INDIA IN THE INDO-PACIFIC

PURSUING PROSPERITY & SECURITY

GATEWAY HOUSE
INDIAN COUNCIL ON GLOBAL RELATIONS

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India in the Indo-Pacific

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ENERGY & ENVIRONMENT

India, the Blue Economy and the Indo-Pacific's Future

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01

INTRODUCTION

The concept of the Indo-Pacific region envisages the Indian and Pacific Oceans as a continuum, an inter-connected space in which security and economic development of nations demand a rules-based international order. The three adjectives most frequently used by Indian leaders and officials to describe this vision – "free," "open" and "inclusive" – denote a tension-free, cooperative environment where nations live in harmony and resolve their differences peacefully.[1]

The Indo-Pacific stands on two central pillars – maritime security and economic development. But the public debate has been tilted in favor of maritime security, strategy and geopolitics, while economic development has received less attention. This imbalance needs to be corrected, and the best place to start might be by focusing more attention on harnessing the potential of Blue Economy (BE). Influential elements in India are aware of the need for this policy correction and are engaged in efforts to bring it about.

This re-calibration is the culmination of a long evolution in India's self-image as a subcontinental country. For the first five decades after independence, the country concentrated on its role as a constituent of the vast Asian land mass, with a resultant policy posture of 'sea-blindness.' In the past 25 years, the country came to portray itself as a pivotal Indian Ocean nation – a shift that has culminated in the government's conscious adoption of a broader security-and-development paradigm for a vast domain stretching from the western Pacific to the eastern and southern shores of Africa. As India implements "a shift toward a more active maritime foreign policy," wrote a noted scholar, its "maritime moment" has arrived.[2] Now it needs both consolidation through maritime security and diversification through the BE.

As this represents a profound policy transition, India (and other nations of this region) will have to overcome many challenges to make it a reality. Fortunately, a substantial intellectual and deliberative infrastructure is already in place for them to consider the issues, craft solutions and hammer out the details. This paper reviews the agreements and organizations that will shape future deliberations. It concludes by looking at some remaining gaps in this new architecture that need to be addressed.

BE POLICY TRAJECTORY

The Blue Economy began seeping into the consciousness of academics and policymakers following the United Nations Conference on Sustainable Development – the Rio +20 summit – in 2012. There, the Small Island Developing States (SIDS) urged special consideration of their challenges to survive and develop through ocean-based economic activities depicted as the BE. Soon thereafter, the Indian Ocean Rim Association for Regional Cooperation (IOR-ARC), later renamed the Indian Ocean Rim Association (IORA), began systematically pursuing the cause of BE with considerable enthusiasm. India participated fully in these efforts as a leading member-state.

1. *'Prime Minister's Visit to USA for Quad Leaders' Summit and UNGA High-level Segment', Ministry of External Affairs, 14 September 2021. https://mea.gov.in/press-releases.htm?dtl/34254/Prime_Ministers_Visit_to_USA_for_Quad_Leaders_Summit_and_UNGA_Highlevel_Segment.*
2. *Darshana M. Baruah, 'India's maritime moment has arrived', The Hindustan Times, 30 September 2021.*

Prime Minister Narendra Modi's speech in Mauritius in 2015, which presented the doctrine of "Security and Growth for All in the Region" (SAGAR), triggered a series of discussions and studies in the non-government sector.[3] The early work of leading think tanks such as Research and Information System for Developing Countries (RIS), National Maritime Foundation (NMF), Observer Research Foundation (ORF) and Gateway House was substantially reinforced by the Federation of Indian Chambers of Commerce and Industry (FICCI), an apex business association, through the publication of two major knowledge papers in 2017 and 2020.[4] FICCI's contribution, together with other intellectual endeavors, culminated in six webinars as part of a quadrilateral project involving four prestigious institutions, which further advanced the national discourse.[5]

In the meantime, Sagarmala, an Indian-government maritime development program, continues to be central to the government's maritime vision. Announced in 2015 and set to continue for 15 years, it strives to convert coastal areas into economic centers for regional and global maritime connectivity. It encompasses port modernization, construction of new ports, connectivity enhancement, port-linked industrialization, and sustainable development of coastal communities. It envisions an investment of about $13.23 billion.

The release of India's Blue Economy: A Draft Policy Framework by the Economic Advisory Council to the Prime Minister (EAC-PM) in September 2020 was a milestone in the evolution of India's BE policy.[6] The fruit of several rounds of multiple deliberations with relevant ministries, think tanks and experts, this document defined "both the strategy as well as the vision that can be adopted by the Government of India," wrote Rattan P. Watal, the member-secretary, EAC-PM.

A few key points pertaining to the draft policy framework deserve to be highlighted here.

First, it defined BE as "an emerging concept comprising the entire eco-system of ocean resources including marine, maritime and the onshore coastal economic sub-systems within India's legal jurisdiction, which have close linkages with economic growth, environmental sustainability and national security."[7]

Second, it referred to a conservative estimate that BE in India represents "4% of the Gross Domestic Product," thus putting an official stamp on it.[8]

3. *Prime Minister's Remarks at the Commissioning of Offshore Patrol Vessel (OPV) Barracuda in Mauritius, 12 March 2015, Ministry of External Affairs. https://www.mea.gov.in/Speeches-Statements.htm?dtl/24912/Prime_Ministers_Remarks_at_the_Commissioning_of_Offshore_Patrol_Vessel_OPV_Barracuda_in_Mauritius_March_12_2015 (accessed on 13 November 2019).*
4. *This author led two separate groups of experts which helped the Federation of Chambers of Commerce and Industry (FICCI) to publish two detailed reports on Blue Economy entitled:*
   i) Blue Economy Vision 2025: Harnessing Business Potential for India and International Partners, 2017. http://ficci.in/spdocument/20896/Blue-Economy-Vision-2025.pdf (accessed on 7 December 2019).
   ii) Blue Economy: Global Best Practices – Takeaways for India and Partner Nations, 2020. https://www.kas.de/en/web/indien/laenderberichte/detail/-/content/blue-economy-global-best-practices-takeaways-for-india-and-partner-nations-3 (accessed on 5 February 2021).
   Their perusal is recommended for obtaining a fuller understanding of the vast range of issues and stakes involved.
5. *The latest development concerns a stellar example of institutional synergy created in the strategic community; this resulted in the convening of a total of six webinars and a national conference under the "Quadrilateral Dialogue Series on Blue Economy – India's Pathway to a Sustainable, Secure and Resilient Economy." Hosted jointly by Konrad Adenauer Stiftung (KAS), National Maritime Foundation (NMF), The Energy and Resources Institute (TERI) and FICCI, these stimulating discussions, held between September 2020 and August 2021, involved a large number of experts across India and abroad. They explored in depth a wide range of relevant issues and possible future directions for the growth of Blue Economy. The publication of a book based on these deliberations is awaited.*
6. *'India's Blue Economy: A Draft Policy Framework', Economic Advisory Council to The Prime Minister Government of India, New Delhi, September 2020. P. 12. https://incois.gov.in/documents/Blue_Economy_policy.pdf*
7. *Ibid., p. 12. https://incois.gov.in/documents/Blue_Economy_policy.pdf*
8. *Ibid., p. 14.*

Third, it identified seven priority areas for the BE: The much-needed national accounting framework; coastal marine spatial planning and tourism; fisheries and aquaculture; trade and technology; logistics, infrastructure and shipping; coastal and deep-sea mining and offshore energy; and security, strategic dimensions and international engagements.[9]

Fourth, it underlined the significance of BE as one of "the ten core dimensions of growth" in the government's vision of a New India by 2030.[10]

Fifth, in the context of the expanding network of submarine optical fiber cables for ensuring high-speed broadband connectivity, the draft policy advocated recognition by India of "an important, emerging economic and strategic axis called the Seychelles-Singapore-Samoa (SSS) axis," noting: "This axis should form the basis of a robust Blue Economy Policy for India."[11]

Finally, the recommendations and the roadmap contained in the draft policy document aim "to significantly enhance the contribution of the Blue Economy to India's GDP in the next five years."[12]

The latest official pronouncement on the subject was made by PM Modi at the UN Security Council's special session that he chaired on 9 August 2021. While enunciating "five basic principles," he suggested that barriers to legitimate maritime trade should be removed; settlement of maritime disputes should be peaceful and based on international law; natural disasters and maritime threats created by non-state actors must be faced through mutual cooperation; maritime environment and maritime resources should be preserved; and responsible maritime connectivity should be encouraged.[13] This represents a holistic framework for India and the international community to address the inter-linked themes of maritime security and BE in the Indo-Pacific region.

BLUE DIPLOMACY

India's drive to promote BE, which may be termed its Blue Diplomacy, has largely been conducted in multilateral fora. The IORA tops the list, given India's pre-eminent and strategic location in the Indian Ocean Region. The government, academics and business leadership have been actively supporting and shaping the IORA's programs.

9. Ibid., p. 13.

10. Ibid., p 10-11. The document aptly explains the significance of BE for India's economic development, "India has a unique maritime position. Its 7517 km long coastline is home to nine coastal states and 1382 islands. The country has 12 major ports and 187 non-major ports, handling about 1400 million tons of cargo every year, as 95% of India's trade by volume transits by sea. India's Exclusive Economic Zone of over two million square kilometers is rich in living and non-living resources and holds significant recoverable resources of crude oil and of recoverable natural gas. The coastal economy also sustains over 4 million fishermen and other coastal communities. With these vast maritime interests, the Blue Economy in India has a vital relationship with the nation's economic growth."

11. Ibid., p. 11.

12. Ibid., p. 34.

13. 'English translation of Prime Minister's remarks at the UNSC High-Level Open Debate on "Enhancing Maritime Security: A Case For International Cooperation" (August 9, 2021)', Ministry of External Affairs, 10 August 2021. https://mea.gov.in/Speeches Statements.htm?dtl/34151/English_translation_of_Prime_Ministers_remarks_at_the_UNSC_HighLevel_Open_Debate_on_Enhancing_Maritime_Security_A_Case_For_International_Cooperation_A

IORA demonstrated its commitment to the pursuit of BE agenda through three Ministerial Conferences and the Jakarta Summit as well as a series of initiatives it took during the period from 2014 to 2020.[14] Three are particularly noteworthy: i) the Working Group on Blue Economy (WGBE) has produced a work plan comprising a list of concrete projects in each of the six priority areas,[15] ii) the Core Group on Fisheries Management provides a coordinated mechanism for engaging relevant fisheries-management stakeholders in member-states; iii) the Blue Carbon Hub strives to build knowledge and capacity to protect and restore blue carbon ecosystems in the IOR.

France and Germany have engaged with the member-states, including India. France, now a member, offered technical and financial assistance relating to fisheries and aquaculture, and Germany, an observer, helped with efforts relating to climate change, green shipping and marine pollution.[16]

India held four workshops with the Association of Southeast Asian nations (ASEAN) to develop policy convergence and joint BE projects. These were held in Vietnam (2017), New Delhi (2018 and 2019) and Jakarta (2021). They helped to strengthen the ASEAN-India partnership. "The objective is to promote smart, sustainable and inclusive growth," wrote Manoj Kumar Bharti, India's ambassador to Indonesia, "that will maximize employment opportunities within the ASEAN-India region, with a specific concentration on maritime economic activities."[17]

The Indo-Pacific Oceans Initiative (IPOI), launched by PM Modi at the East Asia Summit in November 2019, addresses various aspects of the BE even though the government does not mention it by name. All its seven pillars are anchored in the maritime space. India has been actively seeking partners to serve as "leads" for specific sectors. The pillars and their leads identified so far, are: i) maritime security (India), ii) maritime ecology (Australia), iii) maritime resources (France and Indonesia), iv) capacity building and resource sharing (lead country pending), v) disaster risk reduction and management (India), vi) science, technology and academic cooperation (lead pending), and vii) trade, connectivity and maritime transport (Japan). Addressing a national conference on IPOI recently, a senior official urged specialized institutions "to do academic research, generate ideas and develop academic linkages with similar institutes in the region."[18]

In other fora – including the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), BRICS (a group of emerging economies that include Brazil, Russia, China, India and South Africa), and India-Africa Forum Summit – India and other parties have considered the need to pursue the BE agenda, but their efforts are yet to move beyond pious pronouncements.

The BE also figures in bilateral discussions between India and a few countries, such as Bangladesh, Sri Lanka and Maldives. However, progress has been uneven, as the focus has been mostly on maritime security. There is one exception: India-Norway dialogue has resulted in palpable progress on the construction of zero-emission autonomous ferries and sustainable ship recycling. Indian and Norwegian representatives underscored the growing significance of bilateral BE cooperation, especially in the context of constraints imposed by the Covid-19 pandemic.[19]

14. *Rajiv Bhatia, 'India in IOR: Harbinger of Safe, Secure and Clean Seas Towards Progression of Blue Economy', An Ocean of Opportunities: Enhanced peace, Security & Cooperation in the Indian Ocean, p. 2-7. Department of Defence Production, Government of India, New Delhi, 2021.*
15. *For relevant details, see 'Priorities and Focus Areas: Blue Economy'. https://www.iora.int/en/priorities-focus-areas/blue-economy.*
16. *For details, see 'Remarks by Dr. Gatot H. Gunawan, Acting Secretary General of IORA for the Quadrilateral Dialogue Series on Blue Economy – India's Pathway to a Sustainable, Secure and Resilient Economy, 16-19 August 2021'. Text was obtained from the IORA Secretariat, courtesy FICCI.*
17. *Manoj Kumar Bharti, 'Blue economy offers ASEAN-India a sea of cooperation opportunities', The Jakarta Post, 3 March 2021.*
18. *Secretary (East), Keynote Address for National Consultations on Indo-Pacific Oceans Initiative, 3 September 2021.*
19. *Hans Jacob Frydenlund and Ratan P Watal, 'After the pandemic, the centrality of the Blue Economy in recovery', Hindustan Times, 7 June 2021.*

GAPS AND OPPORTUNITIES

Several gaps in India's BE perspective have the potential to be converted into fruitful opportunities:

1. The "draft" policy framework now needs to be elevated to a full-fledged official policy with a clear focus on strategy and a practical roadmap. The government should announce and own it, creating an effective high-level coordinating mechanism that brings all relevant ministries, agencies, state governments and non-government stakeholders together.
2. The conduct of Blue Diplomacy, still marked with hesitancy, should now be more forthright, business-like and less reliant on academic knowledge alone. India's Green foreign policy should acquire a blue tinge. The Ministry of External Affairs could do with a centralized Blue Economy Unit. Its future BE initiatives must encompass the business sector. More specifically, IPOI may not be able to produce desired results without the engagement of leading Indian companies specializing in BE business in the region.
3. Policymakers need to accord attention to important issues relating to BE such as absorption and application of new technologies, expansion of the availability of green financing, and adoption of sustainable but profitable measures for marine litter removal.
4. Finally, BE should be brought within the ambit of cooperation among the Quad countries – Australia, India, Japan and the US. All are equipped with vast oceanic resources; cooperation in the BE realm will deepen their partnership further. The Quad governments should consider forming a Working Group on Blue Economy, in addition to several institutional mechanisms announced at its Washington Summit on 24 September 2021.[20] It is gratifying to note that these governments plan to form a "Green-Shipping Network" and to deploy "green-port infrastructure and clean-bunkering fuels at scale."[21] The work of Quad Shipping Taskforce will be watched with interest. But the BE stands for much more than shipping. Hence the need for a new institutional mechanism to deliberate and act suitably on all critical sectors of the BE remains relevant and urgent. The suggested Working Group on Blue Economy could be assisted by the apex industry chambers of the four countries.

Encouraging progress has taken place in the past five years in turning India into a Blue Economy nation, but it is only a beginning. The future will be molded by what the nation and its international partners do together to secure common objectives.

20. 'Joint Statement from Quad Leaders', 24 September 2021, The White House. https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/24/joint-statement-from-quad-leaders/

21. 'Fact Sheet: Quad Leaders' Summit' 24 September 2021, The White House. https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/24/fact-sheet-quad-leaders-summit/

Green Hydrogen: Securing the Energy Supply Chain in the Indo-Pacific

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02

INTRODUCTION

Green hydrogen – hydrogen produced using renewable energy – can address key economic, technical and geopolitical challenges that complicate the urgent search for clean energy technologies to address the global climate crisis. In particular, it could be the answer to the scarcity of minerals needed to produce batteries for electric vehicles, the low energy density of lithium as a source of power for electric vehicles and the intermittency of renewable energy.

But green hydrogen projects need to be financed in a sustainable manner, so that they don't end up impoverishing countries that embrace it, as a number of recent big-ticket infrastructure projects have. This can be an area of cooperation for the countries of the Quadrilateral Security Dialogue (India, Japan, US and Australia), which are the major economies of the Indo-Pacific region and have vibrant finance sectors. Private enterprise also needs to be encouraged to take up green hydrogen projects, especially in smaller countries where the startup and venture capital ecosystem is less developed.

CHALLENGES OF EXISTING GREEN TECH

Renewable power generated using sun and wind has become widespread globally and in India, but the intermittency of green energy is a growing challenge as its role in the energy mix increases. This message was driven home in August-September 2021, when renewable generation in the UK dropped and led to a scramble for natural gas, pushing prices of the latter to record high levels.[1] Costlier natural gas will make fertilizer more expensive and will affect food prices as well as production. This shows that without large-scale energy storage, renewable energy cannot be a replacement for traditional power sources. Lithium or lead acid batteries cannot store electricity at a grid scale.

The other promising green technology, electric vehicles, also faces significant challenges: They run on lithium batteries, which require massive amounts of lithium and cobalt. It is not clear whether the supply chains of these minerals can scale up by 25-50 times, or even more, to meet the needs of a vehicle fleet large enough to meet clean-energy goals. Distribution of cobalt is also a major issue, as two-thirds of the global supply comes from a single source, the Democratic Republic of Congo.[2] The lithium supply chain, too, is concentrated, though to a lesser extent.[3] Finally, the low energy density of lithium (about 1% of petroleum fuels)[4] makes it unsuitable for heavy-duty users such as trucks – the major user of fuels.

Hydrogen, which can be generated from water via electrolysis using renewable energy, can resolve many of these issues. First, it can be produced when renewable energy is available and stored in bulk, solving the intermittency problem. Green hydrogen plants – which will produce hydrogen using renewable energy, are currently under construction or in operation in several countries including Norway[5], Japan[6], France[7], UK[8] and the Netherlands[9]. However, most of these are small scale projects of up to 25-megawatts of electrolyzer capacity – and are a long way off from providing large volumes of hydrogen at affordable prices.

1. *https://fortune.com/2021/09/16/the-u-k-went-all-in-on-wind-power-never-imaging-it-would-one-day-stop-blowing/*
2. *https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf*
3. *https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf*
4. *https://www.aps.org/publications/apsnews/201208/backpage.cfm*
5. *https://hydrogen-central.com/stord-hydrogen-140-tonnes-green-hydrogen-norway/*
6. *https://www.toshiba-energy.com/en/info/info2020_0307.htm*
7. *https://totalenergies.com/media/news/press-releases/total-and-engie-to-develop-france-s-largest-site-of-green-hydrogen*

Meanwhile, work is also on in using green hydrogen in major applications such as power and transport. South Korea is already experimenting with use of green hydrogen in electricity generation[10]. In addition, because its energy density is higher than petroleum or even natural gas, it, unlike lithium batteries, is a viable option for powering heavy duty trucks. Leading automakers such as Toyota[11] and Hyundai[12] have already developed hydrogen-powered trucks. This means its use would reduce the need for uncertain supplies of lithium and cobalt. However, it may be several years before viable prototypes translate to large scale on-road use, as is the case with any new technology.

Large scale use of hydrogen in power and transport sector can help clean up the energy sector, while reducing the need for minerals with vulnerable supply chains. However, there are some challenges before green hydrogen becomes widespread.

