corridor in the region for an efficient transition pathway to net zero.

Endnotes

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ADVANCING 'GLOCALISATION' IN THE BAY OF BENGAL

SOUMYA BHOWMICK AND DEBOSMITA SARKAR

The larger Indo-Pacific region is home to nearly three-fifths of the global population (1), some of the world's fastest-growing emerging markets and developing economies, and is characterised by the world's busiest marine trade routes (2). The region presents a ripe ground for fostering robust economic partnerships. In recent times, the Indo-Pacific economies have shown increased enthusiasm towards establishing intra- and extra-regional partnerships, increasingly seeking collaboration in their immediate and extended neighbourhood to counter the influence of China. Today, China is a significant trade and investment partner for almost every Indo-Pacific country, including India. This is attributed to the former's key position in the regional value chains. The trade volumes with China have been high and increasing over the years. In 2022, India–China bilateral trade reached a record high of US$ 135.98 billion (3).

Prior to the onset of the COVID-19 pandemic in 2020, with the looming threat of China's hegemonic Belt and Road Initiative (BRI), as well as its String of Pearls strategy (4), India has shown increased enthusiasm to establish links between the Southeast Asian countries through its 'Act East' policy. The United States (US), Japan, and Australia have also tried to contain the Chinese threat by developing Indo-Pacific links. These include the US-led initiative Indo-Pacific Economic Framework for Prosperity (IPEF) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) representing 11 Asia-Pacific countries, both of which aim to lower barriers to trade in goods and services and lower associated trade costs to combat the deepening Chinese presence in the global economy. In the case of Bangladesh and Sri Lanka, strengthening

ties with regional countries implies reduced reliance on China for trade and commerce. Within this context, the Bay of Bengal region was also pushed to the forefront of the world economy within the larger Indo-Pacific as the centre of gravity for global trade and economic activities.

The inception of the COVID-19 pandemic in the latter part of 2019 undoubtedly hurt the global economy in many ways. Most importantly, the excessive reliance on Chinese manufacturing has negatively impacted global economic growth (5). China's stringency with its zero-COVID policy has disrupted the demand–supply dynamics across global markets and caused severe supply chain disruptions and resource shortages in various sectors.

The US and the European Union (EU) have been pursuing a policy of industrial sovereignty to decouple from the global value chains where dependence on China is very high. They have already established agreements such as the EU-US Trade and Technology Council (TTC) and the IPEF that exclude China and focus on "like-minded nations" (6). As the US and the EU aim to create regional value chains to build supply chain resilience, such sub-regional agreements saw a significant uptick in the background of the Russia–Ukraine conflict. The persistent rise in energy prices had affected the EU greatly since they were importing 40 percent of their energy requirements from Russia. Along with energy, critical metals such as aluminium and nickel also saw a price increase, driving up the factor market prices (7).

There is a recent surge of nationalistic sentiments and a push for self-reliance has also emerged. A policy paradox arises when the policymaker must choose between globalisation, localisation, or 'glocalisation'. When exploring the third choice, policymakers must decide the extent of localisation to be present within the globalised economy. In the case of India, it has become clear that ties with the other countries in the region can focus on creating regional value chains to boost self-reliance. Because of geopolitical developments, developed countries are adopting a strategy of industrial sovereignty, requiring India to conduct a diversification analysis to locate new goods and suppliers. This is where policies such as production-linked incentives and 'Make in India' come into play as

they help domestic firms achieve the goal of commodity parity and price competitiveness with the rest of the world.

Gravity Model Analysis of the Bay of Bengal Region

Against the backdrop of an altering global economic order and increasing tendencies to reduce over-reliance on the Chinese economy, introspecting on the internal dynamics of the countries in the Bay of Bengal region concerning trade and regional economic integration is of utmost importance. Furthermore, the emergence of insulating tendencies among economies, rising nationalistic fervours, and the COVID-19 pandemic has challenged the status quo of the erstwhile global economy. While prospective security arrangements such as the Quadrilateral Security Dialogue (QUAD) have attempted to fight these impending waves of transition, their impact in purely economic sectors has remained limited (8).

The Indian imperative of countering the growing influence of China on economic activities in the larger Indo-Pacific context has placed harnessing the strengths of the Bay of Bengal countries as an economic bloc at the forefront of its growth agenda. The revitalisation of regional organisations such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and investments by the Asian Development Bank (ADB) for improving connectivity in the region are all examples of how the region is seeing increased vigour in development as a trade and investment hub (9, 10). The littoral countries of the Bay of Bengal area—India, Bangladesh, Indonesia, Myanmar, Sri Lanka, and Thailand—account for 25.2 percent of the global population and have a combined gross domestic product (GDP) of US$5.46 trillion, establishing the region as a critical player in both global product and factor markets (11), (12).

Boosting regional commercial ties can not only directly contribute to the growth prospects and long-term economic resilience of countries in the region, but also present a sustainable alternative to the China factor for major trading partners like the US and the EU. While the US and the EU turn more inward-looking to fend off the Chinese influence in the global economy, this also implicates other countries in the Global South from

losing out on potential trade flows. For example, given the developing world's reliance on international trade and investment from the US and the EU, this inward shift may prevent the former's participation in China's BRI-driven infrastructure and trade networks, potentially hindering economic development from this channel.

This has a bearing on countries' economic and development convergence from the global North and global South. Like other institutional factors, the economic convergence of countries is also conditional to their levels of global economic integration (13). Therefore, positing the Bay of Bengal countries as an economic bloc serving as a viable alternative to China can enable these countries to play catch-up on the global economic ladder.

Bilateral trade ties between the Bay of Bengal countries and the US or the EU have traditionally remained limited in comparison to China (14), (15). In 2022, China was the third-largest trading partner for the US and the EU, accounting for over one-tenth of their total international trade. The structural gravity model of international trade suggests that the volume of goods and services traded between two countries is directly proportional to their economic size (serving as a proxy for each trading partner's production capacity as well as the market demand each represents) and inversely related to the associated trade costs. The structural gravity model is defined as follows:

$$X_{ij} = \frac{Y_i . Y_j}{Y_w} \emptyset_{ij}^{-\varepsilon}$$

Where,
X_{ij} *is the total volume of bilateral trade between countries i and j,*
$Y_i\ (Y_j)$ *is the GDP of country i (j) representing its economic size,*
Y_w *is the global GDP,*
$\emptyset_{ij}^{-\varepsilon}$ *is the associated trade cost between countries i and j, and,*
ε *is the elasticity of bilateral trade to associated trade costs*

The empirical evidence from the gravity model can explain a lot about how trade relations have shaped between developed economies like the US and the EU and their Asian developing counterparts (16), (17), (18). Firstly, other factors notwithstanding, the relatively large size of

the Chinese economy—reflecting the static economies of scale of its production and, therefore, its comparative advantage in global markets, as well as the demand generated by its large domestic market—have significantly contributed to its flourishing trade relations with countries around the world (see Table 1). In comparison, the smaller economies in the Bay of Bengal littorals have fallen short. Regional integration of the Bay of Bengal countries into a larger economic bloc can increase bilateral trade flows between the Bay of Bengal region and countries in the global North, reducing the over-reliance upon China among regional and global trading partners.

Table 1: Aggregate Economic Size for the US, EU, China, and the Bay of Bengal by GDP (current US$, 2021)

Trading Partner	GDP (US$, in trillions)
European Union	17.18
United States	23.32
China	17.73
India	3.18
Bay of Bengal Economic Bloc (including India, Bangladesh, Indonesia, Myanmar, Sri Lanka, and Thailand)	5.46

Source: World Development Indicators, the World Bank (19)

Furthermore, data suggests that, in addition to the aggregate economic size of trading partners, bilateral trade flows between countries grow when the relative disparity in their income levels decreases (20), (21). The overlapping representative demand of the trading partners translates into universal demand, necessitating product differentiation and intra-industry trade among them. As a result, nations with similar representative wants are more likely to create similar sectors and trade in similar but distinct items. This similarity in demand with other countries is influenced by the equivalency in per capita income levels (22). Integrating the Bay of Bengal countries into an economic bloc can diminish the relative income gap between individual Bay of Bengal countries and the US or the EU, allowing specialisation due to demand bias and representative demands

to work as a basis for trade. Economic blocs focus on fostering economic cooperation, reducing trade barriers, and stimulating growth through mutual benefits. While currency differences may pose challenges, they can be overcome through mechanisms like currency pegs or currency exchange agreements.