HYDROGEN: MAKING IT VIABLE

Green hydrogen is still a decade or more away from large-scale implementation. In addition to technology issues that must be resolved, adoption of green hydrogen will require capital and new business models. It is important that this adoption be financed sustainably: Experiences in Sri Lanka and Pakistan offer a stark warning of risks of unsustainable infrastructure finance done on opaque terms. At the end of 2021, both countries found themselves facing balance of payments crises. Sri Lanka has had to curtail several imports including fertilizers and automobiles, while Pakistan is negotiating a financial package with the IMF. Both the currencies are likely to witness significant devaluations, causing hardship for their populations. A significant contributor to the financial crises of both these countries have been the expensive loans taken to build big-ticket infrastructure showpieces such as ports, power plants and ports.

Three key recommendations can help promote faster adoption of green hydrogen:

1.Integrating Hydrogen with Existing Supply Chains

Hydrogen can be blended with natural gas in some existing uses, such as compressed natural gas (CNG) as vehicle fuel and piped natural gas as household fuel. It also could be substituted for natural gas as the energy used in the production of urea, a fertilizer. Countries that rely on imported gas, such as India, Sri Lanka and Bangladesh, might welcome this change since they have been hurt by the spike in gas prices in the last months of 2021.[13,14]

Such uses of green hydrogen would be an ideal way to test the new technology since they would enable small-scale trials in production, handling and use of green without making large investments, thus making the financial risk of stranded infrastructure to host economies low. Recent experience with solar power has shown dramatic cost reductions over a few years, but countries short on capital will prefer to make large investments later on, after the technology has been tested and some savings already accrued.

8. https://www.reuters.com/markets/commodities/bp-plans-large-scale-green-hydrogen-project-uk-2021-11-29/
9. https://www.renewablesnow.com/news/dutch-volth2-gets-permit-for-25-mw-green-hydrogen-plant-757376/
10. https://www.doosanfuelcell.com/en/media-center/medi-0101_view/?id=57
11. https://global.toyota/en/newsroom/corporate/34464066.html
12. https://trucknbus.hyundai.com/global/en/products/truck/xcient-fuel-cell
13. https://www.ppac.gov.in/WriteReadData/MS/20210930054448843649 9DomesticNaturalGasPriceforthe period01stOct2021to31stMarch2022.pdf
14. https://www.reuters.com/article/bangladesh-lng-imports-idUSL1N2R4086

CNG is used on a large-scale in India, Sri Lanka and a number of other countries in the Indo-Pacific region, while fertilizer is seen as a crucial sector with food-security implications. Using locally produced green hydrogen for sensitive sectors to replace imported natural gas may be politically easier.

2. Funding for Hydrogen Projects

Green hydrogen projects will require finance – debt and equity. Local governments in smaller Indo-Pacific nations may have limited capacity to raise the capital needed. The Quad countries can establish a fund or a special institution focused only on green hydrogen. Green hydrogen production technology currently is at a very early stage and cost of hydrogen is too high to be a viable energy source on its own.[15] While using hydrogen in existing supply chains will provide a better understanding of the challenges of this technology, it will require funding on favorable terms to be viable, especially in the smaller states of Indo-Pacific, such as Sri Lanka and Bangladesh; green hydrogen should not be allowed to lead to white elephants like the Hambantota Port or debt traps for host nations.[16] Loans on lenient terms, which also fall under the category of green finance, can prove the new technology and help Indo-Pacific states meet their commitments to mitigate climate change.

3. Hydrogen-focused Venture Funds

To be sustainable, green hydrogen business models need to be locally driven rather than top-down solutions coming from governments or multilateral bodies. To enable this, local startups working on business models related to green hydrogen need to be encouraged. Governments don't have a great record at innovating or in picking out winners. This is best left to the market. However, in smaller economies, venture capital and private equity industry are not mature enough to support such ventures. The Quad governments could be seed investors in country specific venture funds, with rest of the money coming from private investors, including those interested in green energy, who will back promising green-hydrogen related businesses. Such a fund needs to focus on a specific technology – a venture fund with a broader focus may find opportunities in other, higher growth sectors to be more lucrative and may not be the right instrument to push this technology.

Green hydrogen offers a way for Indo-Pacific states to meet their climate-change mitigation commitments while helping improve energy security. This needs to be done in a financially sustainable manner utilizing market forces, rather than top-down megaprojects, which have proven financially disastrous is several countries. Free market economies need to work together to make this happen.

15. Glenk, G., Reichelstein, S. Economics of converting renewable power to hydrogen. Nat Energy 4, 216–222 (2019). https://doi.org/10.1038/s41560-019-0326-1

16. https://amti.csis.org/chinas-maritime-silk-road-implications/

ECONOMY & TRADE LINKAGES

Enhancing Regional Financial Intermediation in the Indo-Pacific

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03

INTRODUCTION

With the Indo-Pacific becoming a center of global attention, the time has come for policy makers to set right the region's financial ecosystem. In the process, they have an opportunity to establish a new, sustainable development model. The logic for new approaches is overpowering: Financial intermediaries are critical lubricants for business, growth and development – an economic truism that has acquired even greater relevance in the wake of the COP26 meeting in Glasgow, with its unspecific and inadequate promises of financial support for material carbon mitigation and reduction. With some notable exceptions, too many countries in this vast swathe of the globe – defined by the eastern end of the Indian Ocean, the western end of the Pacific Ocean and the north and south 30th parallels – have been held back by weak financial systems.

Prior to British colonialization, the old maritime sailing sweep of Indian trade ranged from the nations of eastern Africa, the Arabian Gulf and South Asia eastwards to the Indonesian islands. Colonialism and the industrial revolution brought a shower of sand to the gears of the region's progress, reducing the Indo-Pacific countries to suppliers of raw materials and commodities for the factories of the colonial masters. Development has been uneven since then. The Indo-Pacific countries have made valiant attempts to industrialize, and thereby follow the classic economic development path involving the transfer of surplus labor from agriculture to manufacturing and services. Some countries – notably the Asian Tigers and, to a lesser degree, countries of the Association of Southeast Asian Nations (ASEAN) – have made the transition well. West Asia has surged ahead on the back of oil wealth. But much of eastern Africa has stagnated despite immense mineral wealth.

FINANCIAL INTERMEDIARIES AND GROWTH

Many reasons have been offered for the disparities, but one thing is clear: An effective and inclusive developmental ecosystem for financial institutions and intermediaries would spread that pattern of growth. India, because of its experience over the past decades in utilizing a mix of public sector banks and development financial institutions, along with private lenders and venture capital, could be the optimal partner for the region. Applying lessons learned from India's experience would avoid repeating mistakes or reinventing the wheel.

In addressing the issue of finance, one needs to view both the supply side and the demand side. Financial intermediaries seek to bridge demand and supply for finance, while benefiting savers and investors. Absent trusted financial intermediaries, potential savers in an emerging economy are compelled to hold their savings either in cash or in the form of real assets like gold, jewelry and occasionally land (if clear titles can be established). And if they reside in areas of poor security, they are understandably inclined to spend immediately rather than hold physical savings under a pillow or in a cupboard that might attract violent theft.

Financial intermediaries could provide a safer and more reliable avenue for savings. Japan's experience after the Second World War is instructive. With its infrastructure and manufacturing in ruins, and transport systems destroyed, it established the Reconstruction Finance Bank in 1947 to lend to key industries such as coal. Most of the funding was drawn from the Japanese central bank. The good work of this institution was carried forward by the Japan Development Bank, and later the Long-Term Credit Bank of Japan, the Industrial Bank of Japan and still later the Exim Bank of Japan. In Korea, institutions like the Korea Development Bank led the way.

Development Financing Landscape in India and the Indo-Pacific

India sits in the middle between developing and developed countries, and hence is a good example of the problems and opportunities of both.

India's strategic approach proceeded on two parallel lines. In July 1969, 14 major Indian Scheduled Commercial Banks with deposits of over INR 50 crore were nationalized "to serve better the needs of development of the economy in conformity with national policy objectives" (the Imperial Bank had earlier been nationalized as the State Bank of India in 1955). This ensured a devolution of banking to serve the less well-off; bank branches could be found in large numbers in semi-urban, second and third-tier cities and even in rural areas and villages, enabling the savings of a vastly larger number of people to be mobilized and aggregated for lending. In addition, large Development Finance Institutions (DFIs) were established to provide long-term finance at competitive terms to industry, supplementing the short-term working capital lending by the banks. The Industrial Finance Corporation of India (IFCI) was incorporated in 1948, the Industrial Credit & Investment Corporation of India Ltd. (ICICI) in 1955, and the Industrial Development Bank of India (IDBI) as a subsidiary of the Reserve Bank of India in 1964. The DFIs, along smaller agencies at national and state level, enabled a big push toward industrialization. Many storied names of Indian business today owe their initial launch and support to loans from the DFIs. Increasing politicization and functional capture by unsavory elements led to the winding down of the DFIs, and public sector banks (PSBs) steadily lost ground to their private sector counterparts. However, the institutions did create an infrastructure for the financialization of savings, collation from small savers and deployment into productive uses that arguably no other poverty-stricken developing country has managed.

What does this experience suggest concerning the financial needs of the Indo-Pacific? The majority of the countries in the Indo-Pacific are lower-income countries and are yet to progress down the classical road to economic development. Countries like Mozambique in Africa and to some extent Sri Lanka and Nepal in Asia face many challenges including lack of skilled labor and appropriate levels of technology, poor absorption of technology, imports that have a strong political constituency and, in some cases, inverted duty structures. Many have small populations, and thus lack potential demand, making economies of scale difficult to achieve from domestic operations alone – advantages that India and China have enjoyed. Currently such countries finance development with:

- Concessional borrowings from the multilateral development banks (the International Bank for Reconstruction & Development and the International Development Association; the Asian Development Bank, the African Development Bank) and regional institutions such as the ECOWAS (Economic Community of West African States) Bank for Economic Bank for Investment & Development and the East African Development Bank.
- Bilateral and mixed aid from friendly or interested governments.
- Long term credits from national Exim banks.
- Occasionally, recourse to capital markets by way of bonds and syndicated loans. A growing trend is discernible towards green finance or ESG (economic, social and governance) loans.

Relying on external capital for development is risky because the supply can shrink or dry up at critical times. It also is inadequate because it creates crutches instead of self-sufficiency. Much of the multilateral and bilateral developmental attention of the outside world to the Indo-Pacific has focused on development projects, usually executed by companies of donor countries. Such marquee projects have done a good job in a few cases, but in others, like Sri Lanka, the landscape is studded with white elephant projects that benefit the donors more than the beneficiaries. The China-Pakistan Economic Corridor (CPEC) under the Chinese Belt & Road Initiative has given China access to the Gwadar port proximate to the Gulf of Oman; the benefit to Pakistan is distant. Reliance on external financing leaves locals with little say on the projects, with the result that post-completion maintenance, operations and management are neglected, and projects may even be abandoned. Borrowings in non-home currency can give rise to open exchange position that could be dangerous. In the case of the BRI, the imbalance has been grossly exacerbated by the huge amount of Chinese lending that is opaque and sometimes unstated in the books, as non-Chinese lenders have found to their dismay.

THE QUAD AND DEVELOPMENT FINANCING IN THE INDO-PACIFIC

In these circumstances, the Quad nations and others need to hit the pause button on new project financing, and instead leverage their financial strengths and their experience in financial sector development. Instead of supporting one-off projects, they can have a more lasting impact by investing in widening and deepening the financial architecture in these countries through investments in banks, national or more likely regional, that could mobilize domestic savings. India's experience has shown that the involvement of national government gives a flavor of solidity and safety to invested moneys, thus helping new financial institutions gain time to reach viability. In addition, the Indian experience with small finance banks could provide helpful technical support, facilitating a network of branches that use telecommunications and financial technology.

In parallel, the Quad nations would do well to support either existing or new DFIs in the region with equity investment and term debt. Multilaterals like the Asian Development Bank and the African Development Bank are already doing a salutary job, as are various Exim banks. But the challenge is so huge and there is plenty of room for additional players. One possibility is for the Quad governments or their selected DFIs or Exim Banks to join hands to create a new regional DFI by contributing both financial support as well as technical and skill support.

Specifically, Quad countries should consider:

- Increasing the equity shareholding of the Quad countries in the multilateral institutions. The U.S. and Japan feature among the top ten shareholders of the African Development Bank at 6.6% and 5.5% respectively. The four Quad countries are among the top ten shareholders in the Asian Development Bank (15.6% each for the U.S. and Japan, 6.3% for India and 5.8% for Australia). While attempts can be made to increase these contributions, the focus needs to be more on the second-tier regionals like the East African Development Bank (EADB) and the PTA, which otherwise stay below the radar, but which have better investments with better outcomes.
- Establishing a new DFI to rival the New Development Bank or the Asian Infrastructure Investment Bank and would enable better control and targeting of finance. India has the expertise to set up such an institution. Capitalization by way of callable capital would not be difficult for the Quad countries; the parentage of the DFI would enable the institution to leverage funds from the capital markets at a very competitive cost. A model is the Corporacion Andina de Fomento (the Andean Development Corporation) in Latin America.

- Encourage their banks to expand their branch networks in the region by setting up overseas branches or subsidiaries or by taking equity stakes in good local banks. India and Japan, in particular, may find their banks amenable to governmental encouragement.
- Providing technical assistance, handholding and personnel training to banks and DFIs in the region.
- Providing technical assistance and, if possible, some equity shareholding to encourage establishment of regional or national Exim Banks order to help small Indo-Pacific countries increase exports so as to enable scale production.
- Boosting Trade Facilitation Facilities. India can offer much help with this.

With such support for improved financial intermediation, Indo-Pacific states that lag economically can bolster domestic savings and, in turn, domestic investment – and thereby make the developmental leap that countries like Japan, Korea and India have proven. All the while, they will be able to maintain direction, ownership and control over the development process.

India's Diaspora: Soft Power in the Indo-Pacific Countries

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04

INTRODUCTION: HISTORY AND INDIA'S ROLE IN THE INDO-PACIFIC

India wields considerable soft power in the Indo-Pacific region through her historic diaspora communities, most of which date back to Indian merchant settlements in the early medieval period. These people of Indian ethnic origin[1] are citizens of their host nations but have passed on their faith, language, script, cuisine, community institutions and culture of India through subsequent generations. Indian teachers have nurtured the future leaders of their adopted lands. In the process, they have enriched their new homelands, and also deepened the connection between their new countries and India through transnational trading and community networks.

In addition to this living legacy, Indian culture is also very much a part of the architectural, social and cultural landscape of most Indo-Pacific nations. For example, the port and city of Banda Aceh, which is located on the northern tip of Sumatra Island (Indonesia), was considered part of the Indian sphere for centuries because of its sizeable Indian merchant community and the fact that it was closer by sea to the Coromandel and Malabar coasts of India than to the rest of the Indonesian archipelago.

India's influence did not end with the ancient period. It continues to this day, and is a source of soft power. For instance, Islam in South and South East Asia, which was introduced peacefully by Indian Muslim traders during the medieval and early modern periods, is notably more moderate politically than the Islam in West Asia which arrived by the sword.

India's ties in the region remain strong because trading communities circulated between the subcontinent and as far as Japan for trade, often maintaining family and community relations back home. Even today, people in Indian overseas business communities like those in East Africa recruit their manpower and find brides and grooms for their sons and daughters from India. The greatest immigration of Indians across the Indo-Pacific region took place during the European colonial period, when in addition to Indian merchants, Indian laborers[2] known as coolies and more educated Indians were recruited to work in colonial plantation economies and colonial administrations, respectively.

The role of the expatriate communities was largely peripheral to government till 2011 when the India initiated a slew of targeted diaspora policies, especially with inbound investments. It added traction after 2014 under the current Modi government, with the specific goal of strengthening this latent soft power. It coincided with India's increasing overseas investments both by its public and private sectors.[3] India's growing foreign direct investment, infrastructure investments and the presence of Indian companies, have brought to the region an influx of Non-Resident Indians (NRIs) who have further revitalized the ties of older Indian diaspora communities with India. The virtuous fallout is the strengthening of India's soft power in the Indo-Pacific with many tangible benefits – especially in the sphere of business collaborations and the introduction of Indian technology by persons of Indian ethnic origin.

1. *This generalized term is being used rather than Person of Indian Origin (PIO) because the Government of India today issues a PIO Card to foreign citizens of Indian ethnic descent going back three generations and their spouses, which enable certain rights like the ownership of property in India with the exception of agricultural property/plantation properties. https://www.mea.gov.in/Portal/CountryQuickLink/703_PIO-OCI.pdf (Accessed on 19 December 2021)*
2. *When the slave trade was finally abolished in 1873, colonial powers resorted to recruiting indentured labourers from India to work in plantation economies in their colonies. Though many indentured labourers did return home to India, many families also stayed behind.*
3. *There was a sea change in the GOI policy following the release of the report of the Singhvi High-Level Committee on 8 January 2002. The GOI measures taken for the welfare of the diaspora include i) Annual Observance of 9 January, the day of Mahatma Gandhi's return to India from South Africa in 1915, as the Pravasi Bharatiya Divas, ii) periodic celebration of Regional Pravasi Bharatiya Divas in foreign countries and iii) Establishment of the Pravasi Bharatiya Kendra in New Delhi (foundation stone was laid by Prime Minister Manmohan Singh in 2011; its inauguration by Prime Minister Narendra Modi took place in October 2016; and it was renamed as Sushma Swaraj Bhavan in February 2020), iv) Pravasi Bharatiya Samman Award (PBSA), launched in 2009, v) Overseas Citizenship of India Scheme, launched in 2006 and vi) Know India Programme*

India's Indo-Pacific vision has two main pillars:

1. The central pivot joining the Indian Ocean community to the Pacific community is ASEAN, the multilateral grouping of 10 nations of South East Asia, which form a "geographical and civilizational bridge" between the two Oceans.[4]
2. India sees all nations as part of a "free, open and inclusive Indo-Pacific," irrespective of their ideology or form of government.

To put India's Indo-Pacific Vision[5] in context and explain why it considers its overseas diaspora as having "strategic importance,"[6] this report studies the role of people of Indian ethnic origin from the four Indo-Pacific nations: the Republic of Singapore, Republic of Indonesia, Sultanate of Oman and Republic of Kenya.

Singapore and Indonesia are both ASEAN countries but are a study in contrasts in terms of the historicity of their diaspora and the presence of Indian companies. Singapore and Indonesia are India's largest and second-largest trading partners from ASEAN, respectively.

To India's west, the Sultanate of Oman has an old, politically and financially influential community, through whom most Indian companies operate in that country. The Republic of Kenya has a vital Indian business community, which it has designated its 44th tribe, indicative of how much it values its resident Indians.

Each study presents two facets of influence: One, the history, and degree of cultural salience of citizens of Indian descent in these countries with India. Second, the cross-border FDI, bilateral trade, and whether the Indian diaspora (foreign citizens of Indian descent, Persons of Indian Origin/Overseas Citizen of India card holders and NRIs) are beneficiaries of increased economic interactions.

SINGAPORE AND ITS AFFLUENT INDIAN COMMUNITY

Indian migration to Singapore came in three distinct waves.

The initial influx came two centuries ago as Indian administrators, workers, policemen, and soldiers were sent to the newly founded British colony of Singapore after it was acquired by treaty by Sir Stamford Raffles on 6 February 1819.[7] The early Indian immigrants were Chettiars and Telugus from south-eastern India, and Sikh and Sindhi traders.[8]

4. *Keynote Address by Secretary (East) at the Special Session of the 1st edition of the Indo-Pacific Business Summit on 6 July 2021 details India's Indo-Pacific vision. https://mea.gov.in/Speeches-Statements.htm?dtl/33982/Keynote_Address_by_Secretary_East_at_the_Special_Session_of_the_1st_edition_of_the_IndoPacific_Business_Summit (accessed 9 December 2021)*
5. *PM Narendra Modi detailed India's Indo-Pacific vision for the first time in his speech at the Shangri La Dialogue on 1 June 2018. https://www.mea.gov.in/Speeches-Statements.htm?dtl/29943/Prime+Ministers+Keynote+Address+at+Shangri+La+Dialogue+June+01+2018 (Accessed on 9 December 2021)*
6. *See interview with External Affairs Minister S. Jaishankar posted on the MEA website https://www.youtube.com/watch?v=vynQj2sm8Mw&t=2s*
7. *This was the strategy used by the English East India company and the British Raj thereafter, when colonizing new regions in the Indian Ocean Region. See Bose, Sugato, A Hundred Horizons: The Indian Ocean in the Age of Global Empires (Boston, Harvard University Press, 2006)*
8. *Chettiar merchants were also astute bankers and moneylenders, as were the Sindhi businessmen. They provided financial services to locals and well as foreign trade, and took the many opportunities that came their way in interregional trade.*

The second wave took place before the founding of Singapore as a nation state in 1965, as families displaced by India's Partition, particularly Sindhi, Sikh and Punjabi, looked to existing transnational community networks, including the one in Singapore[9] for better opportunities. Due to Singapore's own complex history regarding nationality and citizenship post-1957 and its brief merger with the Malayan Federation (1963-1965) till independence on 9 August 1965, it thereafter enacted selective and stringent immigration and citizenship laws which dampened immigration. These laws were liberalized greatly after 2000.[10]

A third wave came with India's economic liberalization after the forex crisis of 1991, followed by its Look East Policy (started in 1994 and updated to its Act East policy in 2014), which created opportunities for Singapore's resident Indian community and led to an influx of professional Indian migrants. Along the way came the India-Singapore Comprehensive Economic Cooperation Agreement (CECA) of 2005 – the first free trade agreement between Singapore and a South Asian country. Indian migrants came especially from the IT, financial technology, and commercial services (legal, banking and accountancy) sectors, as hundreds of multinational Indian companies opened branches and offices in Singapore in order to access South East Asian mawrkets and the Far East (China, South Korea and Japan).[11] Indian companies and their international partners use Singapore's International Arbitration Center to expeditiously resolve legal disputes that arise in India.[12]

The flourishing free trade agreement (CECA) between the two countries and its virtuous impact on the Indian community both in Singapore and India has led to a boost in two-way trade and FDI, and a surge of impressive Indian talent and wealth creation. The table below shows the depth of mutual benefits:

Singapore-to-India trade	$8.68 billion (2020-2021)[13] Trade from Singapore to India increased from 2005 to 2019 since CECA came into force.[14]
India-Singapore bilateral trade	$21.98 billion (April 2020 to March 2020 $23.67 billion (April 2019 to March 2020)[15]

9. Bhattacharya, Jayati, Beyond the Myth: Indian Business Communities in Singapore (Singapore, Institute of South East Asian Studies, 2011)
10. This report is specifically on the evolution of post-colonial citizenship rules and laws in Malaysia and Singapore.https://cadmus.eui.eu/bitstream/handle/1814/45371/GLOBALCIT_CR_2017_03.pdf?sequence=1&isAllowed=y (Accessed on 22 December 2021). Also see: An overview of immigration policy in the years after 1965: https://www.asianstudies.org/publications/eaa/archives/singapore-immigration-and-changing-public-policies/
11. See interview with External Affairs Minister S. Jaishankar posted on the MEA website https://www.youtube.com/watch?v=vynQj2sm8Mw&t=2s
12. A recent, high profile case which came before the Singapore International Arbitration Center (SIAC) is the Future Retail and Amazon dispute. The agreement between the two parties had an arbitration clause specifying SIAC as the arbitration center. The SIAC ruled in favour of Amazon.
13. https://commerce.gov.in/about-us/divisions/foreign-trade-territorial-division/foreign-trade-asean/ (Accessed on 21 December 2021)
14. mti.gov.sg/Improving-Trade/Free-Trade-Agreements/CECA
15. https://mea.gov.in/Portal/ForeignRelation/Singapore_24_12_2018.pdf

India-Singapore bilateral trade	$8,057 million (April 2021 - updated September 2021)[16] $17,419 million (April 2020 - March 2021)
Indian FDI in Singapore	2019 – S $ 1,590.2 million (in Singapore dollar)[17] 2018 – S $ 1,194.1 million (Note: Singapore data is updated only up till 2019. Currency is Singapore dollar.)
Singaporean Indian origin citizens	362,274[18] Citizens of Indian ethnicity represented 7.5% of population in 2020 (7.4% in 2010)
Singapore's Non-Resident Indian population	About 350,000 (making up 21% of Singapore's expat population of 1.6 million)[19]
Highlights of the Singapore Indian diaspora	1. Singapore has the highest concentrations of alumni from the Indian Institute of Technology and the Indian Institute of Management in any one city outside India.[20] 2. Five Indians feature in the List of 50 Richest Singaporeans.[21] 3. There are about 1 lakh Indian migrant workers in Singapore. 4. Tamil is one of the four official languages of Singapore. Hindi, Gujarati, Urdu, Bengali and Punjabi are also taught in schools.

16. Source: https://dpiit.gov.in/sites/default/files/FDI_Factsheet_Spetember-21.pdf https://dpiit.gov.in/sites/default/files/FDI_Fact_sheet_September_20.pdf
17. Source: https://tablebuilder.singstat.gov.sg/table/TS/M083901
18. Singapore Census 2020. (Accessed on 30 November 2021) https://www.singstat.gov.sg/-/media/files/publications/cop2020/sr1/cop2020sr1.pdf
19. https://www.hcisingapore.gov.in/pages?id=eyJpdiI6Ilp1NDdMaU5sTEU1QitrYWgyUGRTb1E9PSIsInZhbHVlIjoiVnZRMWsySnhhNlBPeWFTVFwvZE81akE9PSIsIm1h
20. Ibid.
21. At #14 Raj Kumar & Kishin R.K ($2.65 billion), #18 Arvind Tiku ($2.2 billion), #28 Asok Kumar Hiranandani ($1.6 billion), #36 Binny Bansal ($1.25 billion), and # 50 Saurabh Mittal ($735 million). https://www.forbes.com/singapore-billionaires/list/#tab:overall

Singapore's ethnic Indian population has achieved high political office, and along with the NRIs, are financially influential, contributing to the booming economic bilateral trade and FDI between the two countries. For Indian companies, Singapore remains the most important global platform for doing business in South East Asia and the Far East (China, South Korea, Japan). Singapore is an important platform for foreign multinational companies to trade with India given the India-Singapore FTA (CECA) and other related bilateral trade treaties.[22] Singapore's significance as a financial center has increased with the political troubles in Hong Kong.

Singapore as a nation is also strategically important for India. It played a key role in connecting India with the ten-member ASEAN and in bringing this larger grouping together in the annual East Asia Summit forum.[23]

INDONESIA: HOME TO A HISTORIC AND DIVERSE INDIAN DIASPORA

Indonesia is India's second largest trading partner in the ASEAN region[24] and is home to an historic Indian diaspora. Unfortunately, Indonesia's Census does not categorize its population on the basis of ethnicity, so it is difficult to get an exact number for people of Indian ethnicity in Indonesia. But India's two millennia of maritime connections with the islands of Sumatra and Java have resulted in a concentration of people of Indian origin in the western region of the Indonesian archipelago.

Although Indonesians of Indian origin are a minuscule community today and not as visible and influential as the Singaporean Indian community, their historic political, economic, religious and cultural imprint in this region is noteworthy.

India has good reason to consider Indonesia and other ASEAN nations a "geographical and civilizational bridge" to the Far East, a fact mentioned by India's PM Modi. Numerous Indic and Hinduized kingdoms formed on the islands of Sumatra, Java and Bali (also part of Indonesia), and later in Indochina, due to the influence of Indian merchants,[25] Buddhist monks, Hindu Brahmins, and, during the 10th century, the arrival of the imperial Chola navy to this region. At the time, these coastal trading kingdoms were for India the link between the western and the eastern Indian Ocean.[26] Indian Gujarati and Malabari Muslim traders played a key role in the peaceful conversion of much of Indonesia by the 15th century, when Arabs, Persians and Turks dominated the Indian Ocean trade. The silver Indian rupee circulated amongst multilateral currencies in Indonesian port cities as a currency of trade.

22. MEA bilateral brief on Singapore. https://mea.gov.in/Portal/ForeignRelation/Singapore_24_12_2018.pdf
23. See interview with External Affairs Minister S. Jaishankar posted on the MEA website https://www.youtube.com/watch?v=vynQj2sm8Mw&t=2s
24. https://commerce.gov.in/about-us/divisions/foreign-trade-territorial-division/foreign-trade-asean/ Also: http://www.mea.gov.in/Portal/ForeignRelation/Feb_2020_Bilateral_Brief_INDONESIA.pdf
25. Indian merchant communities from east and south east India settled on the western islands (Sumatra and Java) because of an active trade in gold, textiles and spices.
26. For a discussion on coastal kingdoms in Indonesia and the intersection of trade and state-formation, see Ashin Das Gupta, 'The Maritime Trade of Indonesia: 1500-1800', in India and the Indian Ocean, edited by Michael Pearson and Arun Das Gupta (Calcutta, Oxford University Press, 1987).

Most people of Indian descent in Indonesia today are descendants of migrants who arrived during the Dutch and British colonial period, primarily during the 19th and early 20th centuries. They arrived for work as plantation workers (Tamilians and *Klings*)[27], security guards (Sikhs), traders, shopkeepers and native bankers (Tamil Chettiars, Bengalis, Sindhi, and businessmen (from British Bombay, Madras and Gujarat).[28] The Dutch continued the use of the Indian Rupee in its Indonesian colony, but punch marked it to establish their political authority. Use of the Indian currency underscored Indonesia's economic-cultural proximity to the Indian subcontinent until Indonesia became independent from colonial rule in 1948, after which it adopted its own currency named after the Indian Rupee – the Indonesian Rupiah.

Though Indonesian Indians were once predominantly rural, the occupational profile has now changed, as most of them now reside in urban centers.

Indonesia-India bilateral trade	$17.50 billion (2020-2021)[29], up from $4.3 billion (2005-2006)[30,31]
Indian FDI in Indonesia	$995.18 million in 2215 project (2000-2018).[32] Because most Indian FDI is routed through Singapore and other gateways, it is likely that the amount of FDI is higher
Indonesians of Indian ethnicity and NRIs	About 120,000 (as of 2018), who are concentrated in Greater Jakarta, Medan, Surabaya and Bandung. 8500 are NRIs and 111,500 are Indonesians of Indian descent.[33] *The Indonesian Census no longer lists ethnicities as a category.
Highlights of the Indonesian Indian Diaspora	1. Sindhi businesses (M.D. Entertainment; Rapi Films, and Soraya Intercine Films) make up almost half of Indonesia's entertainment industry's net worth.[34] 2. Sports goods distributors and shops is a business dominated by Punjabi and Sikh Indonesians.

27. This is a reference to people to Kalinga or the region of the state of Odisha, that is people of Oriyan descent.
28. A. Mani, 'Indians in North Sumatra', Indian Communities in Southeast Asia, edited by K.S. Sandhu and A. Mani (Singapore, Times Academic Press, 1993), pp. 58-60.
29. https://commerce.gov.in/about-us/divisions/foreign-trade-territorial-division/foreign-trade-asean/
30. http://www.mea.gov.in/Portal/ForeignRelation/Feb_2020_Bilateral_Brief_INDONESIA.pdf
31. India is the second largest buyer of coal and crude palm oil from Indonesia and imports minerals, rubber, pulp and paper and hydrocarbons reserves. India exports refined petroleum products, commercial vehicles, telecommunication equipment, agriculture commodities, bovine meat, steel products and plastics to Indonesia.
32. Ibid.
33. https://mea.gov.in/images/attach/NRIs-and-PIOs_1.pdf (Accessed on 9.11.21)
34. Pallavi Aiyar, "Sindhi kings of Indonesian entertainment" , The Hindu (24 August 2013) https://web.archive.org/web/20140620123008/ http://www.thehindu.com/todays-paper/tp-opinion/sindhi-kings-of-indonesian-entertainment/article5054226.ece

OMAN AND ITS VALUED OMANI INDIAN CITIZENRY

The Sultanate of Oman has just 2,911 citizens of Indian origin. Most of these belong to families with roots in Oman that go back to the 19th century. It was in 1832-1840 that the famous Hindu Bhatia trader Sewjee Topan advised the then Omani Sultan to shift his capital to Zanzibar in order to tighten his control of the slave and ivory trade in his East African dominions. Kutchi traders from the Bhatia, Bohra, Khoja, and Memon communities of western India followed in the wake of this shift to the new capital in Zanzibar. Indian merchants were the Sultan's collaborators along with local Swahili-speaking Arabs.

Today, people of Indian ethnicity in Oman are either families with roots in Zanzibar who speak Swahili, or descendants of people with links to Oman. The Sultan of Oman values his Omani-Indian citizenry and, although Oman is an orthodox Ibadhi Muslim state, has always been religiously tolerant of the country's Indian-origin citizens, allowing them to build temples and gurdwaras, maintain cremation grounds, and set-up their own social, educational and community institutions. It is because the Omani Sultans have historically respected their Indian advisors that India's soft power in the Omani kingdom is not just positive but politically and economically significant.

Oman-India bilateral trade	$4.6 billion (April 2020 to February 2021) $5.93 billion (2019-2020)[35, 36]
Indian FDI in Oman	$7.5 billion invested in more than 4100 Indian businesses across Oman.
Oman FDI in India	Special Purpose Vehicle Fund (Indian-Omani joint venture) has invested $100 million since 2011 in India in seven diversified Indian companies. It currently is investing a second tranche of $220 million.
Persons of Indian Origin and NRIs	1. Omani-Indian citizens 2911 (July 2020) 2. NRI about 624,000 (May 2021)[37]
Highlights of the Omani Indian Diaspora	1. Politically and financially influential. Most Indian companies operate in Oman through Omani-Indian families like the Khimjees. 2. Omani citizenship is hard to get and given only to established Omani-Indian families or those from its former territories like Zanzibar and Pate Island and parts of the Mrima Coast of East Africa.

35. https://www.indemb-oman.gov.in/page/bilateral/ Also, https://commerce.gov.in/about-us/divisions/foreign-trade-territorial-division/foreign-trade-wana/

36. Major items of Indian exports are mineral fuels and products of their distillation, textiles, machinery, electrical items, chemicals, iron and steel, tea, coffee, spices, rice, meat products and seafood. Among major Indian imports are: urea, LNG, polypropylene, lubricating oil, dates and chromite ore.

37. https://www.indemb-oman.gov.in/page/bilateral/ (Accessed on 9.11.21)

Highlights of the Omani Indian Diaspora

3. Although Oman is an orthodox Ibadhi Muslim state, it is religiously tolerant.
4. Legendary Indian Sewjee Topan, a Hindu Bhatia merchant and advisor to the Omani Sultan, prompted the Sultan to shift his capital to Zanzibar in 1832-40 in order to exert better control over the lucrative slave and ivory trade from East Africa.
5. Language is a cultural marker and unifying factor for most old Indian families – whether Hindu or Muslim – as they speak Kutchi or its variant Khojki amongst themselves.

KENYA: INDIANS' ROLE IN BUILDING MODERN KENYA

Britain's takeover of the assets of the Imperial British East Africa Company in Kenya in 1894 triggered the movement of Indian merchants from a declining Zanzibar economy to new opportunities in Kenya.[38] The migrants included legendary Zanzibar trader Seth Allidina Visram, who was a mentor to the founders of the famous Kenya-Uganda Mehta and Madhvani business families, amongst many other Indian businessmen in East Africa.

Visram was the biggest *Dukkawala* (a term used by Kenyans to describe Indians) or shopkeeper, as he opened shops as soon as each stretch of tracks was laid for the Uganda Railway line from the port of Mombasa to Kisumu (Port Florence on Lake Victoria).

This railway line was built by Indian indentured labour (most of whom returned home after their contracts). Its construction also attracted Indian staff to man the line as well as administrative, police and security staff to run the new colony. Kenyan Indians are largely descendants of these colonial migrants and consider themselves Kenyans first. Many prominent Kenyan Indians fought for Kenya's freedom from British rule

After Kenya became independent in 1963, Indian businessmen turned from the colonial plantation economy built on sugar, cotton, and tea, to setting up industries. A wave of Africanization that swept through Kenya in the 1970s-1980s disrupted this process and resulted in the nationalization of Indian-owned businesses. Many Kenyan Indians fled to the U.K., Canada and U.S. during this period.

Since the 1990s, the Kenyan government has actively encouraged the return of this business community. Many have restarted their businesses, which triggered a new migration of Indians to Kenya to work in them. Today, Kenyan Indians are an economically strong business community, with solid business and family connections to India. This, combined with India's development aid and the opening of new Indian companies' operations in the African country, has created more jobs for Kenyans and expanded India's soft power.

38. Neighbouring Uganda became a British colony in 1895.

Kenya-India bilateral trade	$2.2158 billion (2019-2020)[39]
Indian FDI in Kenya	More than $3 billion (2018)[40]
Persons of Indian Origin and NRIs	60,000 Kenyans of Indian ethnicities 20,000 NRIs
Highlights of the Kenyan Indian diaspora	1. Financially influential diaspora. 2. Number of Kenyan Indians reduced after the Africanization crisis. 3. To prevent a future Africanization crisis, people of Indian ethnicities have been named the 44th tribe of Kenya. 4. Big Kenyan Indian businesses have returned to Kenya although their owners may reside in the UK, Europe and India. 5. Recruitment of teachers, managers, accountants from India is an ongoing process, just as it was in the past.

The study of the four countries shows that India's foreign policy is astute in viewing its Indian overseas communities as a "strategic" soft power. It recognises that

- Indian diasporas play an important role in the economy of their host nations.
- Most people of Indian origin maintain community and family ties in India.[41]
- The present government of Prime Minister Modi has initiated and actively pursues its outreach to these communities through targeted policies
- In the spheres of trade and industry, foreign citizens of Indian ethnicity are a bridge to understanding local ethos and could be more open to doing business with Indian companies or inducting Indian technology into their manufacturing units.

Finally, India's 32-million strong diaspora,[42] is increasingly connected with each other. With many of them located in the Indo-Pacific countries, expect India to be better positioned to play a constructive role in this important and contested region.

39. High Commission of India, Nairobi; https://hcinairobi.gov.in/eoinrb_pages/MzI

40. Article of 2018 by previous Indian High Commissioner. https://hcinairobi.gov.in/public_files/assets/pdf/The_Star_Aug22_18.pdf.

41. See interview with External Affairs Minister S. Jaishankar posted on the MEA website https://www.youtube.com/watch?v=vynQj2sm8Mw&t=2s

42. This includes the NRI and PIO population. On an average 2.5 million Indians migrate overseas annually. https://mea.gov.in/images/attach/NRIs-and-PIOs_1.pdf (Accessed on 21 December 2021).

India in the Resilient Supply Chain Initiative: Opportunities, Challenges & Possible Collaborations

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05

INTRODUCTION

The Resilient Supply Chain Initiative (RSCI), was launched in September 2021 by India, Japan and Australia in response to growing alarm about the overdependence on China in global supply chains. This has led policy makers and the business sector to focus on India as an alternative channel for goods to keep the world's economy running. But making this a reality will require major effort.

The interest is understandable. RSCI was created to meet a goal set by the Quadrilateral Security Dialogue to improve the security of global supply chains in light of worrisome developments – including the U.S.-China trade confrontation, the economic disruptions caused by COVID-19, and geopolitical competition among the great and regional powers in the Indo-Pacific region. For many economic sectors, India seems a logical place to look for an alternative supply chain. It is the world's largest provider of software outsourcing and solutions by total production value. Its pharmaceutical sector is the third-largest in the world. It ranks first in production of generic medicines and vaccines, second in telecommunications and the smartphone market, fourth in automotive and auto components, and sixth in chemicals.