Secondly, bilateral trade is significantly influenced by associated transaction costs. These include natural trade costs induced by geography (the distance between trading partners contributing to transportation costs and reducing price advantage) or unnatural trade costs (induced by cultural linkages, logistical hurdles, or trade barriers) (23). Finally, China has a competitive advantage over other possible trading partners in the region due to the dynamic economies of scale associated with economic activity and long-term trade partnerships. Over time, dynamic economies of scale have assisted the country in developing synergies that generate better productivity, more sophisticated networks, and, as a result, more robust integration into global and regional value chains. These factors have cut trade costs and increased bilateral flows between China and its trading partners.

The Chinese economy's supply chain issues threaten to undo these advances, particularly after the pandemic, so the Bay of Bengal countries are well-positioned to replace China in the global value chains. To accomplish this, the regional organisation must work to reduce the associated trade costs. In addition, improving physical and digital connectivity, diversifying trade networks, and constructing resilient communication and infrastructure systems might enhance regional and global economic linkages in the medium to long run. However, these developments also necessitate three critical checkpoints in the long run. First, it remains essential to understand the optimal scope of such a market within the global value chains. Second, the identification of the potential forward and backward linkages and the nature of trade arrangements that would be most favourable for the region are significant checkpoints. Third are the trade-offs and synergies between national economic and broader regional goals.

Regional economic blocs can serve functions other than encouraging bilateral trade flows and promoting economic convergence within

the context of the global economy. These can enable the localisation of productive activities that benefit from regional trading partners' coordination and existing complementarities. While self-sufficiency within the domestic economy may be a long-term objective, building regional value chains can significantly contribute to cluster self-reliance within a globalised context. This self-sufficiency also protects against worldwide disasters like the recent COVID-19 outbreak.

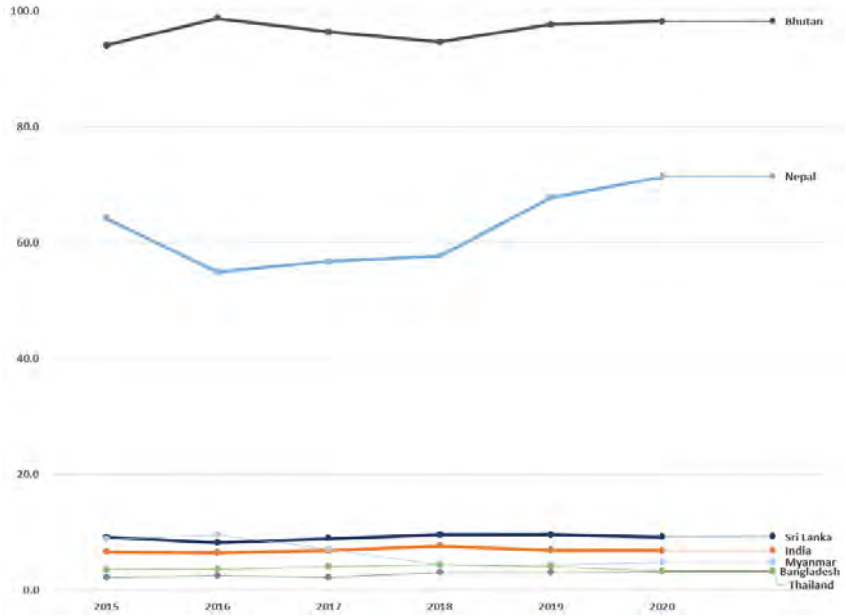
Most importantly, the regional economic integration of countries plays a vital role in highlighting their shared internal and external vulnerabilities, aligning their mutual interests, and devising feasible pathways for advancing their shared agenda of long-term economic resilience building. Three specific industries can be essential to long-term resilience in the current setting of the economies in the Bay of Bengal area: food security, access to energy, and connectivity between the countries. First, as food and energy security are increasingly threatened by the world's rapidly evolving geo-economic and geopolitical tensions, economies and regional groups in the Bay of Bengal region can focus on building a solid regional value chain that promotes self-reliance in these two sectors. Second, physical connectivity becomes the most critical aspect to achieving the goal of an effective regional economic order, where technology and digital connectivity can play a crucial role too.

Connectivity Challenges for Regional Integration

Physical connectivity is one of the biggest challenges that prevent the key economic sectors from reaching an optimum level of globalisation through regional partnerships. Without the free flow of information, capital, and technology, the region's economies cannot create an integrated regional value chain. For instance, even though Bangladesh and India have a varied set of strengths that can complement each other, the hurdles in customs clearance mean that the time and cost of production become high, disincentivising firms from investing in regional manufacturing businesses. Defying the proximity logic, only about two to four percent of India's total trade is with its immediate neighbours in the Bay of Bengal region (24). According to trade data between BIMSTEC countries and low and middle-income economies in South Asia, five of the seven

countries' share of total merchandise exports is less than 10 percent (see Figure 1) (25).

Figure 1: Merchandise Exports to Low- and Middle-Income Economies in South Asia (percentage of total merchandise exports)



Source: Authors' own, data from the World Bank (26)

Cross-border trade takes an average of 53.4 hours in South Asia, 16.1 hours in Europe and Central Asia (ECA), and 12.7 hours in high-income Organisation for Economic Cooperation and Development (OECD) nations. When it comes to border compliance costs, South Asia pays US$310, the ECA pays US$150, and the OECD pays US$136.8 (27).

The Bay of Bengal region has abysmally low levels of integration, which creates a wedge between South and Southeast Asia. This lack of integration has prevented countries from accessing the opportunities available in their neighbourhood. For example, Myanmar, Nepal, and Bhutan have abundant hydropower infrastructure but are unwilling to use it since there is no domestic demand to justify the price of these projects. India and Bangladesh, on the other hand, import large amounts of energy and serve as promising markets for hydropower (28). These complementarities should be leveraged to build strong regional production

networks. When looking at the intra-BIMSTEC trade matrix, the lack of sub-regional linkages is readily apparent (see Table 2). A detailed examination of the regional economies' resource base, current production capacities and networks, and market demand structure will help improve intra-regional trade among BIMSTEC countries.

Table 2: Intra-BIMSTEC Trade (exports, percentage)

	Bangladesh	Bhutan	India	Myanmar	Nepal	Sri Lanka	Thailand	Intra-BIMSTEC	Share in World
Bangladesh		0.00	0.98	0.03	0.05	0.03	0.03	1.12	3.11 (1.66)
Bhutan	0.00		0.50	0.00	0.00	0.00	0.00	0.51	97.59 (84.94)
India	8.13	0.69		0.96	7.10	4.23	4.33	25.45	7.83 (5.11)
Myanmar	0.07	0.00	0.64		0.00	0.03	3.26	3.99	22.03 (16.10)
Nepal	0.01	0.00	0.66	0.00		0.00	0.00	0.68	68.85 (42.84)
Sri Lanka	0.13	0.00	0.79	0.03	0.03		0.04	1.02	8.73 (2.81)
Thailand	0.98	0.00	7.32	4.35	0.10	0.38		13.14	5.35 (2.11)

Source: UNESCAP (2021) (29)
Note: Numbers in parentheses show corresponding data for 2000.

Regional integration, especially in the energy sector, requires support from multilateral agencies such as the ADB since the investments are exceptionally large, and countries such as Myanmar and Nepal need help to finance them. Until recently, China was a significant investor in Nepal's hydropower sector. However, with one of its largest export markets—India—willing to step in, Nepal is steadily diversifying its hydropower projects to Indian companies (30). The India–Bhutan hydropower cooperation has been crucial to expanding bilateral economic linkages between the two countries providing mutual benefits (31). Similarly, India must lead in providing knowledge inputs and bilateral funding for renewable electricity projects in other countries in the neighbourhood and aid with setting up companies that can own and

operate these projects. For example, a Bay of Bengal power grid can be set up with local governments as the key stakeholders, and the Bay of Bengal region can function as a springboard for trading energy resources between other significant regions.

To create regional value chains, an essential requirement is smoother connectivity networks between the countries in the Bay of Bengal region. Ports are central to maritime connectivity, which links the various supply chains. According to the United Nations Conference on Trade and Development (UNCTAD), global maritime trade will rise 3.5 percent annually between 2019 and 2024. Therefore, the maritime potential of the Bay of Bengal is immense and effective diversification of investments in connectivity infrastructure becomes crucial to counter the Chinese hegemony in the region (32).