But significant challenges stand in the way. For one, supply chains in India currently rely unduly on other countries, including China. India also suffers from economic and political risks, as well as hidden costs. These issues could be resolved by establishing better designed and well-planned industrial clusters and supply chain models. Central-planned Coastal Economic Zones (CEZs) under the SagarMala Project launched by PM Modi's government, if executed well, could boost confidence among international investors. And RSCI could provide good opportunities for India to collaborate with countries such as Japan and Taiwan in building robust supply chains. With their know-how and experience, India would gain in supply chain competition with other Indo-Pacific countries.

SUPPLY CHAIN RISKS AND VULNERABILITIES

India's automobile and component industry illustrates the promises and the challenge. It is vibrant and growing. Japanese and Korean firms are among its largest investors, while production of electronic vehicles also attract investments, including from Tesla and indigenous firms like Mahindra. But instead of earlier stages of production, India mostly serves the terminal market, where finished goods are assembled and traded. Whether India can be a regional manufacturing hub for automobile and auto parts remains to be seen. Similarly, although India's pharmacy sector is the third largest in the world, about 70% of its active pharmaceutical ingredients – including 90% for antibiotics – have to be imported from China.

Foreign direct investment (FDI) is similarly lopsided. According to the latest statistics in 2020, the top-ranking Indian sectors receiving FDI are the services industry; IT device manufacturing; telecommunications; trading; construction and real estate; automobile industries; chemicals; pharmaceuticals; tourism; and electricity and power. In the manufacturing sector, FDI in computer hardware/software and telecommunications have seen rapid growth, but other industries like metal processing, food processing, machinery and textile and clothing, have not.

Indian supply chains also face risks related to changing economic conditions, natural disasters, energy supply disruptions and political disruption. Floods during the monsoon season usually delay delivery of goods and highway travel. In early 2021, riots in the Karnataka factory of Wistron India – the Taiwanese assembler for iPhones – over delayed and incorrect payment of workers' salaries,

reflect risks arising from corporate mismanagement and the lack of human-resources and legal knowledge. The coal-shortage crisis in October, along with the poorly constructed power grids in India, have cast a shadow of energy risk for supply chains in the burgeoning manufacturing sector.

India's supply chains also have hidden costs. According to the report by Arthur D. Little and Confederation of Indian Industry (CII) in 2020, India's supply chains suffer from huge indirect logistics costs related to transportation (40% of hidden costs), warehousing (26%), inventory (24%) and order processing/administration (10%). Lack of good-quality infrastructure and national- or regional-level truck fleets or services drive up hidden costs in transportation. Limited deployment of technologies for warehousing and management of inventory, and end-to-end transparency also increase hidden costs.

ADDRESSING THE ISSUE THROUGH CLUSTERS

Government-planned industry and supply chain clusters would effectively address these risks. Experience shows that in the general and ICT manufacturing sectors of China and Taiwan, planned clustering of manufacturing bases – fostered by preferential tax and regulatory policies – have helped generate competition, innovation, and increased international capital and technology transfers. The idea of creating special economic zones (SEZs) or larger port-centered coastal economic zones (CEZs) as part of the SagarMala Projects have met resistance, though. Critics such as Sanjeev Ahluwalia, a veteran researcher with years of multilateral and government experience from the Observer Research Foundation (ORF), argue that the CEZ effectively would require coastal states to give up land as "deemed foreign territory" under the jurisdiction of the Central Government of India.

Even Ahluwalia agrees, though, that SEZs are favorable (if not a favorite) of IT industries, which are now considered India's favored children, with comparative advantages, better opportunities due to the changing geopolitical environments, and positive regard from big firms such as Foxconn, Wistron, Dell, and Apple. After years of consideration, Foxconn left Maharashtra for Sri City, a business-integrated city with SEZs, to manufacture iPhones for Apple outside of China, becoming one of the most successful stories of offshore manufacturing outside of Shenzhen.

Policymakers must realize that investors respond to different kinds of incentives. India is competitive in manufacturing labor costs. Cash rewards for extra production through Production Linked Incentives (PLI) have led 16 ICT manufacturers in the iPhone supply chains to relocate to India. But many of the firms fear this four-year program might change or be phased out with a change of government. If India really wants to become a manufacturing hub as declared in concept of Atmanirbhar India (self-reliant India) – which is more aligned with global supply chains – incentive programs have to be improved with the long term sustainability in mind.

THE ROLE OF JAPAN AND TAIWAN TO BETTER INCORPORATE INDIA INTO THE RSCI

Since its launch in April 2021, the Resilient Supply Chain Initiative (RSCI) has held two forums to share and introduce policy ideas, and to identify strengths and areas where the three countries can collaborate. Both were hosted by Japan. The RSCI should plan to expand its scope, number of participants, and its functions as a platform.

Promoting industrial clustering and technology in supply chains while considering the domestic legal and political compliance of member countries (which can be especially a challenge for India) can be on the agenda of future RSCI interactions. India has set up an intergovernmental "Japan Plus" desk in the central ministry; but in the RSCI scheme, the three countries can explore additional experimental policies or pilot programs.

Members of RSCI also can discuss enhancing policy flexibility and trade facilitation in the context and framework of QUAD. US President Joe Biden pledged in his 100-Day supply-chain report to cut "red tape" by coordinating with Central American and Southeast Asian countries and providing technical assistance or funds for single windows to streamline the processing of trade-related filings. India faces similar issues. For instance, concern about delays led Tower Semiconductor, an IT firm of Israel, to write to PM Modi in September 2021 asking for his intervention to fast-track the administrative process. Meanwhile, in an apparent attempt to retain investment during COVID-19, countries like China and ASEAN countries allow processing trade and non-resident inventory in bonded areas or zones. India has not adopted any policy changes.

To achieve these goals, RSCI should seek to link with and embed itself in the national development strategies of each member country, so that it can become a more effective tool for policy communication. It also should expand itself to be more of a policy coordination platform that can incorporate multiple ministries, bureaucrats of different departments, and experts from different but closely related fields in expanding its policy or issues knowledge base.

Finally, having played key roles in the relocation of smartphone and ICT components supply chain to India, the Taiwanese firms – along with its government, industries and experts – should not be left out of RSCI activities. The Global Cooperation and Training Framework (GCTF), created by the US, Japan and Taiwan, could be a model; it has served a multipurpose platform that has involved Indo-Pacific countries such as Australia and South Pacific island nations.

While there are risks and vulnerabilities in India's manufacturing sectors, logistics and transportation, it's clear that changes in geopolitics and geoeconomics are creating opportunities for it to reshape and improve its supply chains. Creative and astute policy incentives like PLI enabled the Modi government to make progress such as getting Apple's iPhone suppliers to India. But continued success will require long-term planning in industrial and FDI policies. New Delhi should use the QUAD framework and essential multilateral arrangements such as RSCI to be part of an international industrial transformation that is under way. Other key countries in the Indo-Pacific, such as Japan and Taiwan, can play essential roles in the process.

SECURITY

India's Indispensable Role in Human and Economic Security in the Indo-Pacific

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06

The Indo-Pacific is the planet's most strategically important and dynamic region. From the east coast of Africa to the west coast of the Americas, changes are taking place that are likely to shape the future for generations to come.

DRIVERS OF STRATEGIC SHIFTS IN THE INDO-PACIFIC

One of the most visible aspects of these shifts involves the massive military expansion and modernization of the People's Republic of China's (PRC), which now has the largest navy in the world.[1] Concern over Beijing's intentions has driven a range of responses, including the signing of a series of bilateral defense, logistics and security agreements between countries in and engaged with the region,[2] including the AUKUS trilateral security partnership.[3]

However, while the PRC is clearly augmenting its war fighting capabilities, its comprehensive national power approach,[4] combined with its utilization of unrestricted warfare[5] and its doctrine of civil-military fusion[6] suggests that its preferred battlefield is political warfare, where its strategy involves "winning without fighting."[7] Indeed, many of Beijing's strategic gains in the Indo-Pacific have been accomplished through means such as economic engagement via the Belt and Road Initiative.

Beijing's preferred strategy is to engage a target country through goodwill (high level visits, scholarships, largess for decision makers, etc.), until the leaders of the country's political and business sectors accept Chinese economic support. Ultimately, the process ends up with the country dependent on China.[8]

This dependency can be highly destabilizing, as decision-makers distort local economies and societies to suit the interests of their PRC patrons and, in turn, the PRC favors leaders with authoritarian tendencies who can deliver for Beijing.[9]

While it doesn't always succeed, this strategy works often enough for some countries to slide quietly into Beijing's sphere of influence without triggering any effective response, as was seen in 2019 when Solomon Islands and Kiribati both switched diplomatic recognition from Taiwan to China,[10] taking some in New Delhi, Washington, London and elsewhere by surprise. The same process is occurring in a range of other countries throughout the region and the world.[11]

While growing defense and intelligence relationships are a helpful response, especially to the military dimensions of the PRC's expansion, countries need support that will enable them to defend themselves from Beijing's political warfare so that they can thrive on their own terms. This is where India is indispensable.

1. *https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF?source=GovDelivery*
2. *https://indianexpress.com/article/explained/beca-india-us-trade-agreements-rajnath-singh-mike-pompeo-6906637/*
3. *https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/15/joint-leaders-statement-on-aukus/*
4. *http://www.kiips.in/research/protection-from-chinas-comprehensive-national-power-requires-comprehensive-national-defence/*
5. *https://www.c4i.org/unrestricted.pdf*
6. *https://2017-2021.state.gov/military-civil-fusion/index.html*
7. *https://www.usmcu.edu/Portals/218/Political%20Warfare_web.pdf*
8. *https://csbaonline.org/uploads/documents/Winning_Without_Fighting_Annex_Final2.pdf*
9. *https://www.sundayguardianlive.com/news/china-buys-foreign-politicians-case-study*
10. *https://www.aspistrategist.org.au/solomon-islands-and-kiribati-switching-sides-isnt-just-about-taiwan/*
11. *https://news.yahoo.com/only-one-china-nicaragua-declares-172701614.html*

INDIA'S UNIQUE POSITION IN THE INDO-PACIFIC

Many countries across the Indo-Pacific have economies and societies that are much more like India's than western nations' or China's. The products and services of the U.S., Australia and Japan are often more expensive than the majority of the population can afford. This is why Chinese services and products can so easily take over markets, especially since China's economic expansion is facilitated by the Chinese state.

Often overlooked until it's too late is the fact that along with Chinese services and products comes the PRC way of doing business, which usually involves extracting most of the profit from the target country. For example, infrastructure contracts commonly go to Chinese companies using Chinese workers, and the Chinese products are sold through shops run by recently-arrived Chinese who send their profits back to China.

To achieve true human security and strategic independence that underpin a free and open Indo-Pacific, countries across the region need a third option, especially in foundational sectors, one that is more affordable and appropriate than what is offered by the west, and less exploitative and destabilizing than what is offered by China. In a wide range of key sectors – education, healthcare, telecommunications, transport, renewable energy, information technology, agriculture, and others – India is uniquely well placed to work with partners in the region to build the human and economic infrastructure required for security, prosperity and freedom in Indo-Pacific.

This is well understood in the region, where desire for more Indian engagement is often stated.[12] While India's affordable and adaptable goods and services are an attraction, its social compatibility with countries is even more fundamental. For example, while the one-child policy has distorted demographics and destroyed the extended family in China, the extended family is critically important economically, socially, and even politically in countries across the region – including Indonesia, Thailand and the Philippines – as it is in India. For many in the Indo-Pacific, India just seems more familiar than China or western countries.

WHY HASN'T INDIA MET THE DEMAND?

Reasons Indian engagement has been limited include its Ministry of External Affairs is overstretched, its business sector tends to be inward-looking and its government has made only limited efforts to promote Indian businesses abroad.

In addition, other countries, even India's partners, sometimes see Indian engagement as competition. For example, low-cost pharmaceuticals from India, which could offer countries in the region an affordable and safe alternative to Chinese pharmaceuticals, can be perceived as a threat by western pharmaceutical lobbies.

This short-sightedness is reminiscent of the fable of the dog with a bone in his mouth that sees his reflection in a pool of water and opens his mouth to grab the "other dog's" bone, in the process losing his. By grabbing at illusory or small economic "wins" in the Indo-Pacific, western countries risk losing much more as they can undermine regional human security contributing to destabilization, make offers from Beijing look more attractive, and gain a reputation as unreliable partners. At this point in history, larger strategic priorities must trump niche economic gains.

12. https://www.chathamhouse.org/2021/03/indo-pacific-strategies-perceptions-and-partnerships/06-tonga-and-indo-pacific

BUILDING THE MODEL

India and its partners need a comprehensive and equitable cooperation model to achieve true regional security. A first step could be to focus on working initially with one geographic area where relatively small efforts can yield major results, and then expanding the model based on lessons learned.

One part of the Indo-Pacific where this could be quickly implemented is in the countries of Oceania. There are close to twenty independent countries in this vast strategic region roughly in a triangle between Hawaii, Japan and New Zealand. Many of the countries have small populations but control vast exclusive maritime economic zones. They also have votes in the United Nations.

This region is a priority target area for China, as seen by its recent moves in Solomon Islands and Kiribati. Having looked closely at the battle map of World War Two, Beijing knows controlling the islands is key to cutting the U.S. off from Asia, and isolating Australia and Japan. It is also a major nexus of undersea cables.[13] It has been successfully consolidating its position in the region through deft and concerted political warfare.

Concern over increasing Chinese influence in the area has resulted in a flurry of activity from India's Quad partners, the U.S., Australia and Japan. Recently, Australia deployed troops to Solomon Islands, and Japan has announced it will be opening an embassy in Kiribati.

India's unique offerings were brought to the fore when the Quad announced its vaccine initiative, built around India's production capacity and highlighting outreach to the Pacific Islands. But there is much more to be done. Some examples are:

Environmental protection. Many countries in Oceania have ecologies that are similar to South India and India's islands. Some of the effective and low-cost construction, anti-erosion, cyclone-proofing, rainwater harvesting, and other technologies and techniques it has developed in those areas would translate well to region. It would also dovetail well with mutual concerns about climate change.

Institution building. Most countries in Oceania are English speaking, or have English as a second language, and many have parliamentary and legal systems that are similar to India's. Exchanges with legal experts and parliamentarians would build understanding and expertise, and could contribute to pushing back on China's attempts to shape and control international rules and norms.

Medical, veterinary, aquaculture, dental training. Most countries in Oceania are understaffed in these areas and have similar concerns – including tropical illnesses and high diabetes rates – as India. Access to education in India is one option, but even better would be for India to set up educational facilities in the region.

Intelligence training and sharing. Currently most countries in the region have limited access to intelligence sharing, even though they are targets of serious organized-crime networks. They also often have to off-shore their forensic testing due to limited testing facilities. In many cases, Chinese organized crime – including gambling, money laundering, drugs, and prostitution – enters the countries of the Pacific along with PRC commercial and strategic interests. Cooperation in addressing this socially, and politically, destabilizing problem would be very helpful.

13. https://www.gatewayhouse.in/wp-content/uploads/2021/08/Quad-Economy-and-Technology-Task-Force-Report_GH_2021.pdf

There are myriad other examples. The question is how to start the process, given the limitations. In this case, looking to see how China has done it may be helpful.

Rather than centralizing Oceania engagement in Beijing, where it could be lost in "noise" of the capital, the PRC largely delegates Oceania outreach to its coastal province of Guangdong. This was a smart move for several reasons. Success in Oceania became important for leaders in Guangdong, who wanted to prove their worth to their bosses in Beijing; the climate was similar; and it was easier to develop a dedicated network of Chinese businesspeople and academics in Guangdong who would build relationships over the long-term with people of the region.

Similarly, it might make sense for Tamil Nadu or Kerala to take the lead on outreach to the Pacific Islands. Ideally, a chamber of commerce-style organization could be set up to facilitate trade, maritime security training could be facilitated with India's new Maritime Theatre Command[14] (and through that with the Quad), and think tanks and universities could take the lead on academic exchanges and possibly on setting up branches in the region (Guangdong has two research institutes dedicated to the Pacific islands[15]). This effort should be self-supporting; many leaders in the region wants reliable, viable and equitable trade more than they want drip-fed aid.

Many of the countries of the Pacific have very limited government budgets to facilitate activities like this, so a "Pacific House" could be established in New Delhi where representatives from Oceania can stay, enhance diplomatic coordination and move projects forward. Increased Indian representation in the Pacific islands also would be helpful.

Given the limited Indian diplomatic outreach in Oceania, it might make sense for key Government of India nodes to co-locate with partners. For example, Quad partner Japan is highly respected in Oceania, especially for its aid projects, but while it excels in infrastructure development (building hospitals, schools, etc), it does less well with human infrastructure; while Japan built a hospital in Tonga, for instance, China ended up sending doctors to staff it. It would have been better for the people of Tonga, and for Japan, if the doctors been Indian or, even better, Tongans trained in India or at an Indian medical school set up in the region.

Japan's excellence in hard infrastructure, combined with India's strength in building human infrastructure, could benefit many in the region. Such partnerships could be facilitated by, for example, representatives from India's world-leading development, trade, investment and technology research institute, Research and Information System for Developing Countries (RIS), who could co-locate at Japanese embassies in the region.

14. https://www.financialexpress.com/defence/maritime-theatre-command-by-next-year-navy-chief/2381480/
15. http://dpa.bellschool.anu.edu.au/sites/default/files/publications/attachments/2020-02/dpa_in_brief_2020_2_zhang_final.pdf

BOTTOM LINE: INDIA, THE QUAD AND OCEANIA

Oceania is on the front line of Chinese political warfare. It is a region that the PLA Navy must control if it is to have dominance in the Indo-Pacific. If it is not stopped there, Beijing's ability to project power moves ever closer to the shores of India, Australia, Japan and the U.S.

Chinese advances have been made possible by the comprehensive nature of its engagement – in particular, its strategy of using economics as an entry point. But Beijing is destabilizing the region.[16] Local leaders know this and want options. Among the Quad countries, only India can give China a run for its money in affordable and appropriate economic engagement.

For a free, open and prosperous Indo-Pacific, India – supported, or at least not hindered, by its Quad partners – must play a bigger role in creating options for the countries of Oceania. It is truly indispensable for stability in the region, and beyond.

16. *https://www.theaustralian.com.au/world/chinese-money-used-to-sway-mp-votes-for-solomon-islands-prime-minister-manasseh-sogavare/news-story/dd003f3f2b518c305ef10bf4c89f1b70*

Extending India's Maritime Security Strategy in the Indo-Pacific

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**The contents of this paper are the personal views of the author, and do not reflect the official position of the Indian Navy or the Government of India.*

07

INTRODUCTION

India's early support for the Indo-Pacific construct is a natural extension of its approach in the Indian Ocean Region (IOR), which expands regional policies like "Neighbourhood First" and "Act East" (formerly Look East) to the entire geo-strategic and economic region that connects the two oceans. India's maritime security strategy in the IOR thus points to its agenda in the larger Indo-Pacific region.

India has always regarded the seas as important for trade and connectivity. 90% of the country's trade by volume and almost all its oil imports come via the ocean. Unsurprisingly, prior to 2008, New Delhi's maritime security strategy predominantly focused on safeguarding Sea Lines of Communications (SLOCs) and Humanitarian Assistance and Disaster Relief (HADR) operations. Since independence, India's growth as a maritime power was largely overshadowed by terrestrial security threats. Notwithstanding a continental security mindset and frequent landward military encounters with Pakistan and China, the Indian Navy has continued to grow at a modest pace in both capacity and capabilities to operate farther away from its shores. However, since then, India has increasingly envisioned itself as a Net Security Provider to the island nations in the region.[1]

INDIA'S EVOLVING MARITIME SECURITY STRATEGY

Three distinct events have shaped India's maritime security outlook within the IOR. These include:

• Terror strikes from sea

The 26/11 terrorist attacks in Mumbai in 2008 led India's national security establishment to overhaul traditional maritime security mechanisms and responses. The Indian Navy was entrusted with the responsibility of overall maritime security, including coastal and offshore security.