Conclusion

The current geopolitical and geo-economic contexts have pushed the global economic order on the brink of a transition, necessitating countries to strike a delicate balance between the contending forces of 'localisation' and 'globalisation'. The looming threats of China's hegemonic economic expansion and integration into the global value chains, the tensions generated by US–China trade wars, and supply chain disruptions caused by the COVID-19 pandemic and exacerbated by the Russia–Ukraine conflict have made countries in the global North increasingly intent on defending their industrial sovereignty, looking inward in an attempt to reduce over-reliance on the Chinese economy. This has far-reaching economic consequences for the entire South and Southeast Asian region.

To counteract China's footprint, India can take an active role in the development of 'globalised' types of economic partnerships, supporting strong regional relations among the littoral countries in the Bay of Bengal region. The Bay of Bengal region offers enormous potential for increasing regional self-reliance in the food, energy, and technology sectors, which can be realised through targeted policymaking. As India prepares to replace China as the world's most populous country this year and emerge as a regional economic giant, it may bring all stakeholders

together to establish the circumstances for developing these regional value chains in the Bay of Bengal littorals (33).

Smooth connectivity remains a prerequisite for enhancing integration in the Bay of Bengal region, with investments focusing on maritime connectivity promising the best returns. In addition, creating multi-modal connectivity networks within and from the Bay of Bengal region to the rest of the world can enable better trade facilitation and reductions in associated trade costs, incentivising increased bilateral or multilateral flows between the Bay of Bengal countries and the US or the EU.

To attain these economic goals, the Bay of Bengal countries must take a holistic approach in which carbon neutrality and inclusive development for all are incorporated into all future policies. Finally, India must advance the priorities of the Bay of Bengal region and work to enable solutions for a smooth transition to various models of 'glocalisation' based on the self-reliance of regional value chains within the framework of a broader world economy.

A more detailed version of this essay was previously published on ORF (34).

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BLUE ECONOMY IN THE BAY OF BENGAL: RIDING THE WAVES OF SUSTAINABILITY

THE BAY OF BENGAL BLUE ECONOMY: EXISTING OPPORTUNITIES AND EMERGING CONCERNS

PUNYASLOKE BHADURY AND NILANJAN GHOSH

The definition of the blue economy (BE) is still evolving. It is understood to be any economic activity associated with the ocean and seas (1). The European Commission defines it as "... All economic activities related to oceans, seas and coasts... [that] covers a wide range of interlinked established and emerging sectors." The Commonwealth of Nations describes BE as "an emerging concept which encourages better stewardship of our ocean or 'blue' resources" (2). The World Bank, the Centre for the Blue Economy, and the United Nations concur that sustainability concerns must be plugged into the notion of the BE (3). On the other hand, the Indian Ocean Rim Association (IORA) has said BE must consider practices of social inclusion, ocean sustainability, and innovative business models based on the systematic approach (4). The Bay of Bengal Initiative for Multi-Sectoral and Economic Cooperation (BIMSTEC) has stressed the need for a definition of BE that considers sustainable practices towards the utilisation of ocean resources while also ensuring that risks that may emulate due to the over-exploitation of marine resources are mitigated (5). Notably, these definitions are based on a global perspective, and do not necessarily consider local and regional factors that are critical yet vary immensely.

The economic aspirations of countries in the Global South, including small island developing states and low- and middle-income countries (LMIC), are being achieved with ocean-based resources. In their view, the sharing of BE resources between developing and developed countries should be based on equity. This viewpoint differs from that of the

Global North. As such, there is a discrepancy in terms of having a common framework or definition for the BE that meets the aspirations of countries of the Global North and South simultaneously. In the Bay of Bengal region, countries have yet to agree upon a common definition and understanding of BE, let alone put it into practice.

While a framework of the BE has been proposed by the World Bank, to achieve holistic improvement of human well-being through the effective utilisation of biological resources (with minimal environmental impacts) from an ocean-centric viewpoint, the BE represents the connectivity between ocean development and governance. Indeed, an ocean-based economy accounts for at least US$1.5 trillion of gross global value-added activity and generates employment for at least 680 million people. According to the United Nations Conference on Trade and Development (UNCTAD), in 2018, the export value of ocean-based industries was US$2.5 trillion, while the estimated value of ocean goods was at least US$1.5 trillion (6). In recent years, the BE concept has come to encompass the management and development of marine resources globally, with the IORA's third ministerial conference in 2019 stressing the need for the sustainable use of blue resources (7). Given the BE's importance in human development and achieving the Sustainable Development Goals (SDGs), the World Bank's definition of "sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem" seems most applicable, especially in the context of the Global South. This is the definition that will be used for in this essay.

The Bay of Bengal Blue Economy

The Bay of Bengal, one of the largest marine ecosystems in the world, is located in the northeastern part of the Indian Ocean. The Bay of Bengal comprises the territorial waters and exclusive economic zones of Bangladesh, Maldives, Myanmar, and Sri Lanka, as well as substantial portions of India, Indonesia, Malaysia, and Thailand, in addition to large areas beyond national jurisdiction, amounting to a total of 6.2 million sq. km (8). The coastal Bay of Bengal region is home to rich biotopes such as mangroves, estuaries, lagoons, seagrass habitats, and coral reefs,

among others. For example, the Sundarbans mangrove wetland formed at the delta of Ganga Brahmaputra and Meghna and facing the northeast coastal Bay of Bengal, represents the largest contiguous mangrove globally. Many of these coastal biotopes harbour rich marine biodiversity with the presence of endemic species sustaining the coastal fisheries of the Bay of Bengal. More than 450 million people living along the coastlines of Bay of Bengal are directly dependent on marine bioresources for their livelihood (9). Overall, the Bay of Bengal is economically and strategically vital. The importance of the Bay of Bengal is evident in the national and regional GDP targets in South and Southeast Asia and the greater Indo-Pacific region.

Table 1: Some Features of the Bay of Bengal Blue Economy

Area	
Total Maritime Area	6.2 million sq. km
Total Area of exclusive economic zones	12% of the world's coral reefs
Combined length of Coastline	14000 km
Environment	
8% of the World's Mangroves	
12% of the World's Coral Reefs	
Some of the largest estuaries of the World	
Fisheries	
Number of Fishers	3.7 million
Number of Fishing Boats	415000
Annual Fisheries Production	6 million tonnes
Value of Fisheries Production	USD 4 billion
Population	
Total population of nations	2000 million
Coastal population	185 million

Source: FAO (10)

Importance of Oceans for the Global South

The significance of the oceans for countries in the Global South is evident from the essential ecosystem services they provide, which are critical for

sustaining coastal populations. This holds particularly true for the Bay of Bengal. According to the Millennium Ecosystem Assessment (11), the ocean's natural ecosystem delivers various vital services. These include provisioning services like fisheries and food; regulating services that encompass carbon storage and coastal protection; cultural services that offer recreational and spiritual benefits; and supporting services that are essential for nutrient cycling and sustaining marine life. The Economics of Ecosystems and Biodiversity describes these services as the "GDP of the poor," recognising their importance in supporting the livelihoods and incomes of impoverished communities, a scenario mirrored in the coastal areas of the global south. Moreover, the ocean is emerging as a major economic frontier, with burgeoning industries such as wind energy, marine aquaculture, seabed extraction, and marine biotechnology set to drive economic growth in these regions.

As such, the South and Southeast Asia regions contribute significantly to the global food supply through their fishery sectors, particularly through small-scale fisheries in the Bay of Bengal, which account for over significant regional marine fish output (12). In India alone, the fishing industry provides jobs for 15 million people and is a world leader in fish production (13). Coastal and maritime tourism, accounting for 5 percent of global GDP, is also poised to create millions of jobs by 2030, underlining its role in livelihood creation in South Asia (14). The global ocean economy, valued at about US$1.5 trillion annually by the Action Group on Sustainable Blue Economy, is predicted to double by 2030 (15).

This economy, underpinned by natural ocean assets worth an estimated US$24 trillion, contributes greatly to South and Southeast Asia's economic growth, where the BE comprises between 4-22 percent of GDP. Additionally, the Bay of Bengal is rich in offshore hydrocarbon and living resources, which are fundamental to the region's economic future. The sustainable management of these resources could further enhance job creation and security. Key points of focus include:

Food Security and Sustainable Livelihoods: Fisheries and aquaculture are cornerstones of sustenance, providing essential nutrition and economic opportunities. With significant contributions to the global food supply, this sector also faces the challenges of overfishing and climate change.

Investments in sustainable practices can enhance food security and maintain livelihoods in the Bay of Bengal.

Ocean-based Renewable Energy: The ocean's potential for renewable energy is substantial and increasingly crucial in meeting global energy demands. Initiatives and investments in offshore wind and other marine technologies can unlock more than 71 GW of potential, particularly in South Asia.