• Maritime Piracy

The rise of piracy and armed robbery in the past decade has posed a significant threat to international shipping and seafarers – a particular concern for India since it accounts for the second-highest number of seafarers in the world. The recent spate of attacks on merchant vessels by non-state actors has only enhanced the need for greater presence by maritime law enforcement agencies. Since October 2008, the Indian Navy has maintained a ship on continuous patrol in the Gulf of Aden. While piracy is a real concern, it also is a convenient justification for countries interested in increasing their military presence in the Indian and Pacific regions. Indeed, many of the 44 countries, including China, that have deployed naval forces in the Indian Ocean and have cited piracy as the reason.

• Growing Chinese presence in IOR

Since 2008, China has projected a near permanent presence in the IOR. China's Belt and Road Initiative and its allied Maritime Silk Route initiatives, though economic, have obvious geopolitical purposes. Since their inception, India is the only major power that has consistently opposed them, citing concerns that involve sovereignty, financing standards, project sustainability and transparency.[2] At the August 2021 debate on maritime security at the UN Security Council, PM Narendra Modi[3] emphasized the importance of physical sustainability and absorption capacity of the host countries and the need for global norms and standards.

1. *http://www.pibmumbai.gov.in/scripts/detail.asp?releaseId=E2011PR1583*
2. *https://mea.gov.in/media-briefings.htm?dtl/28463 Official+Spokespersons+response+to+a+query+on+participation+of+India+in+OBORBRI+Forum*
3. *https://www.mea.gov.in/Speeches-Statements.htm?dtl/34151/English_translation_of_Prime_Ministers_remarks_at_the_UNSC_HighLevel_Open_Debate_on_Enhancing_Maritime_Security_A_Case_For_International_Cooperation_A*

Meanwhile, China has stationed a task force of three ships in the Gulf of Aden for anti-piracy operations. It docked a submarine in 2014 at Colombo port,[4] opened a military base in Djibouti, and acquired 99-year lease rights over Hambantota port in 2017.

In the last five years, China's Navy has added more than 90 major combatant platforms and is expected to grow to 400 ships by 2025.[5] In pursuit of its stated goal to transform its mission from "defense of near seas to protection missions in the far seas,"[6] PLA Navy ships have made 20 port visits in IOR every year[7] since 2010. Under its current force posture, the PLA Navy is capable of maintaining 18 ships in the region.[8]

China also has increased infrastructure investments in the region through its signature Belt and Road and Maritime Silk Route initiatives. Increased military and economic engagement in the IOR are crucial to China's growing influence on established regional orders and alignments.

MARITIME SECURITY CHALLENGES IN IOR

Maritime security issues in the West Pacific Ocean are centered around territorial maritime disputes, whereas non-traditional security threats take precedence within the IOR. This difference was on full display at the 9th August 2021 open debate on Enhancing Maritime Security: A Case for International Cooperation,[9] as regional powers focused more on "non-traditional" threats like piracy, over-fishing, human and arms trafficking, narcotic smuggling and climate change, while Western nations focused on "traditional" threats posed by state actors like China, Russia and Iran. India presided over the event.

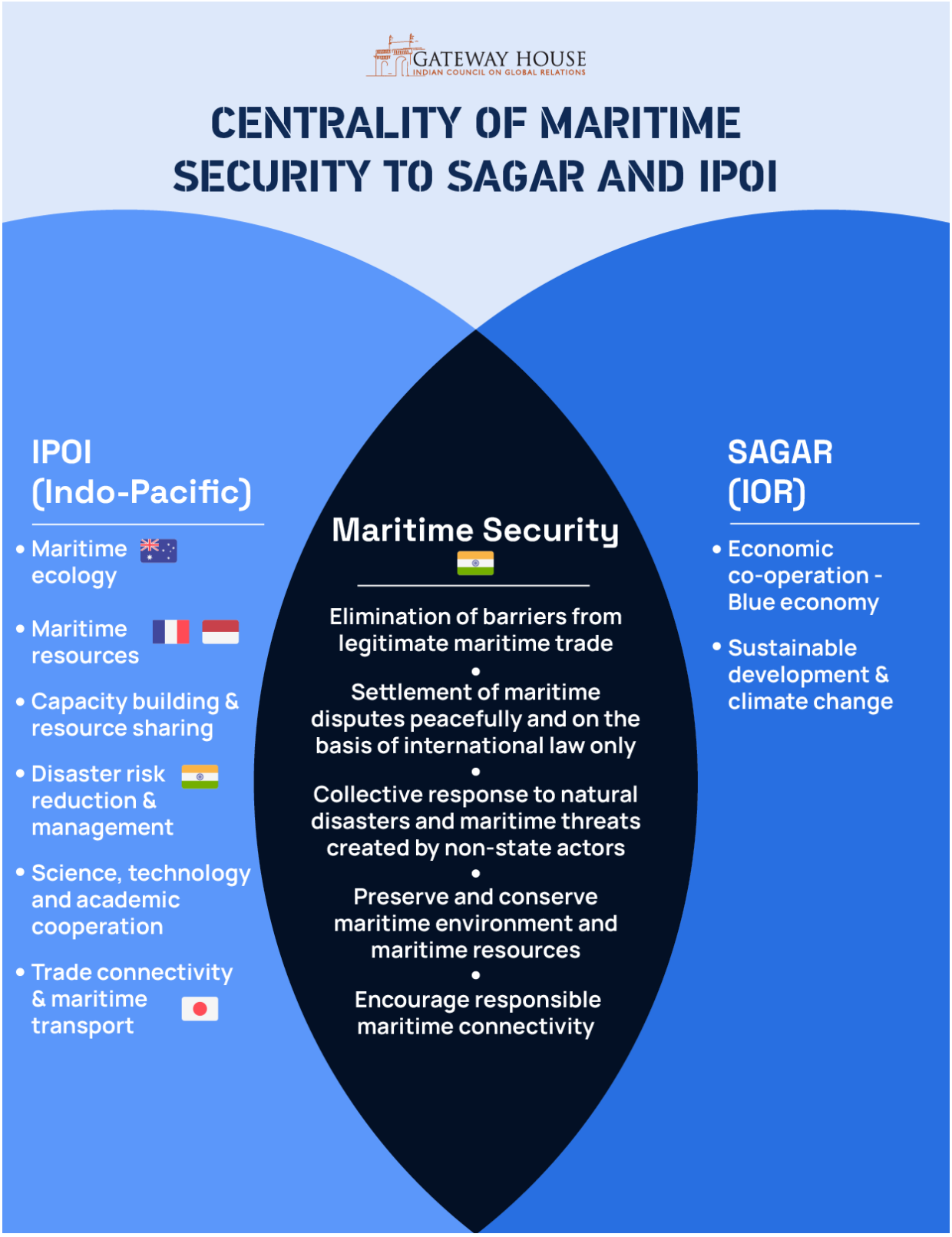
INDIA'S APPROACH TO MARITIME SECURITY

India is a founding member of the Indian Ocean Rim Association (IORA), which was established in 1997. Traditionally, the IORA focused on enhancing economic cooperation and did not include maritime security as a focus area. In 2011, when India held the IORA chair, maritime safety and security was identified as a key focus area for the forum.[10]

Subsequently, Security and Growth for All in the Region (SAGAR), which was espoused in March 2015,[11] and the Indo-Pacific Oceans Initiative (IPOI),[12] which was announced by Prime Minister Narendra Modi at the November 2019 East Asia Summit, have become India's holistic strategies for IOR and the larger Indo-Pacific. Both strategies identify maritime security as a fundamental pre-requisite for a safe, secure, stable and prosperous maritime domain. Amplifying India's strategy on maritime security, India in August 2021 set forth at the UN Security Council five principles[13] for creating broad-based convergence on maritime security.

4. *https://www.mea.gov.in/rajya-sabha.htm?dtl/24359/Q+NO+516+CHINESE+SUBMARINES+DOCKED+IN+SRI+LANKAN+PORT*
5. *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress, August 2021, available at: https://fas.org/sgp/crs/row/RL33153.pdf*
6. *China's National Defense in the New Era, July 2019, Available at: https://www.andrewerickson.com/2019/07/full-text-of-defense-white-paper-chinas-national-defense-in-the-new-era-english-chinese-versions/*
7. *Chinese Military Diplomacy, 2003–2016: Trends and Implications, Kenneth Allen, Phillip C. Saunders, and John Chen, Available at : https://ndupress.ndu.edu/Media/News/Article/1249864/chinese-military-diplomacy-20032016-trends-and-implications/*
8. *China Maritime Report China Maritime Report No. 11: Securing China t No. 11: Securing China's Lifelines across the Indian Ocean, Jeffrey Becker, available at : https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1010&context=cmsi-maritime-reports*
9. *https://pib.gov.in/PressReleasePage.aspx?PRID=1743814*
10. *https://www.mea.gov.in/Portal/ForeignRelation/IORA_new.pdf*
11. *https://www.mea.gov.in/Speeches-Statements.htm?dtl/24912/Prime_Ministers_Remarks_at_the_Commissioning_of_Offshore_Patrol_Vessel_OPV_Barracuda_in_Mauritius_March_12_2015*
12. *https://www.mea.gov.in/Speeches-Statements.htm?dtl/32171/Prime_Ministers_Speech_at_the_East_Asia_Summit_04_November_2019*

Figure 1 – Centrality of Maritime Security Strategy to India's SAGAR and IPOI



Source – Gateway House Research

India has rightfully taken leadership of two of the seven IPOI pillars – Maritime Security and Disaster Risk Reduction and Management.[14] Key elements of the proposed Maritime Security pillar include: elimination of barriers to legitimate maritime trade, peaceful settlement of disputes, response to natural disasters and threats from non-state actors, maritime environment, and maritime connectivity.

• Elimination of barriers to legitimate maritime trade

Free-flow of maritime trade is crucial to global prosperity. India, in particular, relies overwhelmingly on the seas for its external trade and for meeting its energy needs. The Indian Ocean is host to some of the busiest maritime transportation links, representing about half of the world's container traffic, one-third of world's bulk cargo and two-thirds of oil shipments. The fact that three quarters of this traffic heads to destinations beyond IOR underscores the vitality of India's role in ensuring free-flow of maritime trade through the region's International Shipping Lanes (ISLs).

Piracy has emerged as the primary threat to legitimate maritime trade. Since 2008, the India has been an active member of the 60-country Contact Group on Piracy off the coast of Somalia. The Indian Navy has deputed ships on more than 84 occasions[15] for anti-piracy operations and has thwarted more than 50 piracy attacks.

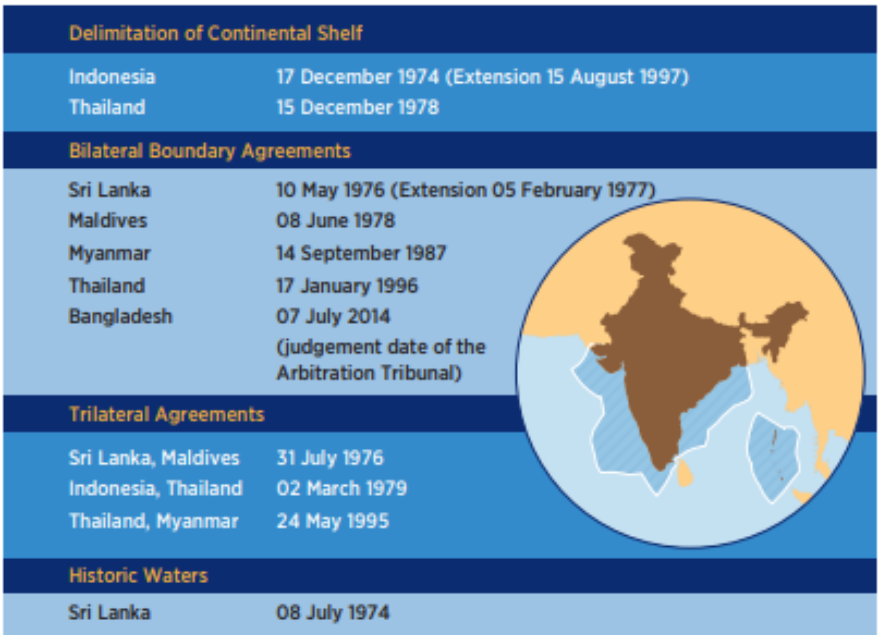
Since its inception in 2006, India has been a contracting party to the Singapore-based Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP). In September 2020, India also joined the Djibouti Code of Conduct/Jeddah Amendment as an observer;[16] the code provides a basis for co-operation against piracy and armed robbery. In recognition of the need for greater collaboration, India and EU Naval Forces held a maiden anti-piracy exercise[17] in the Gulf of Aden in June 2021. These efforts reflected India's leadership and multi-aligned approach for protecting trade flows.

• Peaceful settlement of maritime disputes on basis of international law

India has been a responsible and law-abiding member of the rules-based international order. It has adopted a dialogue-based approach to resolving maritime disputes with its neighbors without wielding its military might. When a dialogue-based approach has failed, India has accepted and abided by rulings of the Arbitration Tribunal, as it did in 2014 to resolve maritime disputes with Bangladesh.[18] India ceded to Bangladesh19,467 square kilometers of a 25,602 square kilometer contested sea area in the Bay of Bengal. In continuation of its track-record, in May 2019, India voted in favor of Mauritius on the UN General Assembly resolution that demanded the withdrawal of the United Kingdom's "colonial administration" from the Chagos Archipelago.

13. https://www.mea.gov.in/Speeches-Statements.htm?dtl/34151/English_translation_of_Prime_Ministers_remarks_at_the_UNSC_HighLevel_Open_Debate_on_Enhancing_Maritime_Security_A_Case_For_International_Cooperation_A
14. https://www.eoimanila.gov.in/speeches_detail/?id=22
15. Opening Remarks by Chief of the Naval Staff, Admiral Karambir Singh during the Annual Navy Day press conference on December 3, 2020, Available at : http://www.spsnavalforces.com/story/?id=702&h=andldquo;We-remain-committed-to-the-vision-of-andlsquo;Make-in-Indiaandrsquo;-and-andlsquo;AtmaNirbharataandrsquo;-in-the-Defence-Sectorandrdquo;
16. https://www.mea.gov.in/press-releases.htm?dtl/32977/India+joins+the+Djibouti+Code+of+Conduct+as+Observer
17. https://eeas.europa.eu/headquarters/headquarters-homepage/100358/eu-india-joint-naval-exercise_en
18. https://www.pcacases.com/web/sendAttach/383

Figure 2 – Settlement of India's Maritime Boundaries



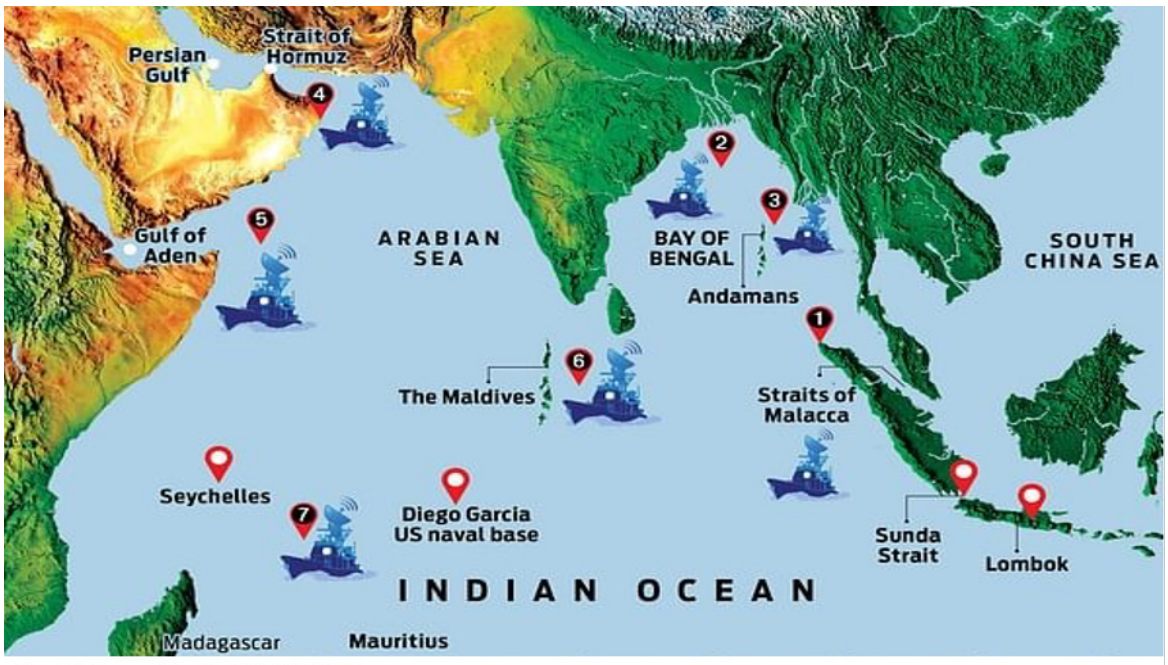
Source - Ensuring Secure Seas: Indian Maritime Security Strategy[19]

• Collective response to natural disasters and maritime threats created by non-state actors

India has established itself as a first responder[20] for Humanitarian Assistance and Disaster Relief (HADR) in the IOR.[21] On maritime threats emanating from non-state actors, establishing maritime domain awareness and sustained operational presence is key. While the Indian Coast Guard (ICG) is the primary maritime law enforcement agency in the Indian Exclusive Economic Zone (EEZ), the Indian Navy has increased its maritime presence in the IOR beyond its EEZ. Since 2017, the Indian Navy mission-based deployments[22] have facilitated enhanced Maritime Domain Awareness (MDA) and have provided swift HADR to the Indian Ocean Region littorals and security to the international maritime community. Additionally, India has concluded White Shipping agreements with 22 countries, and set-up the Information Fusion Centre-Indian Ocean Region (IFC-IOR) in December 2018, which now hosts liaison officers from seven countries. IFC-IOR has secured White Shipping agreements with multiple countries in the region and aims to build confidence and capacity amongst partner nations, thereby ensuring swift and accurate exchange of information for comprehensive, real-time and shared MDA.

19. *https://www.indiannavy.nic.in/sites/default/files/Indian_Maritime_Security_Strategy_Document_25Jan16.pdf*
20. *https://www.mea.gov.in/Portal/IndiaArticleAll/63654896266686048O_Responding_First_Leading_Power.pdf*
21. *After the 2004 tsunami, India deployed 14 Navy vessels, nearly 1,000 military personnel and several dozen helicopters and airplanes to Sri Lanka. In 2007, in the aftermath of cyclone Sidr, India was one of the few countries allowed to provide relief to Myanmar, sending critical rice supplies to address food emergencies there. In 2014, the Indian Navy was the first to arrive in the Maldives to provide fresh drinking water to more than 150,000 of its citizens facing an acute supply crisis. More recently, in response to Cyclone More (2017), India was the first nation to respond to the devastating floods in Sri Lanka and Bangladesh. As reflected in relief provided to Pakistan in 2005 and 2010, Indian support is driven by a deep humanitarian drive that transcends political considerations. More recently, Mission Sagar, launched on 10 May 2020, was India's initiative to deliver Covid 19-related assistance to the countries in the Indian Ocean Region. The Indian Navy successively delivered assistance to maritime neighbours Maldives, Mauritius, Madagascar, Comoros and Seychelles in dealing with the Covid crisis. Mission Sagar was later extended to Sudan (November 2020), Vietnam and Cambodia (both in December 2020) and Vietnam, Indonesia and Sri Lanka (August 2021)*
22. *https://pib.gov.in/PressReleasePage.aspx?PRID=1646978*

Figure 3 – Indian Navy: Mission Based Deployments



Source: New Indian Express[23]

The Indian Ocean Naval Symposium (IONS), conceived by the Indian Navy, seeks to enhance maritime cooperation among Navies of the littoral states of the IOR by providing an open and inclusive forum for discussion of regionally relevant maritime issues. The 24-member forum also includes Pakistan, showing that India's maritime security strategy transcends political considerations and is based on building collective maritime security capabilities. In continued pursuit of the collective ethos, in February 2021, India held the first IOR Defense Minister's conclave in Bengaluru; 26 of 28 countries in the IOR participated.[24]

- **Preservation of maritime environment and resources**

India is a member of the Indian Ocean Tuna Commission, which was established in 1993 to promote co-operation on management, conservation and utilization of fish stocks in the region.

23. https://www.newindianexpress.com/nation/2018/apr/01/indian-navy-informs-government-about-the-fleets-reoriented-mission-pattern-1795404.html
24. https://pib.gov.in/PressReleasePage.aspx?PRID=1695120

Closer to the Indian coast, the ICG is responsible for preservation and protection of the marine environment and control of marine pollution. Identifying the need for wider multinational co-operation to preserve the maritime environment and resources, the Indian Coast Guard has been an active member of the Heads of Asian Coast Guard Agencies Meeting (HACGAM) – a forum that focuses on search and rescue, environmental protection, prevention and control of unlawful acts at sea, and capacity building.

In April 2021, Australia joined India to co-lead the Marine Ecology pillar of the IPOI, which seeks to drive scientific collaboration and share best practice on reducing marine pollution across the Indo-Pacific, with a focus on plastic waste.[25] In the same month, India also joined a partnership between Norway, the International Maritime Organization (IMO) and the Food and Agriculture Organization (FAO) as one of the ten Lead Partnering Countries (LPCs).[26] The LPCs will take prime roles in their respective regions to champion national actions in support of the IMO Action Plan on Marine Litter. The partnership is led by GloLitter Partnerships (GLP).[27]

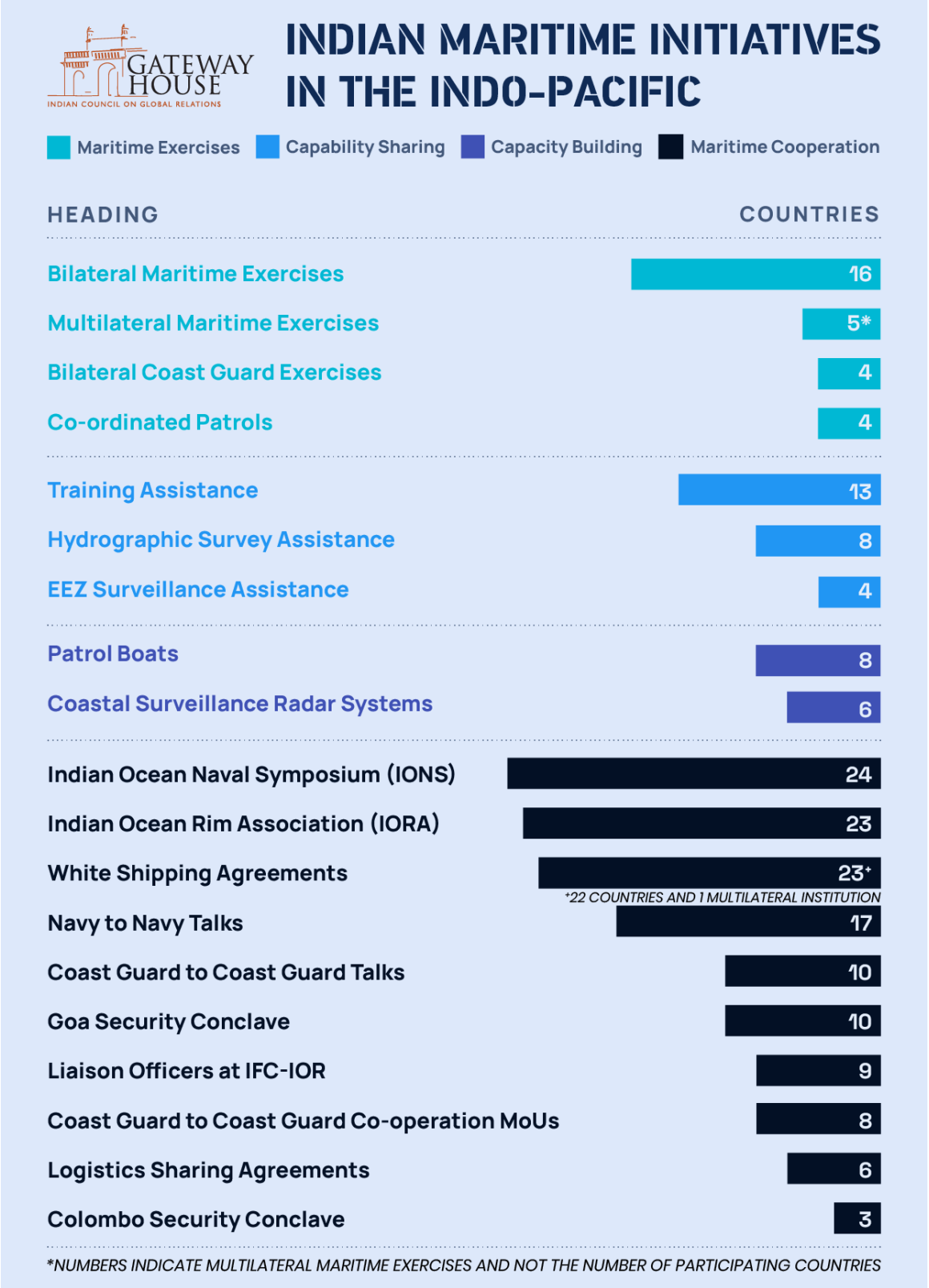
- **Responsible maritime connectivity**

India has been an active player in ushering responsible maritime connectivity in its neighborhood. It has been a part of maritime logistics projects in Sri Lanka, Maldives, Mauritius and Seychelles. India is also working with Myanmar on the Kaladan transport project, which improves trade links to Sittwe port in Myanmar. India also has entered into an agreement with Indonesia to develop a strategic port at Sabang,[28] which lies at the tip of Sumatra Island close to the Malacca Strait. In March 2020, India joined the five-island nation's Indian Ocean Commission (IOC) as an observer;[29] the commission focuses on sustainable development.

In 2019-20, India provided about 1.03 billion US dollars as grants,[30] most of which went to countries in the IOR. China, on the other hand, is estimated to have doled out 5.9 billion US dollars[31] as grants during the same period. India has therefore relied on Japan and, more recently, with the EU to provide alternate financing options for regional maritime partners. Japan joined India's IPOI as the lead partner for connectivity in Oct 2020.[32] In May 2021, India and EU launched the Connectivity Partnership,[33] which identified joint support for sustainable connectivity in third countries and regions as one of its key focus areas. Later, in June 2021, India joined the first India-Japan-Italy trilateral[34] discussions on the Indo-Pacific, which focused on maritime connectivity amongst other issues in the Indo-Pacific.

25. *https://india.highcommission.gov.au/ndli/AIIPOIP.html*
26. *https://www.imo.org/en/MediaCentre/PressBriefings/pages/GloLitter-Project-30-countries.aspx*
27. *https://www.imo.org/en/MediaCentre/HotTopics/Pages/marinelitter-default.aspx*
28. *https://www.mea.gov.in/distinguished-lectures-detail.htm?840*
29. *https://www.commissionoceanindien.org/presentation-coi/membres-observateurs-coi/*
30. *https://www.indiabudget.gov.in/doc/eb/vol1.pdf*
31. *https://www.jica.go.jp/jica-ri/publication/other/l75nbg000019o0pq-att/Estimating_Chinas_Foreign_Aid_2019-2020.pdf*
32. *https://mea.gov.in/press-releases.htm?dtl/33100/13th_IndiaJapan_Foreign_Ministers_Strategic_Dialogue*
33. *https://mea.gov.in/bilateral-documents.htm?dtl/33854/IndiaEU_Connectivity_Partnership*
34. *https://mea.gov.in/Speeches-Statements.htm?dtl/33924/Secretary_Easts_opening_remarks_at_the_IndiaJapanItaly_Trilateral_Webinar_on_IndoPacific_June_17_2021*

Figure 4 – Indian Maritime Initiatives in the Indo-Pacific



Source – Gateway House Research

CONCLUSION

India has an established IOR maritime security strategy that focuses on regional prosperity through collective management of non-traditional threats. Such a strategy is in line with India's rise as a peaceful maritime power and the aspirations of regional partners. Its first instinct will be to extend its this strategy, including its primarily focus on non-traditional maritime threats, to the larger Indo-Pacific region. Strengthening capacity and capabilities in the maritime domain is now considered a vital element in India's Comprehensive National Power.

This suggests that India is likely to adopt a two-pronged strategy for maritime security, relying on multi-aligned partnerships for non-traditional maritime security threats in the Indo-Pacific and the Quadrilateral Security Dialogue ("Quad"), a partnership among the United States, Japan, Australia and India, for both traditional as well as non-traditional threats.

Great-power competition in the Indo-Pacific is a cause of concern for regional powers. India has adapted to this geo-political change, and is consciously moving away from its traditional non-aligned approach to a multi-aligned one. Speaking at the 21st IISS Fullerton Lecture in Singapore in 2015, then-Foreign Secretary Dr S Jaishankar stated that India aspires to be a leading power, rather than just a balancing power, and thus is increasingly willing to shoulder greater global responsibilities.[35]

Trilateral formats, including India-Australia-Japan, India-Australia-France, India-Japan-Italy, India-Australia-Indonesia, and India-Sri Lanka-Maldives,[36] as well as the Forum for India–Pacific Island Cooperation (FIPIC), reflect India's attempts to build regional frameworks that exist outside great-power competition. Such collaborative formats are likely to find greater acceptance in a region increasingly shadowed by great power competition.

India is a near, yet non-resident power in the Pacific. It acknowledges that a safe, secure and stable maritime space in the Indo-Pacific is a necessary condition for peace, security and prosperity, and disputes over ownership and rights pose a security challenge.[37] The Quad seems to be India's primary instrument to counter traditional maritime security threats as it seeks to expand its influence and role beyond the IOR. In March 2021, India signed the joint Quad Leader's statement, which explicitly cited the need for cooperation in overcoming challenges to the rules-based maritime order in the East and South China Seas.[38]

Since 2010, India has sent more than 40 warships to South China Sea, averaging four warships a year. India has also significantly increased the number of bilateral maritime exercises with nations in the Indo-Pacific. The reciprocal logistics agreements signed by India with six nations are not one-sided. India not only hopes to enhance capabilities of maritime partners, but also expects to utilize these agreements to further bolster its maritime presence beyond IOR and into the Pacific. The fact that India welcomed the September 2020 U.S.-Maldives Defense Agreement[39] is a sign of India's increasing strategic alignment with the U.S. and a broader strategy adopted by many regional powers to dilute Chinese influence.[40]

35. *https://mea.gov.in/Speeches-Statements.htm?dtl/25493/IISS_Fullerton_Lecture_by_Foreign_Secretary_in_Singapore*
36. *https://www.hcicolombo.gov.in/s?id=eyJpdiI6IlwvTnkrakdXZVdqZlAyXC93ajZoSVc0dz09IiwidmFsdWUiOiIwRmhwMU5nR0lzanVOdGRwNG5GZ2ZBPT0iLCJtYWMiOiIxNGI0ZGJlZTc1NmQ5OWQ3NzQ0ODg1ZGU4Y-zlIMTAzMzk0MThiZDU4MzZlMGI5NTQzNzI4MzQxYzcxMTVmZjI1In0=*
37. *https://mea.gov.in/Speeches-Statements.htm?dtl/33309*
38. *https://mea.gov.in/bilateral-documents.htm?dtl/33620/Quad+Leaders+Joint+Statement+The+Spirit+of+the+Quad*
39. *https://www.defense.gov/Newsroom/Releases/Release/Article/2344512/the-maldives-and-us-sign-defense-agreement/*
40. *https://nsc.crawford.anu.edu.au/sites/default/files/publication/nsc_crawford_anu_edu_au/2019-08/ap14-3-medcalf-july2019.pdf*

Despite being the largest Navy in the IOR, the Indian Navy is increasingly identified as a stabilizing force in the IOR and the larger Indo-Pacific. Going forward, India's maritime security strategy in the Indo-Pacific will strive to strike a balance between its own articulation of *Collective Maritime Security*[41] focused on non-traditional threats and the U.S.-led *Integrated Deterrence*[42] focused on traditional threats in the maritime domain.

41. https://pib.gov.in/Pressreleaseshare.aspx?PRID=1695245
42. https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/2711025/secretary-of-defense-lloyd-j-austin-iii-participates-in-fullerton-lecture-serie/

India's Current and Potential Contribution to Cyber Resilience in the Indo-Pacific

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08

INTRODUCTION

Across the Indo-Pacific, countries are harnessing information and communication technologies (ICT) for a wide range of economic and social purposes. But their increased dependence on ICT has also created opportunities for malicious state and non-state actors to breach computer networks, steal sensitive data and disrupt critical infrastructure.[1] The onset of COVID-19 has only deepened this threat, as cyber saboteurs have capitalized on the pandemic to carry out debilitating cyberattacks. India, as a leading democracy and digitized society, has offered its expertise and technologies to like-minded countries in the Indo-Pacific region. This article examines its role in strengthening the region's cyber resilience in the face of evolving cyber threats, and suggests ways India can expand its critical role by developing cyber norms and focusing on practical initiatives like capacity-building and technical exchanges.

REGIONAL CYBER THREATS TODAY

Cyber threats have steadily expanded in the Indo-Pacific during the last decade. While part of the broader security challenges in the region, cyber threats have two distinct dimensions: cyberattacks perpetrated by state and non-state actors with geopolitical motives, and offenses committed by cybercriminal syndicates with occasional support and involvement of state actors.

Malicious activities of state actors

China has emerged as the leading malicious state actor, responsible for several cyberattacks on critical national infrastructure (including election infrastructure), advanced persistent threat (APT) vectors used for espionage, and disinformation campaigns against its adversaries, including India, Japan, Vietnam, South Korea, and Taiwan. Beijing has executed these attacks as part of its 'grey zone operations' strategy to intimidate and coerce its adversaries and send political signals without engaging in direct military conflict.

North Korea and Iran also pose cyber threats. Pyongyang and its proxies like the Lazarus group, a cybercriminal syndicate, have perpetrated several cyberattacks targeting South Korean and Japanese computer networks and financial institutions, as well as several targets worldwide.[2] Likewise, Iran has used cyber tools and proxies to target Saudi Arabia, Israel, and the United States; it also has been the target of multiple cyberattacks.[3]

Despite growing awareness about cybersecurity, countries lack adequate budgetary resources and technical skills to harden their cyber defenses adequately. A lack of real-time cooperation between the region's law enforcement agencies, deficient cyber forensic capabilities, and varying legal practices add to the gravity of the situation. Such problems, combined with the sheer tenacity of the malicious state actors in mapping out their adversaries' vulnerabilities, ensures a continuing risk of debilitating cyberattacks.

1. *Sameer Patil, Securing India in the Cyber Era, Routledge, London and New York, 2022, p. 1.*
2. *Daniel A. Pinkston, "North Korea's Objectives and Activities in Cyberspace", Asia Policy, Vol. 15, No. 2, April 2020, pp. 76–83.*
3. *"Publicly Reported Iranian Cyber Actions in 2019", Center for Strategic and International Studies, https://www.csis.org/programs/technology-policy-program/publicly-reported-iranian-cyber-actions-2019*

Cybercriminal syndicates' malfeasance

Capitalizing on the proliferation of malicious software codes and hacking tools, cybercriminal syndicates have executed penetrating attacks targeting nation-states and businesses. The unprecedented COVID-19 global health emergency has created additional opportunities for cyber malfeasance. Over the last 18 months, malware (malicious software), "watering hole" attacks (targeting websites used by a specific set of users or enterprises), and phishing (fraudulent attempts to steal sensitive personal user data by disguising websites or emails as a reputable source) have emerged as the top cyberattack techniques. Primary victims have been smaller enterprises; one study by Cisco Systems found that one in two small and medium-sized businesses across the region have suffered a cyber intrusion in the past year.[4]

In carrying out these attacks, cybercriminal syndicates exploit inadequate cyber hygiene and lack of awareness of cybersecurity. Many businesses continue to lack financial and technical resources and knowhow to protect themselves from cyber risks.[5]

Regional endeavors

Countering cyber threats has been high on the agenda of the countries in the Indo-Pacific. Leading digital democracies in the region – Australia, India, Indonesia, Japan, South Korea, and Taiwan have strengthened their domestic legislative and regulatory frameworks in response to rising cyberattacks. For instance, in recent years, Taiwan has created an extensive network of institutions under the National Defense and Justice Investigation Bureau ministries; enabling it to better withstand rampant cyber threats from China.[6] Likewise, Japan has focused on augmenting its cyber capabilities in response to attacks from China and North Korea.[7]

Meanwhile, the Association of Southeast Asian Nations (ASEAN) convened the first meeting of member-states' ministers responsible for cyber and digital issues. Held virtually on January 22, 2021, the meeting emphasized the region's Computer Emergency Response Teams (CERTs) to strengthen cooperation in exchanging information on cyber threats.[8]

INDIA'S ROLE IN INDO-PACIFIC'S CYBER RESILIENCE

With the world's second-largest internet user base and an advanced technology sector, India has elevated its cyber profile in the last decade by making cyber security a domestic policy priority and by sharing its expertise and experience with other countries in the Indo-Pacific.

4. *"Cybersecurity for SMBs: Asia Pacific Businesses Prepare for Digital Defense", CISCO Secure, September 2021, https://www.cisco.com/c/dam/global/en_sg/products/security/assets/data/cybersecurity-for-smbs-asia-pacific-businesses-prepare-for-digital-defense.pdf*
5. *Sameer Patil and Sagnik Chakraborty, "A Cybersecurity Agenda for India's Digital Payment Systems", Gateway House Paper no. 20, September 2019, https://www.gatewayhouse.in/digital-payment-system/*
6. *Sameer Patil, "The India-Taiwan Imperative for Cybersecurity Cooperation," Asia Insights, No. 15, June 2021.*
7. *"In first, Japan names China, Russia and North Korea as cyberattack threats", The Japan Times, 27 September 2021, https://www.japantimes.co.jp/news/2021/09/27/national/cyber-attacks-measures/*
8. *"The 1st ASEAN Digital Ministers' Meeting and Related Meetings", Association of Southeast Asian Nations, 22 January 2021, https://asean.org/wp-content/uploads/16-ADOPTED_Joint_Media_Statement_of_the_1st_ADGMIN_cleraed.pdf*

India's cyber successes

In its recent Global Cyber Security Index, the International Telecom Union ranked India in the 10th position globally (up from 47th in 2018) and 4th in the Asia Pacific (up from 10th in 2018). India moved up these rankings through its steady focus on securing core digital infrastructure, protecting citizens' data, and expanding cyber forensic capabilities.[9] In 2015, India created the post of National Cyber Security Coordinator, which has achieved better—if not ideal—inter-agency management and information sharing on cyber issues. As a result, India has successfully prevented any large-scale disruptive cyberattack like ones seen in Estonia and Georgia in 2007 and 2008, respectively.

To fight the menace of cybercrime, India also is stepping up its cyber forensic capabilities by setting up cyber forensic labs and centers in academic institutions.[10] In addition, many universities like Gujarat Forensic Sciences University and SRM University have begun offering cyber forensics courses. More than 28,000 police and law enforcement officials have received the training. This has significantly augmented capacity in cybercriminal investigations and resolution of cybercriminal cases.[11] According to the Ministry of Home Affairs, the Indian Cyber Crime Coordination Centre, the federal agency for tackling cybercrimes, has collaborated with trained law enforcement officials to recover Rs. 12 crores stolen in various cybercrime cases since 2018.[12] This may be a small amount compared to the money lost due to cybercrime, but it gives some assurance to cybercrime victims that a successful resolution of their grievances is possible. This assurance has contributed to growing consumer usage of digital payment systems.