Coastal and Maritime Tourism: Coastal and maritime tourism is a vital economic sector, expected to support 8.5 million jobs by 2030 (16). Sustainable tourism practices can bolster job creation and support conservation efforts, with tourism contributing significantly to the GDP of the Bay of Bengal region.

Decarbonisation of the Maritime Industry: Influenced by ambitious international emissions targets, the shipping industry is addressing its carbon footprint through low-carbon technologies and operational improvements. In the Bay of Bengal economies, national strategies, such as that of India, aim to further decarbonise maritime transport in the region.

The SDGs: Despite the low prioritisation of SDG-14 (life below water), its significance cannot be overstated, with a substantial financial gap existing to support its aims. Closing this gap is crucial for the populations reliant on the ocean.

Waste Management: Pollution from wastewater, nutrients, and marine litter, particularly in the Bay of Bengal, demands integrated waste management solutions. The growth of plastic pollution emphasises the need for improved waste management practices to protect the marine ecosystem and support the BE's sustainable development.

The Knowledge Gap

To achieve ocean sustainability, the United Nations General Assembly has proclaimed the 2021-2030 period as the Decade of Ocean Science for Sustainable Development ('the Ocean Decade') to reverse the decline of

ocean systems and catalyse new opportunities for sustainable development. In the Bay of Bengal, ocean sustainability faces a series of challenges that will have long-lasting impacts on the BE. Although data is sparse, there is increasing evidence of long-term changes in surface water temperature, deoxygenation, coastal ocean acidification, rise in sea level, and salinity intrusion, with adverse impacts on global oceans and most likely severe impacts on the Bay of Bengal's large marine ecosystem. The South Asia Regional Hub on Ocean Acidification, under the umbrella of the Global Ocean Acidification Observing Network, has brought together stakeholders from the Bay of Bengal rim countries to measure coastal ocean acidification and impacts on marine bioresources. Biodiversity-rich coastal habitats such as mangroves, seagrass beds, estuaries and coral reefs are reeling from changing climate, in addition to multi-stressor-driven impacts. These man-made climate-driven changes are starting to show impacts on Bay of Bengal habitats and biology, particularly the rich coastal fisheries of Bay of Bengal. The warming of the ocean is also expected to have adverse impacts on coastal aquaculture activities practised in LMIC encompassing the Bay of Bengal.

Additionally, illegal, unreported, and unregulated (IUU) fishing activities that are known to violate national and global fishing regulations will affect the changing marine fisheries in countries across South and Southeast Asia encompassing the Bay of Bengal marine ecosystem. According to the UN, IUU fishing costs countries between US$10 billion and US$23 billion per year. IUU activities pose a serious threat to marine bioresources and the sustainability of the BE in the Bay of Bengal region and the greater Indo-Pacific. Stakeholder countries within the region need to discuss the development of a legal actionable framework to monitor and tackle IUU in the areas beyond national jurisdictions in the Bay of Bengal (17).

In the larger Bay of Bengal context, emerging threats such as pollution from microplastics and increasing anthropogenic nitrogen load pose huge challenges. The effects of microplastics on the ecology and biodiversity of the Bay of Bengal are already showing in myriad ways, like microplastic particles in the guts of coastal fish or evidence of plastiglomerate formation, which could have long-term impacts on the BE (18). Despite the importance of marine biodiversity in sustainable BE, a comprehensive

understanding of the biodiversity in the world's oceans is lacking. This is particularly the case for the Bay of Bengal, where knowledge of the true extent of coastal and open ocean biodiversity is yet to be understood. The lack of Bay of Bengal maritime knowledge results in the inadequate economic valuation of marine bioresources. This lack of knowledge is also intricately linked to the inability to understand the effects of changing climate and emerging issues such as ocean acidification in the Bay of Bengal and greater South Asia.

Presently, there is limited understanding of the maritime domain trajectory, particularly regarding the movement of vessels (e.g., container ships), fishing vessels and activities in link with the prevailing environment in the Bay of Bengal. There is a need to deepen understanding of the maritime domain trajectory between the Bay of Bengal rim countries to develop blue technologies that will lead to a sustainable Bay of Bengal and a linked BE.

Another important concern for the Bay of Bengal is the decline in the health of the mangrove ecosystem. The mangroves of the Bay of Bengal make up a regional ecosystem subgroup (level 4 unit of the IUCN Global Ecosystem Typology) spanning parts of South and Southeast Asia. It includes the coastal areas of eastern India, Bangladesh, and northern and central Myanmar, and contains one of the largest single mangrove ecosystems in the world (the Sundarbans). Mangroves dominate along the extensive coastal waterways of the Ganges-Brahmaputra and Ayeyarwady deltas in India-Bangladesh and Myanmar, respectively. They occur on mainly coastal alluvial sediments deposited by these and other river systems. Their mapped extent in 2020 was 10,250 sq km, representing 7 percent of the global mangrove area. The Bay of Bengal mangroves are threatened by high population pressure and intense natural resource use, including mangrove-associated fisheries and conversion to agriculture or aquaculture. Mangrove degradation and conversion have caused serious coastal erosion (19). Destructive cyclones exacerbated by climate change also cause coastal erosion and damage to mangroves, while reduced freshwater flows and salinity intrusion in the Sundarbans are threatening salt-sensitive mangrove tree species. The Bay of Bengal mangroves presently cover ≈8 percent less land space than in 1970, although the

rate of decline has slowed since 2015 and, if the present rate persists, an overall decrease of -12 percent is projected over the next 50 years (20). Still, about 5 percent of the Bay of Bengal mangroves are estimated to be undergoing degradation. This value could rise to 15 percent over a 50-year period based on the decay of vegetation indexes (21).

Blue Financing Remains a Challenge

As highlighted in the IPCC Sixth Assessment Report, harnessing the potential of the ocean by developing sustainable BEs can build prosperity and improve the lives of all, including most disenfranchised and marginalised communities (22). However, SDG-14 receives the least amount of long-term funding of the SDGs. Recent reports suggest that US$175 billion per year is needed to achieve SDG-14 by 2030; yet, between 2015 and 2019, just below US$10 billion was actually invested.[22] Existing financial instruments and mechanisms limit investments due to bankability barriers that can promote a sustainable and resilient BE for the Bay of Bengal (23). This challenge can be addressed by involving countries of the BIMSTEC and beyond to develop frameworks for bringing blue finance into the mainstream. Measures such as favourable investment climate for BE, regulatory support, creation of blue bond markets, and long-term private sector investments to address immediate challenges facing the ocean, tackling ocean acidification through technologies such as marine carbon dioxide removal, for example, will lead to sustainability in the Bay of Bengal. In the broader context, there is a need for greater cooperation and coordination among the coastal countries of the Bay of Bengal to address the challenges of ocean governance and BE.

The concept and practice of BE in the Bay of Bengal region cannot be viewed through isolated perspectives. Instead, they need to be related to global goals. The Paris Agreement has put an ambitious goal to achieve net zero emission by 2050, with an initial reduction of 45 percent by 2030 (24). This focused climate action initiative will have positive impacts on the health and sustainability of the global ocean as well as the Bay of Bengal and its BE. There is a need to understand how the maritime domain trajectory will be shaped in keeping with the ambitious net zero emissions in the context of a BE. Given the vastness of Bay of

Bengal, sustainability can only be achieved when ocean governance and blue technologies work in tandem. In particular, the use of automation, such as artificial intelligence and machine learning for monitoring, using autonomous vehicles, remote sensing, vessel-tracking for maritime domain trajectory, and establishing maritime security centres to track IUU fishing, needs to be implemented in the region. Ocean governance in the Bay of Bengal region needs to be intertwined with effective implementation strategies including the use of automation along with the engagement of multisectoral regional and international entities.

A Call to Action for SDG-14 and Blue Economy in the Bay of Bengal

Sustainability of ocean is paramount to sustainable BE. Therefore, the SDG-14 is not an isolated goal; it is a piece of a larger puzzle that, when connected to the BE framework, touches the very essence of the fight against poverty, hunger, and climate change. Diving into the BE means exploring and nurturing nascent industries like renewable ocean energy, blue carbon initiatives, and marine biotechnology, while meticulously mitigating environmental footprints and carbon emissions. It means weaving sustainable blue standards into the fabric of financial norms and boldly backing blue ventures. What will be the role of BIMSTEC or existing programs like BOMLME in this financing game?