India has shared its domestic success on the cybersecurity front with other countries in the Indo-Pacific, as shown in Table 1 below. This engagement includes exchanges on best cybersecurity practices, capacity-building to protect critical infrastructure and on tackling threats posed by cybercrimes.[13]

Table 1: India's cyber engagements

Bilateral cyber dialogues	**Australia, Egypt, Japan, New Zealand, United States, ASEAN**
Bilateral cyber agreements and MoUs	Bangladesh, Japan, Jordan, Malaysia, Qatar, Singapore, South Africa, South Korea, Vietnam, Tanzania
CERT-India's foreign collaborations	South Korea, Japan, Mauritius, United States, Australia, Malaysia, Singapore, Vietnam, Bangladesh, Seychelles
Participation in technical forums	ITU's International Multilateral Partnership Against Cyber Threats, INTERPOL Global Complex for Innovation, Forum of Incident Response and Security Teams (Group of CERTs), Asia Pacific CERT, Global Forum on Cyber Expertise
Global forums	United Nations' Group of Governmental Experts

Source: Adapted from Patil (2022)

9. Patil, op. cit. pp. 18–21.
10. Rajnish Singh, "18 cyber forensic labs commissioned in India, more in pipeline", ANI, 23 July 2021, https://www.aninews.in/news/national/general-news/18-cyber-forensic-labs-commissioned-in-india-more-in-pipeline20210723150317/
11. Ibid.
12. ANI, "PM Modi-led govt's I4C wing saves over Rs 12-cr of cyber fraud victims since 2018", Lokmat, 9 September 2021, https://english.lokmat.com/national/pm-modi-led-govts-i4c-wing-saves-over-rs-12-cr-of-cyber-fraud-victims-since-2018/.
13. Patil, op. cit., p. 71.

Moreover, through its overseas assistance program, the Indian Technical and Economic Cooperation (ITEC) program, New Delhi offers courses on cyber, artificial intelligence, and other emerging technologies.[14] Initiatives such as these have contributed to expanding the cyber knowledge base among the like-minded countries in the Indo-Pacific.

Advancing India's contribution

Given the ever-advancing threat, New Delhi needs to enlarge its commitment to the Indo-Pacific by developing cyber norms and conceptualizing new ways for collaboration.

- **Norms for responsible state behavior:** India has always taken a proactive position at multilateral forums, putting forward concerns of developing countries about national sovereignty and economic growth. As a result, India is better-positioned than other countries to initiate a conversation with other Indo-Pacific countries to develop a common understanding of what constitutes responsible state behavior, violations of sovereignty, attribution for cyberattacks, and the right to self-defense against state-sponsored cyberattacks. As part of this conversation, New Delhi also can deliberate with like-minded countries by establishing a regional consultative mechanism for regulating the behavior of non-state actors and protecting critical infrastructure. Furthermore, by engaging smaller Indo-Pacific countries in a conversation on cyber norms, India can give these countries a sense of being stakeholders in cyberspace management.
- **Stress-test critical infrastructure by simulating cyberattacks:** To assess the capacity of the critical infrastructure to disruptive cyberattacks and ransomware attacks, India can join like-minded Indo-Pacific countries such as Japan, Taiwan, South Korea, and Australia in conducting real-world simulations of such attacks. This will help develop a regional response to persistent, offensive cyber operations and data breaches and identify areas that require capacity strengthening. Such action initially can cover the financial sector, which is a leading contributor to the region's economic growth and prosperity.[15]
- **Creation of a Cyber Action Task Force:** The lack of a pan-regional cybersecurity organization is a significant gap in the region's cybersecurity preparedness. India can facilitate creation of a Cyber Action Task Force, an organization similar to the Paris-based Financial Action Task Force. The Cyber Action Task Force can work with the national CERTs in the Indo-Pacific and technical experts from the industry to tackle cyber incidents. It also can share cyber threat intelligence and develop technical standards for critical infrastructure protection. The Cyber Action Task Force must include Taiwan to benefit from Taipei's experience of battling cyber threats.

CONCLUSION

India has a critical role to play in ensuring unhindered digital growth in the Indo-Pacific. Its collaborative approach stands in sharp contrast to countries pursuing cyberspace dominance. Moreover, its focus on bringing together all stakeholders to deliberate on norms and develop practical collaboration among the nations will ensure that New Delhi emerges as a consequential voice in shaping global debates on cybersecurity cooperation.

14. "Cyber Technologies, AI and Emergent Technologies", Indian Technical and Economic Cooperation Programme,
15. Quad Economy and Technology Task Force Report: A Time for Concerted Action, Gateway House Report, August 2021, https://www.gatewayhouse.in/wp-content/uploads/2021/08/Quad-Economy-and-Technology-Task-Force-Report_GH_2021.pdf, p. 30

SCIENCE & TECHNOLOGY

Digital Public Goods for the Indo-Pacific:

A Techno-legal Approach to Data Empowerment & Protection

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Executive Board Member,
MOSIP and Ambassador, iSPIRT

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09

INTRODUCTION

As data related to commerce and finance increasingly flows across borders, India's success in building digital platforms that are open, identity-based, affordable, adaptable, and accessible is receiving heightened attention – especially in the Indo-Pacific, the new arena for geopolitical and technological cooperation.

The India Stack[1] and Modular Open-Source Identity Platform (MOSIP)[2] encourages competition, innovation and inclusion while enabling developing countries to leapfrog the development phase for digital platforms as public goods. India's Unified Payments Interface (UPI) payment protocol, part of the India Stack, is being offered to countries in the Middle East and South East Asia, including Japan.[3] Now through MOSIP, the open-source, unique identity systems developed in India are being adopted and adapted by countries from Sri Lanka to Samoa and the Philippines,[4] and from Morocco[5] to Ethiopia.[6] With the growing use of this technology among middle-income and developing countries, India has taken a step forward, developing a techno-legal architecture for empowering owners of data generated by, and through, these systems. Called Data Empowerment & Protection Architecture, or DEPA, it will ensure that individuals have control over their own information and data under laws that allow its use to be audited and managed.

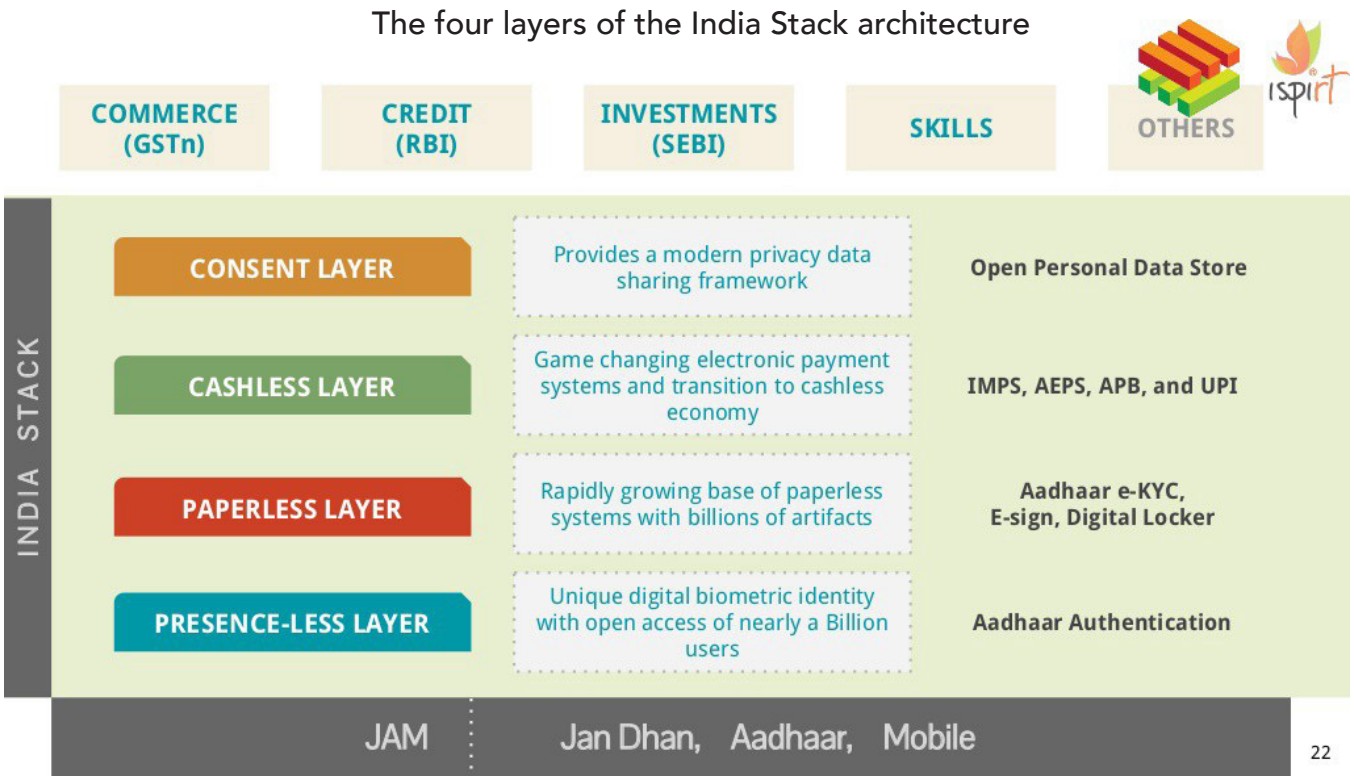
Deployment of DEPA began in September 2021, with signs of early success in overcoming limitations of both the proprietary technology systems of the U.S., which come with a high financial cost, and of China, which carry a high geopolitical cost. Unlike those systems, DEPA vests ownership of data and control over its management and usage in its original owners, individual and collective, not in service providers.

This holds great importance in the Indo-Pacific, the world's fastest-growing, most diverse, and therefore most data-rich region. India has the second-most digitized citizenry after China, and Indonesia is the world's third-largest user of social media,[8,9] while Kenya has overcome its lack of a robust banking system to become a global hub of fintech innovation.[10] As countries like India and the U.S. aim to make the Indo-Pacific a free, safe and open region, the Indian system's promotion of a free and open internet[11] with individual ownership and control of data, can become the norms by which Indo-Pacific nations can stay secure and open.

1. *http://indiastack.org/*
2. *https://www.mosip.io/*
3. *https://timesofindia.indiatimes.com/business/india-business/pay-via-upi-in-10-more-countries/articleshow/86184175.cms*
4. *https://www.mosip.io/news-events/mosip-enters-partnership-with-sri-lanka-on-digital-id-system*
5. *https://www.mosip.io/news-events/the-philippine-statistics-authority-psa-crosses-critical-milestones-for-the-philippine-identification-system-philsys*
6. *https://www.mosip.io/news-events/mou-between-government-of-morocco-and-iiit-b*
7. *https://www.mosip.io/news-events/iiit-b-ministry-of-peace-federal-democratic-republic-of-ethiopia-sign-mou-on-mosip*
8. *https://www.statista.com/statistics/1256213/indonesia-social-media-market-share/*
9. *https://info.petabencana.id/ https://hbr.org/2021/02/kenya-is-becoming-a-global-hub-of-fintech-innovation*
10. *https://hbr.org/2021/02/kenya-is-becoming-a-global-hub-of-fintech-innovation*
11. *https://www.state.gov/a-free-and-open-indo-pacific/*

THE PRINCIPLES OF A TECHNO-LEGAL APPROACH FOR MANAGING DATA

DEPA is based on the principle that individuals or enterprises should own their personal information, and therefore have authority to allow or disallow its use for political or commercial purposes. It is a natural progression of the India Stack, an open API-(Application Programming Interfaces, that allow apps to talk to each other) based technology architecture that links India's identity system to individual data, payments and government services. India Stack is already transforming India's economy.



Source: India Stack

The presence-less layer is based on India's Aadhar foundational identity; the paperless layer is based on digital storage, e-signatures and e-KYC; the cashless layer is based on digital payments, most notably the Unified Payments Interface (UPI), and the consent layer that enables the seeking and managing of consent is provided by the original owner of the data.

More commonly known as the 'Consent Layer of the India Stack,' Data Empowerment and Protection Architecture (DEPA) marks a paradigm shift in personal data management and processing that transforms the currently prevalent organization-centric system to a human-centered one. By giving people the power to control how their data can be used, DEPA is enabling the collection and use of personal data in ways that give individuals access to financial, healthcare, and other socio-economically important services in a safe, secure, and privacy-preserving manner.[12] The increased portability of secure data is democratizing access especially to socio-economic services.

12. *https://pn.ispirt.in/data-empowerment-and-protection-architecture-explained-video/*

DEPA covers all asset, liabilities, and telecom data. Its guiding principles[13] are:

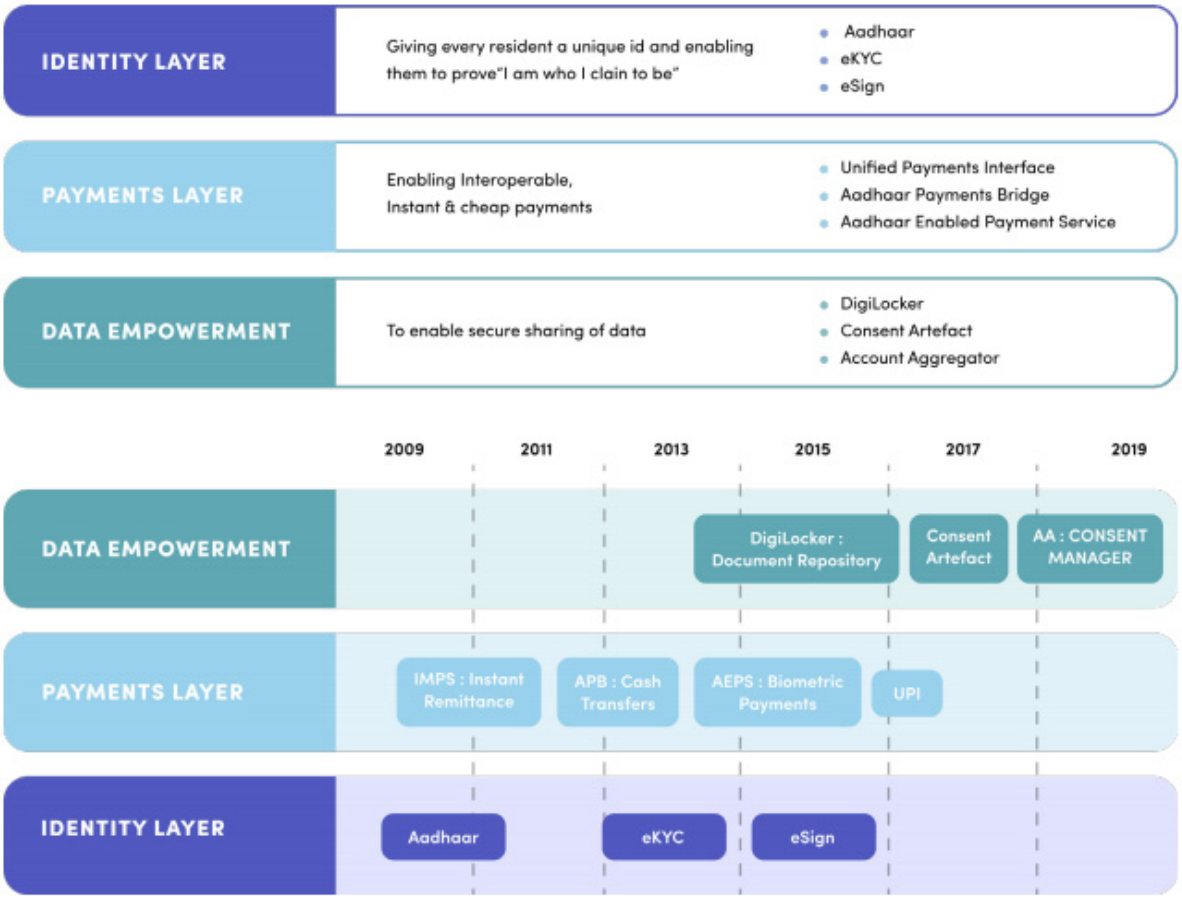
- Restoring individual agency
- Promoting informed consent for every data transaction (rather than blanket consent for data use)
- Building in accountability for institutional data controllers (so consent is not the only backstop)
- Building an open infrastructure for data sharing (minimizing bilateral or closed-loop networks)
- Building incentive alignment between new public or private institutions and the needs of individuals around their data Ensuring accessibility and affordability of data-sharing
- Remaining technology agnostic (through open standards)
- Supporting data minimization
- Ensuring reciprocity of data use and data provision (institutions cannot be users of data in the system without also being providers)
- Enabling other key data rights
- Ensuring evolvability of technology and institutions by design; and using penalties as deterrents to data misuse where required

A CLOSER LOOK AT THE INDIAN EXAMPLE

Over the last decade, India has disproven the notion that high-tech is just for the educated, privileged, and wealthy. With DEPA, it is now empowering individuals in the usage of technology and ownership of data. Its approach stands in sharp contrast to the corporation-centric approach of the developed west or the state-centered approach of China.

The first use cases for DEPA so far are in fintech – lending, wealth management, personal finance management[14] – although similar services will soon be extended to the areas of health and education. DEPA is being rolled out for financial and telecom data in India through the creation of 'account aggregators'[15] licensed by the Reserve Bank of India. These are regulated entities that, by digitally sharing financial data (based on consent provided by the owners of the data) across institutions ranging from banks to insurers to pension funds, facilitate access by individuals and small businesses to finance. Control of the information accessed by the account aggregators does not rest with them, but with the individual. Registering with the aggregator is voluntary and consent can be withdrawn at any time.

13. https://www.niti.gov.in/sites/default/files/2020-09/DEPA-Book.pdf
14. https://sahamati.org.in/blog/use-cases-for-account-aggregator-framework/
15. https://www.rbi.org.in/Scripts/bs_viewcontent.aspx?Id=3142



Source: https://www.niti.gov.in/sites/default/files/2020-09/DEPA-Book.pdf

In India, only 8% of MSMEs have collateral and hence, access to formal credit. Using an account aggregator, MSMEs can get short-term capital based on past turnover (seen through the Goods and Services Tax records) that helps demonstrate their future capacity to repay.[16] Microcredit also can be available based on the flows of money in their bank accounts, past payments of Goods and Services Taxes, telephone bills, and other data.

As of mid-November 2021, 70 financial institutions, including banks and insurance companies with about 300 million eligible accounts and eight licensed consent managers, have come together through DEPA and are averaging more than 1,200 consent requests every day. Investors say the speed is unprecedented: Bajaj Finserv can approve a consumer loan for a refrigerator or two-wheeler in India in 4 minutes.[17] This is perhaps the fastest in the world; the closest competitor is China.

DEPA offers an opportunity to build a more robust financial ecosystem, in which financial institutions, regulators, finance ministries, and civil society can design new products and monetize financial predictions, analytics, and scoring. A data-protection authority and auditors for trust score mapping can emerge to complete the circle.[18]

16. *https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=924#CH8*
17. *https://themorningcontext.com/business/inside-bajaj-finservs-super-app-play*
18. *https://www.niti.gov.in/sites/default/files/2020-09/DEPA-Book.pdf pg.50*

THE SITUATION IN OTHER DEVELOPED COUNTRIES

While data protection is an area of concern around the world, national approaches have been piecemeal, not comprehensive or multi-sectoral. Unlike India, most countries do not currently consider consent a paramount issue.

China's Personal Information Protection Law, which came into effect on 1 November 2021, offers a measure of security and privacy, but does not empower individuals concerning their own data; rather "personal information handlers" are empowered to assess and determine the use of the data – a very different concept from India's system of 'consent managers.' In China, the government can use data for national security, developing Artificial Intelligence and other capabilities. China also has a Data Security Law, but its entire focus is national security and privacy, not empowerment. Beijing's recent clampdown on companies like Alibaba and its Alipay subsidiary, which gave out small loans, raises significant questions about the role of the government in managing customer data and limits the ability of the company to deal with the data of citizens of countries where China has geopolitical ambitions.

In the U.S., platforms and enterprises have access and often, ownership of personal data. The country has no national data protection law yet, though state laws exist; the California Consumer Protection Act[19] gives consumers "more control over the information that businesses collect from them."[20] The absence of private ownership of personal data has resulted in a public debate on the necessity to reign in the big platforms and protect citizens' data.

The European Union has a General Data Protection Regulation (GDPR) which protects consumers rather than empowers; it has no technological framework.

The UK is pushing Open Banking, but it is narrowly focused on banking. Open Banking is torn between the market and the regulators, has no common architecture, and limited ability to scale up.

Australia, like India, has an interoperable technology infrastructure for governance. It is updating its Privacy Act and is leaning towards Europe's GDPR to gain greater alignment with the EU on "trade in personal information."[21] For now, the framework is limited to certain sectors, mostly financial. The updated act is set to be discussed, tabled, and passed in 2022.

Japan has no legislation on data empowerment and protection.

19. https://oag.ca.gov/news/press-releases/attorney-general-becerra-announces-approval-additional-regulations-empower-data
20. https://oag.ca.gov/privacy/ccpa
21. https://iapp.org/news/a/government-sets-direction-for-privacy-law-reform-in-australia/#

THE SITUATION IN DEVELOPING INDO-PACIFIC COUNTRIES

Objective 16.9 of the UN Sustainable Goals is designed to provide a legal identity system for all countries by 2030. One billion people possess no "official proof of identity"[22] and one of two women in low-income countries have none. Nearly a quarter of developing countries possesses no ID system at all, while others have ones that are partial or for specific purposes. None are open, open-source or 'foundational' – that is, not function-specific, multi-sectoral and interoperable for fundamental developmental purposes. The World Bank began its Identification for Development agenda in 2014, and an Asian Development Bank report in 2016[23] focuses on a foundational ID system for Asia and the Pacific in particular. The ADB report found that just seven countries in Asia and the Indo-Pacific – Cambodia, India, Indonesia, Malaysia, Pakistan, Philippines and Vietnam – had any kind of identification at various stages of adoption. Indonesia has an advanced biometric system but lags in other areas.[24]

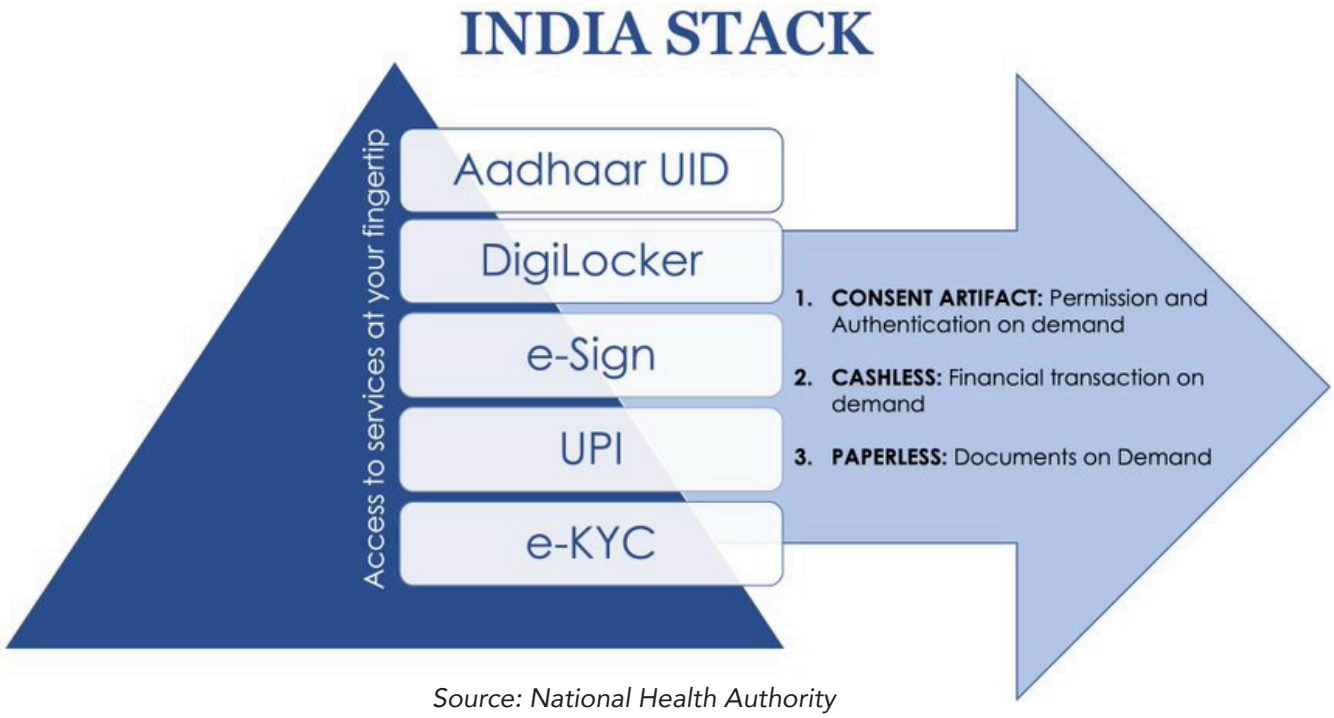
Small island nations are also lagging. Tonga legislated an ID system in 2016, but progress has been slow. Fiji initiated a rollout of an ID system only in 2019.[26,27] Larger countries like Nigeria have IDs, but as many as 30 national systems have no consolidation across sectors.

Some advances are being made. Vietnam announced this year it will advance to a chip-based ID card. The Philippines is deploying MOSIP, to enroll its citizens in future government schemes, India-style. The process of registering people is well underway, despite the pandemic. The Philippine Statistics Authority was able to set up registration sites nationwide, ensuring proper health protocols were followed and achieved its 2021 target of registering 50 million Filipinos for their National ID, using MOSIP, in under a year.

22. World Bank. Identification for Development (ID4D) Global Dataset. http://data.worldbank.org/data-catalog/id4ddataset (accessed 1 February 2016).
23. https://www.adb.org/sites/default/files/publication/211556/identity-development-asia-pacific.pdf pg. 3
24. https://www.adb.org/sites/default/files/publication/211556/identity-development-asia-pacific.pdf
25. https://ago.gov.to/cms/images/LEGISLATION/PRINCIPAL/2010/2010-0036/NationalityIdentityCardAct_2.pdf
26. https://platform.keesingtechnologies.com/national-id-card-for-fiji/
27. https://www.fiji.gov.fj/Media-Centre/News/National-ID-card

IMPERATIVES FOR IMPLEMENTING DEPA

Countries of the Indo-Pacific region are looking at the Indian model because it is open-source, interoperable, auditable, and secure – and it enshrines individual rights, ownership, and empowerment. It has been tested on a continental scale and is starting affordable deployment in the Indo-Pacific region in financial services, government-subsidy schemes, health care, and education.



Source: National Health Authority

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Moreover, it alone has a technological and legal framework around its ID system. A comprehensive framework will be available soon.[28] This is essential to development and security individually, nationally and geopolitically, for several reasons:

- For the individual, it ensures the right to control how her/his own data is shared and used.
- At the national level, it offers a crucial tool to speed up development programmes without compromising citizens' rights.
- Geopolitically, it offers an alternative to the warfare and contestation that are coming to define the digital and cyberspace world, in which countries, state-sponsored hackers and terror groups are breaching and attacking networks, disrupting infrastructure operations, (LINK GH-FLAME TK) undermining democratic elections, creating global scams[29] and thwarting national boundaries.

28. https://www.meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf
29. https://asia.nikkei.com/Business/Business-Spotlight/China-grapples-with-Cambodia-s-failure-to-curb-crime-gangs?utm_campaign=GL_asia_daily&utm_medium=email&utm_source=NA_newsletter&utm_content=article_link

India can promote its digitalization-as-development experience to other countries in the Indo-Pacific. In 2020, the Ministry of External Affairs set up a new division called New and Emerging Technologies (NEST),[30] but it does not include promotion of Indian-innovated digital public goods. A more salesman-like approach is needed.

Necessary, first, is the involvement of the NEST division and an updated I-TEC program. These provide training, engagement through pilot programs in relevant projects adjusted to local conditions, customer support and budgets, management, and deployment.

Next, Indian missions abroad should familiarize themselves with the service, and drive it in concert with other like-minded missions that share the same goals. Multilateral and aid agencies and Exim Banks can be involved, and a common technology legal and policy architecture can be developed through central banks and the Bank of International Settlements.[31]

As Amitabh Kant, the chief executive of Niti Aayog, states in his introduction to the draft bill of the Data Empowerment and Protection Architecture,[32] "DEPA inverts the traditional Western model where data is simply used to advertize and sell products to one where data can be used to empower a billion Indians. It can show a new India Way on data governance that allows us to offer inclusive and affordable financial products that help businesses recover from the crisis and chart a path towards sustainable growth."

30. https://www.gatewayhouse.in/nest-tech-foreign-policy/
31. https://www.bis.org/publ/bppdf/bispap106.htm
32. https://www.niti.gov.in/sites/default/files/2020-09/DEPA-Book.pdf

India's Role in Equipping Earth Observation Satellites for the Indo-Pacific

Dr. Chaitanya Giri,
Former Fellow, Space and Ocean Studies,
Gateway House

10

INTRODUCTION

Two epochal developments – the Indo-Pacific region's emergence as the fulcrum of the world economy and the mounting global climate crisis – are bringing new attention to a constellation of Earth-Observation (EO) satellites that are vital to managing economic life and to coping with climate change. These two sets of issues have thrust India, which maintains the largest fleet of EO satellites in the Indo-Pacific, into a key leadership role in harnessing this technology for the benefit of the region and the rest of the world. The importance of these issues to the Indo-Pacific region, and to the global economy, is hard to underestimate. The region dominates the global manufacturing, maritime trade, and blue economies. Many of its nations are at the top or high in the rankings of countries on global gross domestic product. The region's economic powerhouses, including the United States (U.S.), China, Russia, India, Japan, Taiwan, Australia, Indonesia, Saudi Arabia, Qatar, Kuwait, United Arab Emirates, Iran, Vietnam, and South Korea, have an enormous trade footprint[1]. In addition, the top ten per capita carbon dioxide (CO2) emitters are in the Indo-Pacific. The Indo-Pacific is also home to the world's tightest cluster of the human population – half of the world's people live in an area commonly known as the Valeriepieris Circle, which is centered in the South China Sea and has a radius of about 4,000 kilometers.[2]

Earth-observation satellites take images of the Earth in visible, infrared, near-infrared, optical, ultraviolet ranges of the electromagnetic spectrum, cost-effectively producing rich data on environment, weather and economic activities on land and sea. With the ability to collect data on sites as small as a few kilometers in length or as large as entire regions and the entire globe, they are increasingly important in managing economic life and monitoring carbon emissions and coping with the range of natural disasters associated with climate change.

Numerous large business corporations worldwide have pledged to achieve carbon neutrality in the next two decades as part of public-private efforts to reduce greenhouse gas emissions. Whole countries are joining them. The U.S. and PRC pledged at the October 2021 United Nations Climate Change Conference of Parties (COP 26) in Glasgow to reach net-zero emissions by 2050[3] and 2060[4]respectively. India has vowed to achieve carbon neutrality by the year 2070 in concert with its neighbors.[5] But reducing the impact of anthropogenic climate on the planet, including the Indo-Pacific, is a responsibility shared by current emitting nations and potential future ones alike. Besides using its EO satellites to achieve its own commitments, India has made clear its determination to work with other developed countries and many developing countries to achieve their climate-action goals as well. It also has stressed the need for concerted, global action.

1. *TradeWatch, EY Global Trade, Issue 2, 2020, Retrieved from the Ernst and Young website, https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/tax/tax-pdfs/ey-tradewatch-issue-2-2020.pdf*
2. *D. Quah, "The World's Tightest Cluster of People," Global Policy Journal, 26 April 2016, https://www.globalpolicyjournal.com/blog/26/04/2016/worlds-tightest-cluster-people*
3. *Statement and Releases, "FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies," Briefing Room – The White House, 22 April 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/*
4. *E. Yep, "China's long march to zero carbon," S&P Global Platts, 10 December 2020, https://www.spglobal.com/platts/en/market-insights/blogs/energy-transition/121020-china-zero-carbon-target-2060-emissions-fossil-fuels*
5. *Media Center, "EAM's remarks at CII Partnership Summit 2020," Ministry of External Affairs, Government of India, 17 December 2020, https://mea.gov.in/Speeches-Statements.htm?dtl/33309*

INDIA'S ROLE IN EQUIPPING EARTH OBSERVATION SATELLITES

"The Indo-Pacific concept is not tomorrow's forecast but yesterday's reality," explains India's External Affairs Minister, Dr. S. Jaishankar. "It captures a mix of India's broadening horizons, widening interests, and globalized activities. The Indo-Pacific is central to India's exports and imports[6]."

India has a sound understanding of the challenges faced by both developed and developing economies. It also has a history of productive bilateral and multilateral space cooperation. The U.S.-India NASA-ISRO Synthetic Aperture Radar (NISAR) satellite and the France-India Megha-Tropiques satellite are stellar examples of joint Earth-observation missions. NISAR, to be launched in 2023[7], will give better insights on ecosystem disturbances, expansion and retreat of polar ice caps, and natural hazards like volcanism, earthquakes, and tsunamis. This mission will be of consequence to the Indo-Pacific region, which is vulnerable to the hazards of the Pacific Ring of Fire – the horseshoe-shaped, earthquake- and volcano-prone belt spanning New Zealand, the Southwest Pacific islands, Papua New Guinea, Indonesia, Philippines, Taiwan, Japan, Eastern Russia, Alaska, and running along the western coast of North, Central and South America. NISAR also will be vitally important to countries in South Asia, Eurasia, and East Asia, which will benefit from mapping and monitoring of polar and mountainous icecaps because they are dependent on glacier-fed rivers.

Likewise, the currently operational Indo-French Megha-Tropiques satellite[8], has been studying precipitation patterns along the planet's tropical regions and computing several variables about the water cycle. Many economies in the Indo-Pacific region, especially the agrarian ones, are heavily dependent on precipitation, while nearly all are prone to floods, droughts, cyclones, and typhoons. The Megha-Tropiques satellite can provide datasets that disaster management agencies, state and provincial governments, and research and educational institutions need for disaster preparedness and mitigation actions.

For the past 26 years, India's Department of Space has been the nodal agency operating a 17-nation human resource development program known as the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP)[9]. This United Nations-affiliated program has trained scientific and technical personnel from countries like Bangladesh, Indonesia, Iran, Kazakhstan, Malaysia, Myanmar, Netherlands, Thailand, even North Korea. The CSSTEAP has trained scientists, helped policymakers, and educated students and disaster management professionals as also those from administrative services and health services. In addition to its important contribution to science, the program has strengthened diplomatic relations generally. India's success with CSSTEAP can be extended to a wider cohort of Indo-Pacific nations and lead to more bilateral and multilateral EO data sharing.

6. Media Center "National Statement by Prime Minister Shri Narendra Modi at COP26 Summit in Glasgow," Ministry of External Affairs, Government of India, 2 November 2021, https://www.mea.gov.in/Speeches-Statements.htm?dtl/34466/National+Statement+by+Prime+Minister+Shri+Narendra+Modi+at+COP26+Summit+in+Glasgow

7. Retrieved from the NISAR NASA-ISRO SAR Mission website, https://nisar.jpl.nasa.gov/

8. R. Roca et al., "The Megha-Tropiques mission: a review after three years in orbit," Frontiers in Earth Science, 18 May 2015, https://www.frontiersin.org/articles/10.3389/feart.2015.00017/full

9. Retrieved from the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) website, https://www cssteap.org/

On the multilateral front, India, on various occasions, has agreed to share geospatial data for monitoring global climate change, major disasters and environmental protection with Brazil, Russia, India, China, and South Africa through the BRICS association[10], and independently with partners in the Quadrilateral Security Dialogue.[11] In April 2018, the India Space Research Organization (ISRO) took steps to provide EO datasets from its RESOURCESAT-2 and OCEANSAT-2 satellites to the Association of Southeast Asian Nations (ASEAN) countries. Many of the ASEAN nations – Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam – are not members of CSSTEAP. ASEAN nations could use data from these two satellites for disaster management; rural, forestry and urban land-use management; identifying mineral deposits and a host of other applications. Through its outreach to ASEAN nations, the Government of India initiated training of professionals from these countries on space science, technology, and applications[12]. By offering such training and sharing data, India will be able to tailor its datasets and analyzes to meet the needs of Indo-Pacific countries and eventually create a wide commercial base of end-users. In the process, India can consolidate its role as an end-to-end provider of both governmental and commercial EO data to public- and private-sector users.

In the coming years, many developing nations from the Indo-Pacific region will acquire the know-how to operate indigenously assembled EO satellites to meet needs such as disaster management, agriculture, forestry, urban and rural land-use management and more. Many will continue to depend on space-capable nations through bodies like the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) to acquire EO datasets and human-resource capacity building.

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India's EO collaborations with ASEAN, BRICS, the Quad, and the South Asian Association for Regional Cooperation (SAARC), its several bilateral EO partnerships, its recent chair position (for the year 2020) in the Committee on Earth Observation Satellites (an international organization consisting of 63 space agencies of the world), and its noteworthy role in human-resource capacity building via CSSTEAP are building blocks for India's growing role as a provider of EO data and training to many nations in the Indo-Pacific region.

India is not alone in providing such datasets and training. The U.S., China, and Japan have comparable competencies. But since India's geography, socio-economic conditions, and climate are similar to those of many Indo-Pacific nations, its training and datasets will have immediate functionality.

10. "BRICS Space Agencies leaders signed Agreement for cooperation in Remote sensing satellite data sharing," Retrieved from the ISRO website, 18 August 2021, https://www.isro.gov.in/update/18-aug-2021/brics-space-agencies-leaders-signed-agreement-cooperation-remote-sensing

11. Media Center, "Fact Sheet: Quad Leaders' Summit" Mistry of External Affairs, Government of India, 24 September 2021, https://www.mea.gov.in/bilateral-documents.htm?dtl/34319/Fact_Sheet_Quad_Leaders_Summit

12. Press Information Bureau, "Project to Support ASEAN Countries," Department of Space, Government of India, 5 April 2018, https://pib.gov.in/newsite/PrintRelease.aspx?relid=178444

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CONCLUSION

India can use its strengths in the digital sector and its pole position over information technology to find a broader end-user base among the Indo-Pacific nations. To serve that end, India's space business ecosystem must shape the draft National Geospatial Policy in a way that provides India the opportunity to avail business opportunities when it assumes the second presidency of the United Nations World Geospatial Information Congress (UN-WGIC) in 2022[14] and in 2023 when it assumes the presidency of Group of Twenty (G20) and its sub-event, the Space Economy Leaders Meeting (Space 20)[15]. The UN-WGIC is a new platform of the UN-Global Geospatial Information Management. India will be the second nation to preside over it; China presided over it in 2018[16]. Likewise, Space20 was initiated only in 2020 during Saudi Arabia's presidency[17]. India can use both these platforms to put forth new plans on greater commercial and governmental diffusion of India-origin and India-based, valued-added geospatial data services among the Indo-Pacific countries.

13. *"Draft National Geospatial Policy," Retrieved from the Department of Science and Technology, Government of India website, https://dst.gov.in/sites/default/files/Draft%20NGP%2C%202021.pdf*
14. *Press Information Bureau, "Global Geospatial Information Community sensitized about UNWGIC to be organized in India," Ministry of Science and Technology, Government of India, 17 August 2021, https://pib.gov.in/PressReleasePage.aspx?PRID=1746702*
15. *Press Information Bureau, "15th G20 Leaders' Summit," Prime Minister's Office, Government of India, 22 November 2020, https://pib.gov.in/PressReleasePage.aspx?PRID=1674987*
16. *Retrieved from the UN-GGIM website, https://ggim.un.org/unwgic/*
17. *Saudi Press Agency, "Saudi Arabia to Host Space Economy Leaders' Meeting -20," 3 October 2020, https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=2140847*