As we sail toward these blue horizons, developing nations stand at the forefront, bearing the brunt of the socioeconomic storm. The financial toll may be steep, but the price of inertia is far greater. These countries, already burdened by towering external debt and a chasm between their agricultural and marine economies, need a bridge built on capacity and technology. The BE's vast oceanic canvas demands a coalition of cross-sectoral mavens, united by the common cause of inclusive growth—where civil society, fishermen, and indigenous voices converge in meaningful dialogue.

Financial institutions are navigating these waters, but preparedness for delivering accessible, long-term financing is critically low. Revitalising the oceans' health is not just an environmental imperative, but also a

financial one that calls for innovative tools like blue bonds, insurance, and debt-for-adaptation swaps. Blue financing is not merely about funding; it is about investing in an ocean-centric model of economic stewardship, ranging from local shores to international coasts and tapping into diverse financial founts. This funding can fuel sustainable innovation, empower governments and NGOs to enact conservation, and foster a fertile ground for private sector investment in oceanic sustainability.

Choppy waters lie ahead, however, with the absence of robust regulatory and policy frameworks to entice investments. Granular data on ocean financing is scarce, and where it exists, it's often lost in the abyss of national accounts. Stakeholders of the sea are yet to consistently contribute their fair share for the use and stewardship of marine resources while maritime nations, thriving on the ocean economy, face the unresolved dilemma of setting the price on financing against their marine wealth.

Unresolved riddles hamper investments and development policies, casting techno-legal shadows on lenders. For BE financing to surge, a regulatory climate that is pioneering rather than reactive is a must to transform risk into opportunity. While marine insurance offers a lifeline against certain commercial perils, it falls short of covering the entire spectrum and remains an elusive luxury for many.

Today's financial climate offers little allure for sustainable ocean investment. Policies and regulations need to not just enforce, but also celebrate, the sustainable management of our natural marine capital, sparking social enterprise and innovative financing. Market-based incentives like certifications can shine a spotlight on investment opportunities by ensuring sustainability and transparency throughout the supply chain.

The call of the deep blue is clear—we need a sea change in how we finance and manage our ocean's wealth. It is a journey of transformation, innovation, and sustainability that we must embark on together for the sake of our sapphire planet.

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BANGLADESH AND BLUE ECONOMY: A BALANCED APPROACH BETWEEN DEVELOPMENT AND CONSERVATION

MOUTUSI ISLAM

The concept of blue economy (BE) has no common definition. Although the idea gained widespread attention with the 2012 UN Conference on Sustainable Development or Rio+20, BE first emerged during the 1992 Rio Earth Summit, which put a heavy emphasis on promoting the development of a "green economy" (1). The Small Island Developing States (SIDS), highlighting the value of the ocean and its marine economy, started promoting the idea of a BE in response to a global push for a "green" one. Although BE and 'ocean economy' are often used synonymously, there are considerable differences between the terms. The ocean economy is an economic activity using the ocean as an input, whereas the BE can be understood as focusing on sustainable ocean economies.

In the existing literature, four discourses can be identified in the BE debate (2)—oceans as natural capital, oceans as livelihoods, oceans as good business, and oceans as drivers of innovation. Conservation agencies and NGOs prioritise marine protected areas and ecosystem-based management. Moreover, carbon-intensive industries are emphasised in developing the BE. Therefore, they focus on conservation through the lens of 'oceans as natural capital'. On the other hand, the 'oceans as livelihood' lens emphasises the development perspective championed by development agencies and SIDS. The core idea is to ensure human welfare and livelihood with focus placed on traditional sectors such as small-scale

fisheries, aquaculture, and tourism. Larger economies, such as the US, the EU, China, and India, make up the 'oceans as good business' lens, and view the BE as a driver of economic growth. These countries frequently use the terms 'ocean economy' and BE interchangeably. Growing ocean-based industries is the main goal of their efforts to establish the BE. In addition, innovation is central to the 'oceans as divers of innovation' lens, focusing on research and development, investment, and monitoring.

In this context, it is important to understand the nexus between BE and maritime security (3). Maritime security facilitates the BE as a law enforcement capacity necessary for environmental sustainability. On the other hand, blue crimes are exacerbated by limited employment options. Therefore, it is impossible to have a secure environment if coastal communities fail to benefit from the growth of the BE. So, the two agendas are interdependent. Against this background, this essay focuses on Bangladesh's initiative to address BE and balance development and conservation.

Bangladesh's Path Towards Blue Economy

Bangladesh has taken a holistic approach to implementing the BE where development and conservation have equal importance. After having a definite maritime boundary in 2014, the country diligently worked towards agenda-setting and awareness-building, hosting an International Workshop on the Blue Economy in Dhaka in September 2014. Consequently, 'blue diplomacy' (4) has become the top priority of the government. Bangladesh is also playing a key role in promoting sustainable BE in regional organisations like the Indian Ocean Rim Association (IORA) (5), hosting the third ministerial conference of the IORA in Dhaka in 2019, where Prime Minister Sheikh Hasina remarked, "There are great opportunities to accelerate the sustainable development process of the respective countries of the region through the Blue Economy approach making the best use of the unused or untapped resources of the sea" (6). The conference resulted in the Dhaka Declaration on Blue Economy, which included ideas, principles, and norms to ensure a balanced approach between conservation and development (7). In 2015, Bangladesh

and India concluded a memorandum of understanding on 'Blue Economy and Maritime Co-operation in the Bay of Bengal and the Indian Ocean Region' (8), which emphasises capacity building, joint research, knowledge sharing, maritime domain awareness, marine pollution response, and tsunami and cyclone warning.

BE governance is another priority area for Bangladesh, and the government has formulated important policy documents in this regard. The 'Bangladesh Delta Plan 2100' has included a separate section on the BE (9). Bangladesh's Indo-Pacific Outlook (2023) also highlights the importance of SDG-14 (life below water) with objective nine of the outlook stipulating that the country "promote conservation, sustainable use and management of oceans, seas, and marine resources in the Indo-Pacific in pursuance of SDG-14 and other relevant internationally agreed development commitments" (10). Bangladesh also formulated the 'Blue Economy Development Workplan' (2019), identifying nine specific sectors (marine fisheries, mariculture, commercial shipping, marine tourism, offshore energy, renewable energy and biotechnologies, ecosystem services of mangroves, ship building and recycling industry, and marine pollution and marine spatial planning) and its corresponding action plan (11).

The establishment of the Maritime Affairs Unit in 2012 was monumental for establishing the country's maritime rights and coordinating programmes on the maritime boundary. Moreover, the Blue Economy Cell, which serves as an adviser and coordinator among different ministries that work on BE, was established in 2017 under the Energy and Mineral Resources Division of the Ministry of Power, Energy and Mineral Resources (12). With a view to creating a sea-based scientific community, the government established the Bangabandhu Sheikh Mujibur Rahman Maritime University in 2013, the Bangladesh Oceanographic Research Institute in 2015, and the Bangladesh Institute of Maritime Research and Development in 2018.

Bangladesh has also formulated and strengthened the necessary legal frameworks for addressing maritime security and BE considerations. For instance, in 2019, the government enacted the National Plan of Action for IUU Fishing (13). As a result, marine protected areas make up 8.8

percent of its exclusive economic zone (14). The government has also enacted the Territorial Waters and Maritime Zones Amendment (2021) Act (15), making piracy, armed robbery, maritime terrorism, and marine pollution punishable acts. Moreover, the government has amended the Ship Recycle Act in 2018 with a view to ensuring safe ship recycling (16).

Important Blue Economy Sectors

The following are the key sectors in Bangladesh's BE plans:

Fisheries: The fisheries sector is the prime BE area for Bangladesh as it plays a crucial role in the country's economy and is a significant source of animal protein to the population. The fisheries sector contributes 3.57 percent to Bangladesh's GDP and makes up 1.05 percent of the country's total export revenue (17). The government has also given emphasis to sustainable management of fisheries and has undertaken various measures in this regard, i.e., implementing seasonal fishing bans; drafting a national plan to prevent illegal, unreported and unregulated (IUU) fishing; identifying and declaring marine protected areas to conserve the breeding grounds; conducting stock assessment of marine fisheries resources; and modernising fish landing stations. Future plans include identifying new fishing zones, limiting the discarded bycatch, and identifying maximum sustainable yield, etc.

Commercial shipping: Commercial shipping is another significant area of Bangladesh's BE as more than 90 percent of its external freight trade is seaborne. The emphasis is to continue to increase the number of Bangladeshi-flagged vessels, which increased from 35 in 2015 to 95 in 2023 (18). Other priorities include upgrading the port infrastructure, initiating direct shipping routes with Europe, constructing the Patenga container terminal, expanding the outer anchorage, and implementing the vessel traffic management and information system. Bangladesh is also constructing the Matarbari deep seaport, which has the potential of becoming a connectivity hub when it begins operations in 2026.

Offshore energy: Bangladesh is said to have great potential for offshore energy. The government has divided its maritime area into 26

blocks (11 in shallow sea water and 15 in deep-sea water) for oil and gas exploration. However, due to a lack of technology, the country must depend on international oil companies for exploration. The government approved the 'Bangladesh Offshore Model Production Sharing Contract (PSC) 2023' in July 2023 with a view to inviting international bidding for hydrocarbon exploration in offshore areas of the country (19). The model is lucrative and expected to attract investors. Moreover, TGS, a global provider of energy data and intelligence, has completed a 2D seismic survey in one-third area of the sea territory in 2023 (20).

Mangroves: Another priority area for Bangladesh's BE is the mangroves in the Sundarbans, which provide essential ecosystem services for the country. The government plans to assess the valuation of the ecosystem services of the Sunderbans, promote Slivo-aquaculture to restore the mangrove-based ecosystem, link the community to Sunderbans conservation approaches, and blue carbon trading (21). Here, cooperation with the neighbouring India is crucial, and both countries have concluded MoUs in this regard.

Obstacles to Overcome

Bangladesh must overcome several significant obstacles to realise its BE aspirations.

Lack of technological expertise: Extensive technological and technical knowledge is required for efficiently exploring, drilling, and extracting marine resources. The country mostly relies on foreign technology to explore its natural resources, particularly petroleum and natural gas found in the Bay of Bengal. There is a lack of domestic technical experts, but the government is working towards establishing a sea based scientific community.

Lack of organisational structure: Bangladesh's maritime affairs are currently run without any centralised coordination. This is problematic because many agencies are involved (such as the Department of Energy and Mineral Resources, the Maritime Affairs Unit, the Ministry of Shipping, the Navy, the Coast Guard, the Ministry of Fisheries and Livestock). Additionally, the Blue Economy Cell has failed to play its

role due to various limitations. Therefore, there is a lack of coordination among the agencies involved regarding BE activities.

Maritime security issues: IUU fishing has become a major concern for Bangladesh, which ranked 85th among 152 countries in the Illegal Fishing Index 2021 (which ranks countries based on their vulnerability, prevalence and response to IUU fishing) (22). Marine pollution is another maritime security concern for Bangladesh. The country experiences marine pollution originating from both land-based (ship-breaking) and sea-based (shipping, fishing activities, legal and illegal dumping at seas) sources.

The Way Ahead

Developing domestic capacities in the fields of BE is of paramount importance. The country needs to emphasise expanding its technological and technical knowhow for effective maritime domain awareness. In this regard, the country needs to continue prioritising higher education and better research facilities.

There is a need to better understand the important interplay between maritime security and the BE. More research needs to be done on the strong connection between BE and maritime security in the Bay of Bengal in general and Bangladesh in particular. Insufficient security prevents the exploitation of ocean resources. Therefore, to fully obtain the BE potential, ensuring maritime security is crucial.

Creating an appropriate organisational structure is also essential. A central coordinating body is required with a view to improving synergy among various actors. Bangladesh can adopt the same strategy as the Seychelles and Mauritius by creating a dedicated BE ministry instead of creating a distinct department for ocean affairs within a particular ministry. The new ministry should be made up of delegates from all the other ministries with a stake in ocean management.

It is necessary to continue pursuing BE diplomacy. To ensure maritime security and implement the BE policies, international cooperation is crucial. In this regard, regional organisations such as the IORA, Bay of

Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), and the Indian Ocean Naval Symposium are significant for creating a shared vision. Specifically, as the coming chair of BIMSTEC, Bangladesh needs to work towards making the BE one of the priority areas of the organisation. Bangladesh could push the idea of establishing a regional centre for the BE.

Bangladesh has primarily used the 'oceans as livelihood' lens to develop its BE approach. But the approach must also include aspects of the 'oceans as natural capital' since the country is also among those most susceptible to climate change.

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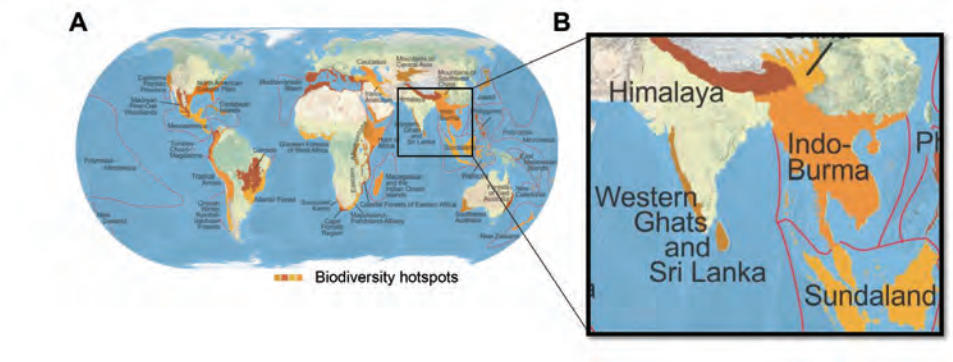
CONSERVATION FOR THE SUSTAINABLE DEVELOPMENT OF THE BAY OF BENGAL REGION

YOJI NATORI

The Bay of Bengal's littoral intersects three biodiversity hotspots: the Western Ghats and Sri Lanka, Indo-Burma, and Sundaland (see Map 1) (1). Biodiversity hotspots that have high levels of biodiversity under anthropogenic threats are a conservation priority at the global scale. The Bay of Bengal's littoral zone and its waters benefit from another biodiversity hotspot, the Himalaya, through the flow of water from there. About a dozen sites in the sea in the Bay of Bengal have been identified to meet the criteria of ecologically or biologically significant marine areas (EBSA) (2) under the Convention on Biological Diversity.

Map 1: Biodiversity Hotspots

A: 36 biodiversity hotspots identified in the world
B: Biodiversity hotspots in the Bay of Bengal region



Source: Conservation International Japan (3)

The natural environment forms the basis for sustainable development (4), but policies at all levels are formulated and implemented as if this were not the case. Degradation of the natural environment, therefore, is an externality (5) of policy decisions. Here, (negative) externalities mean unintended, undesirable consequences on someone or something that are outside the scope of decisions or actions.

The rich natural capital of the region that can be the basis for future development is under attack by such externalities. For example, the packages of the relief materials delivered to aid those affected by Cyclone Amphan in 2020 turned into large amounts of plastic waste that harmed the natural environment (6). This externality can worsen as river systems collect and deliver pollutants, including macro- and micro-plastics, to coastal ecosystems such as the Sundarbans (7), hindering healthy development.

Climate change affects all countries, but some countries are more vulnerable to the consequences of climate change than others. As climate change affects marine fisheries, five nations that are dependent on the ecosystem of the Bay of Bengal participating in The Bay of Bengal Large Marine Ecosystem Project (8) are listed under the most vulnerable 25 percent of all nations with exclusive economic zones (EEZs)—Maldives, Bangladesh, Indonesia, India, and Sri Lanka, in the order of their assessed vulnerability (9). The most influential factor driving the high vulnerability in these countries is the weak adaptive capacity to climate change (10); that is, these countries lack the ability to adapt fisheries to the consequences of climate change through social and human capital and government support. A more general index of ocean use, the Ocean Health Index (11), too, indicates a low performance of the countries that cover a large proportion of the Bay of Bengal littoral (India, Sri Lanka, and Myanmar) in using oceans sustainably.

The guiding principle of the Free and Open Indo-Pacific (FOIP), and any other regional and global instruments, should be sustainable development. Discussions on natural resources in national and regional contexts need to shift from how to access them to how to ensure their sustainability; that is, through conservation.

Conservation, as defined in the World Conservation Strategy (12), is "management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. "Biosphere" may be substituted with "nature," if it helps understanding. The exclusionist paradigm, which is based on the conception that humans are excluded from the laws of nature and that there are unlimited resources for them to exploit to achieve development (13), still dominates development agenda and decision-making. In this paradigm, conservation is nothing but a nuisance, as it is considered to add an unnecessary layer of inefficiency. However, faced with the obvious reality that natural resources are limited, the paradigm must shift to one that recognises that conservation is one of the ways, and probably the only way, that enables sustainable development.

National security, rule of law, and effective connectivity are all necessary elements of development, but it is important to recognise that they sit on top of an intact nature that provides services to human society. The benefit the world received in the form of ecosystem services is estimated at US$125 trillion/year as of 2011 (14). In comparison, the global GDP of the same year was only US$73 trillion, demonstrating that the world economy would not exist without blessings from nature.

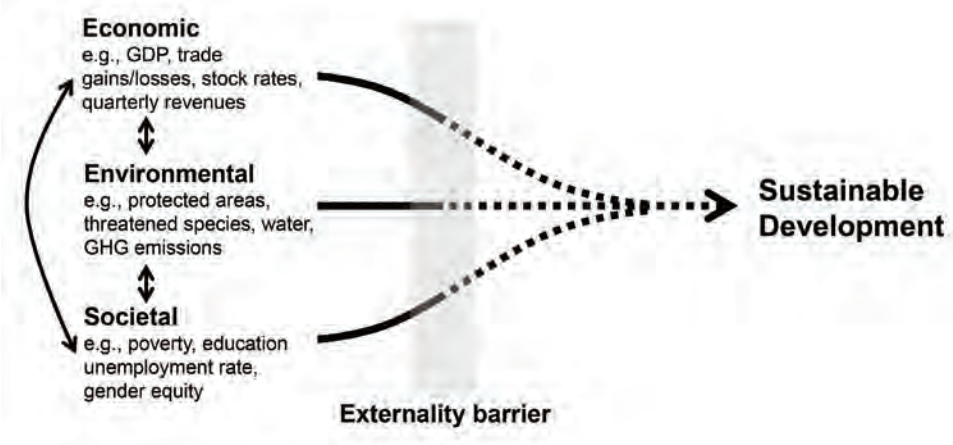
There is an urgent imperative to recognise the natural capital that forms the foundation of society and economy. Climate change is a clear example of what can happen when natural capital is not treated properly. COVID-19 is another: Though it is a human health crisis, its origin is in the human misuse of the natural environment (15).

The gap of finance to adequately conserve nature is huge, estimated at US$700 billion annually (16). However, this does not mean that the world does not have financial resources to do so. The US spent US$877 billion, and China spent an estimated US$292 billion for the military in 2022 (17). India has around US$80 billion in military spending, which ranks the third or fourth in military budget in the world, taking turns with Russia (18). This amount is almost equal to the amount that Japan plans to spend, in public and private investments, on supporting infrastructure development in the Indo-Pacific region from 2023 to 2030 (19). A large

sum is also spent on subsidies for agriculture, forestry, and fisheries that are deemed harmful to biodiversity (20). It has long been recognised that it is necessary to eliminate subsidies that negatively impact biodiversity (e.g., Aichi Biodiversity Target 3, adopted internationally in 2010), but little progress has been made therein (21).

Environmental issues may be put outside the scope of consideration for many reasons, but the time factor, or urgency, is significant in determining the priority. We tend to address the urgent issues first, while less urgent issues are put off to some later time, regardless of their relative importance. We have never been able to address these less urgent issues at some later time, because we are good at creating more urgent issues, always. That is to say, if an issue is not addressed when it is identified, it will never be addressed. Objectives of different perspectives may compete with one another and generate trade-offs, but they need to converge together harmoniously to achieve sustainable development (see Figure 1). Development policies need to explicitly integrate environmental aspects.

Figure 1: Externalities of Sectoral Approaches Prevent Achieving Sustainable Development



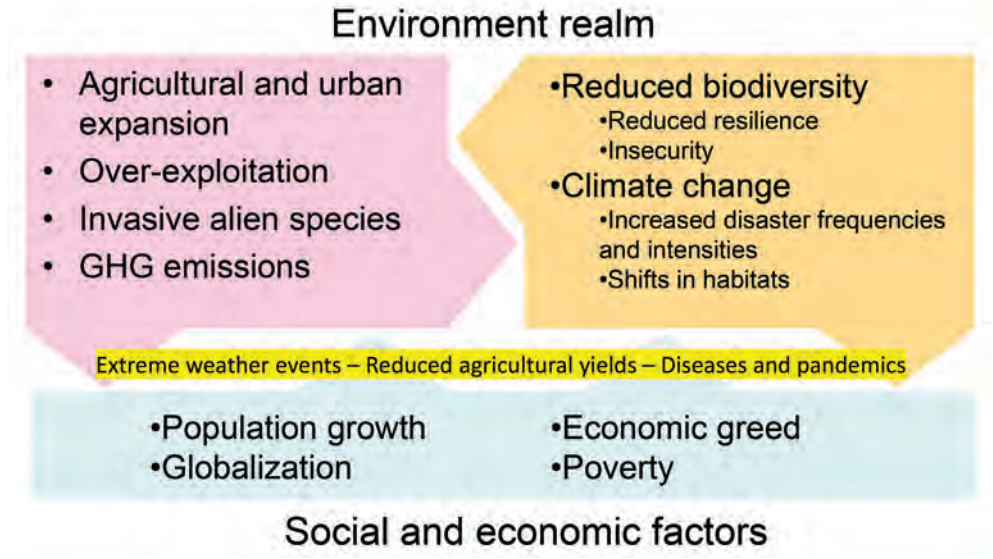
Source: Author's own

Reasons to Integrate the Environment Into Regional Policies

The environment is linked to development

Distinguishing the three pillars of sustainable development—economy, society, and environment—has its merit of identifying and giving specific attention to all aspects involved, but it is important to see the interlinkages among them so that they are not treated separately. There is a vicious cycle between environment and socio-economic factors (see Figure 2), described as follows. Human activities such as expansion of farmland and cities cause over-exploitation of natural resources, introduction of non-native species that get out of control, and emission of greenhouse gases; exert pressure on the environment; and result in reduction in biodiversity and climate change, among other impacts. The consequence of reduced biodiversity is the lower resilience of natural systems, which may lead to the need to convert more land to farmland to compensate for the reduced productivity. The changed climate may facilitate the spreading of more non-native species that can harm the native ecosystems further. As such, there is feedback in the environmental realm. However, the troubles in the environment realm are not isolated from other socio-economic factors. The elements that give rise to the human activities that impact the environment in the first place have their roots in issues of society and economy (22), such as population growth, massive movement of materials due to globalisation, and excessive greed for economic growth on one hand and persisting poverty on the other hand. The consequence of problems in the environment realm boomerangs to impact the society and economy, such as extreme weather events that destroy human lives and properties, food insecurity, and emergence of new diseases.

Figure 2: A Vicious Cycle of Environmental Degradation



Source: Author's own

In the context of the Bay of Bengal, a case in point is the depleted fisheries (23), which have been brought about by overfishing. The need to maintain the livelihood causes further pressure on the marine ecosystem. The search for more fish causes many vessels to cross EEZ borders, and those apprehended in foreign waters often suffer from human rights violations. When ecological scarcity meets desperate livelihood needs and/or economic greed, rule-based resource management hardly works. As this example shows, a separate treatment, or sectoral approach, will lead to externalities and will be counter-productive in achieving sustainable development in the end.

The environment is in crisis

The goal in the challenge to deal with climate change is to keep the temperature increase within 1.5 degrees Celsius (24). For this to happen, global emissions of greenhouse gases must be brought to net zero by 2050, and many countries have committed to halving their emissions by 2030. The biodiversity goal is much less tangible, but tightly linked to what and how measures are taken to address climate change. The

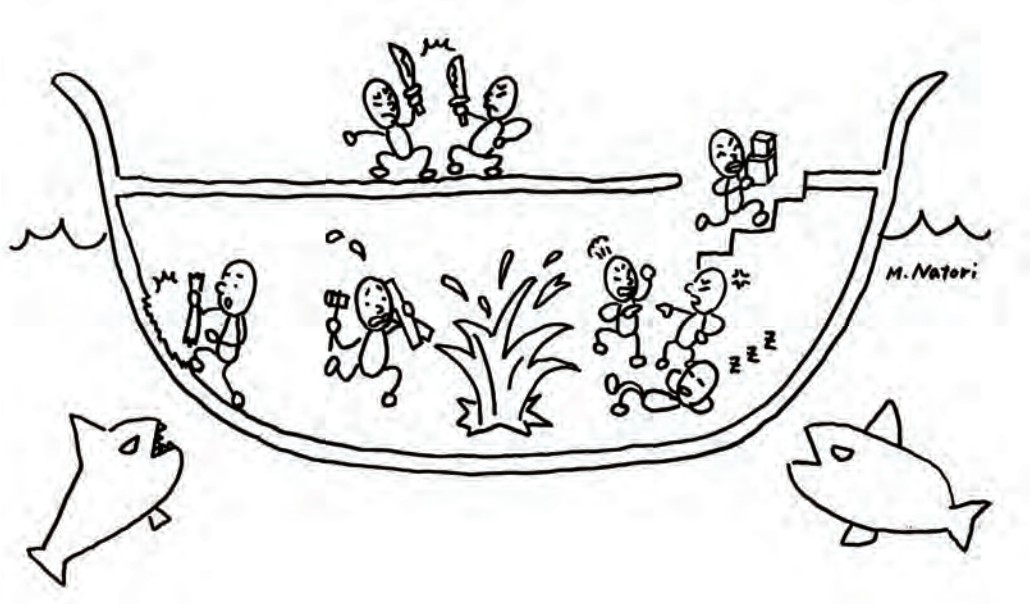
global goal, which has just been agreed as the Kunming-Montreal Global Biodiversity Framework, is to fully recover biodiversity by 2050 to achieve a society living in harmony with nature (25). Both challenges have a narrow window of opportunity; they must be addressed now, while other issues are also being addressed. One only has to look at the set of goals and targets of Sustainable Development Goals (SDGs) to appreciate the diversity and complexity of the issues mix.

Governments around the world provide subsidies to support certain kinds of development, but over US$500 billion of subsidies annually are considered to have harmful effects on the environment (26). Renewable energy is one solution with high potential for climate change mitigation and providing energy for all (27), but its facility development can negatively impact wildlife (28) and humans.

The environment is in crisis, and requires urgent, concerted regional and global efforts to resolve the problems. However, the focus of many political discourses prioritise quite different subjects that may even exacerbate the problems. The sinking ship Earth is not serviced properly (see Figure 3). A big hole in the bottom of the ship has to be sealed by everyone on board, but there are people pointing fingers at each other and holding each other responsible for creating the hole; some are waiting for someone else to fix it; others are trying to make a fortune out of the confusion; still others are making another hole by trying to fix the existing one; and then there are people minding their own business and ignoring the hole that may ultimately result in worsening the problem with them as victims also.

For development interventions to not turn self-defeating, integrated approaches that minimise trade-offs and internalise externalities have to be taken.

Figure 3: Sinking Spaceship Earth Serviced Poorly



Source: Drawn by Mutsumi and Miyo Natori

Addressing the Issue

There are actors who can do specific tasks efficiently, but governments are ultimately responsible for setting the direction and providing the framework in which all the actors, that is, corporations and civil society, can work coherently and effectively. A prosperous future, eternal economic growth, or regional and global peace cannot happen on a sick planet.

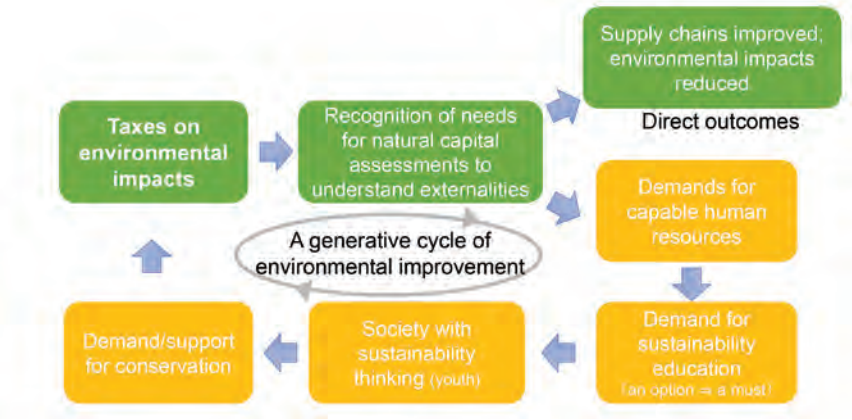
Going beyond the ideals, what are more concrete measures? Companies and society can be made to recognise the reasons to internalise externalities—i.e., pay attention to the environment. This can be done through effective natural capital assessment (29) and by taking actions accordingly. The first expected outcome is the improved supply chains of companies, which would lead to more robust business operations and reduced environmental impacts. There are many benefits of taking sound actions following natural capital assessments, but such benefits must be recognised by those making business decisions. This is where strong government intervention is needed. One of the ways can be introducing a taxation system that puts a higher tax on raw materials that incur more environmental impacts in their extraction and production than comparable alternatives or on services that cause high environmental

impacts (30). This may be complemented with reduction in the corporate tax for the corporations that make efforts to reduce their environmental impacts. These government interventions will constitute a clear incentive for corporations to pursue pro-environment efforts by providing them with opportunities for tax avoidance.

Currently, environmentally-sound goods and services are more expensive than those that are not. The tax on environmental impact will make those that are harmful to the environment more expensive, thereby making them less favoured in the market. This will correct the price unfairness, and transform the pro-environment products from being the choice of luxury in the market (as they are currently more expensive than comparable alternatives) to being the normal choice. This will constitute another reason for corporations to consider and take action for the environment.

Furthermore, because corporations will have to study their own impacts and dependencies on natural capital, there will be an increased demand for human resources capable of conducting accurate natural capital assessments. As this trickles down through the educational systems, society will change to incorporate sound sustainability thinking. The public will demand conservation, even higher taxes on environmental harms, and expect the delivery of concrete outcomes (see Figure 4). This secondary effect could be more valuable.

Figure 4: Taxes on Environmental Impacts as a Trigger for a Virtuous Cycle of Environmental Improvement



Source: Author's own

This can be implemented in an individual country, but it will be much more effective if it is done in a regional block, such as the Bay of Bengal, so that leakage (or simply shifting the activities of high environmental impact to locations with weaker regulations) is minimised. Environmental issues are globalised, and so are businesses and institutions around them. Governments and business and financial sectors are linked and their initiatives influence one another. There are various goals and agreements, standards and benchmarks, tools for measurements, and reporting and disclosure initiatives for governments and financial and business sectors, and they build off each other to form a system of approaches, an infinite loop of improvement towards sustainability (31).

The model of development, which inherently couples economic prosperity and environmental degradation and which developed countries of today have followed, is not the only model of development. Today, the world has fewer resources available in sum and per capita, knows the status of the environment better, can collect more information more quickly, and knows that the conventional development model is not sustainable. As governments discuss matters of high regional importance, such as FOIP, taking into account the environment is the key towards securing sustainable futures in the region. The Bay of Bengal region, with its impacts and dependencies on natural resources, can be a crucial geography with which to begin the change.

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ABOUT THE EDITORS AND AUTHORS

Editors

Anasua Basu Ray Chaudhury is a Senior Fellow with the Strategic Studies Programme at Observer Research Foundation, India.

Harsh V. Pant is Vice President Studies and Foreign Policy at Observer Research Foundation, India.

Authors

Abhijit Singh is the Head of the Maritime Policy Initiative at the Observer Research Foundation, New Delhi.

Aparna Sawhney is a Professor at the Centre for International Trade and Development, School of International Studies, Jawaharlal Nehru University, India.

Debosmita Sarkar is a Junior Fellow with the Centre for New Economic Diplomacy at the Observer Research Foundation, India.

Gilang Kembara is a Research Fellow, Maritime Security Programme at the Institute of Defence and Strategic Studies, S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore.

Moutusi Islam is a Research Fellow at the Bangladesh Institute of International and Strategic Studies, Bangladesh.

Nilanjan Ghosh is the Director of the Centre for New Economic Diplomacy and Observer Research Foundation, Kolkata, India.

Pratnashree Basu is an Associate Fellow with the Centre for New Economic Diplomacy at the Observer Research Foundation, India.

Punyasloke Bhadury is a Professor at the Department of Biological Sciences, Indian Institute of Science Education and Research, India.

Satoru Nagao is a Fellow at the Hudson Institute, US.

Sineenat Sermcheep is the Associate Dean, of the Faculty of Economics and the Director of the ASEAN Studies Center, Chulalongkorn University, Thailand.

Sohini Bose is an Associate Fellow, with the Strategic Studies Programme at the Observer Research Foundation, India.

Soumya Bhowmick is an Associate Fellow with the Centre for New Economic Diplomacy at the Observer Research Foundation, India.

Srabani Roy Choudhury is a Professor at the Center For East Asian Studies, Japanese Division of the School of International Relations, Jawaharlal Nehru University, India.

Takashi Suzuki is the Chief Director General of JETRO India.

Yoji Natori is an Associate Professor within the Faculty of International Liberal Arts, Global Studies Program, Akita International University, Japan.