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MARITIME PERSPECTIVES

NEGOTIATING THE WESTERN SEGMENT OF THE INDO-PACIFIC: MARITIME POWER-PLAY

Edited by:
Vice Admiral Pradeep Chauhan
Ms Anum Khan

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VOLUME II: NEGOTIATING THE WESTERN SEGMENT OF THE INDO-PACIFIC: MARITIME POWER-PLAY

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Foreword

The Indo-Pacific is, in many ways, an ideation… a maritime geography intertwined with diplomatic land-centric interests, representing the cartographic reality of the 21st century, and incorporating the diverse national interests of its littorals. The expanse of the Indo-Pacific is wide ranging, not only conjoining two oceans, but restoring their strategic oneness that had been artificially sundered by the colonial interregnum. Within its strategic ambit lie the 'eastern' and 'western' maritime expanses that are defined by the Pacific Ocean and the Indian Ocean, respectively. This volume of *Maritime Perspectives 2024* focuses upon the security imperatives of the western segment of the Indo-Pacific, which includes the eastern African coast, the established Indian Ocean powers, key stakeholder States, and multilaterals such as the EU.

Nations across the Indo-Pacific, each with distinct capacities and capabilities shaped by their positions within the global power hierarchy, view the region as a field of both contestation and cooperation, conflict and peace, survival and strategic interest. As a critical strategic geography, the Indo-Pacific compels nations to craft dynamic and adaptive strategies, where historical legacies intersect with present-day imperatives to influence future trajectories. Each country's prosperity is tied to the region's stability; its success thrives within this stability, whereas in times of instability, it suffers. The Indo-Pacific has emerged as a key maritime domain, where strategic partnerships are expanding, national strategies are increasingly focused on the region, and multilateral efforts are being realigned. While national actors have long shaped the boundaries of this region, they are now revising their strategies to enhance security, safeguard trade and commerce, and extend their influence.

This region itself is of huge geopolitical and geo-economic importance. It handles 80 per cent of global trade, hosts a dense network of undersea cables, and contains key chokepoints for crucial international shipping lanes (ISLs). These high economic stakes are jeopardised by the presence of a large number of politically fragile States whose onshore insecurity frequently spills into offshore spaces.

This volume of *Maritime Perspectives*, entitled *"Negotiating the Western Segment of the Indo-Pacific: Maritime Power-Play,"* is structured in three sections, each examining maritime security from doctrinal as well as institutional perspectives. Section One opens with a thought-provoking article that offers a re-conceptualisation of the traditional strategic frameworks of Mahan and Corbett. In previous centuries, the strategic thinking of Alfred Thayer Mahan and Julian Corbett dominated the understanding of the maritime domain and set the standard for thinking on how challenges ought to be overcome and interests pursued. Yet, today's oceans are markedly different — traditional power struggles are increasingly being supplemented, if not replaced, by non-traditional conflicts that frequently spill into sea from the land. This shift is underscored by the second article of this section, which offers an analysis of the *modus operandi* of the Houthi rebels, who are land-based, non-State violent and extremist actors but whose recent spate of attacks on merchant vessels have been particularly forceful in terms of strategic messaging, thereby emphasising the need to rethink maritime security. The remainder of the section focuses upon Australia's evolving strategic toolbox within Indo-Pacific. This seems only fitting, given that Australia was the first country to formally use the term "Indo-Pacific" in official governmental documents, as witnessed in the 2013 edition of its Defence White Paper. Accordingly, the third article analyses *"Australia's National Defence Strategy, 2024"* while the fourth reviews Canberra's *"Cybersecurity Strategy 2023-2030"*. The section concludes with a critical review of the book, *"Australia's Pivot to India"* penned by economist-turned-politician Andrew Charlton, which seeks to unravel the intricate tapestry of India-Australia relations.

Section Two of this volume delves into multilateral security perspectives from the points of vantage of the US and the EU. The first article of this section explores the maritime implications of the India-US foundational agreements and demonstrates how these initiatives can be leveraged to advance India's strategic interests. The following piece presents a synthesis of key maritime security engagements from the *European Union's Maritime Security Strategy* (EUMSS). When a collective strategy is combined with national interests, a region develops a multi-layered maritime security framework. In this context, the third article in this Section highlights the critical components of Spain's maritime strategy, demonstrating how they can be interlinked with India's approach. While strategies provide a security roadmap, they also outline securitisation measures to protect a nation's key assets. Thus, the final article of this Section analyses France's comprehensive strategy for seabed warfare, showing how established guidelines can steer a nation toward a more secure maritime future. This strategy can be used to advantage by India as an effective blueprint to develop a seabed warfare strategy of its own.

The third and final Section of this volume, is entitled *"Violence and Maritime Crime by Non-State Actors"*. Traditionally, maritime strategies have focused on securing the seas from long-standing threats that have hovered over the maritime landscape. Today, however, this same maritime domain faces a host of non-traditional security threats, most, if not all of which are asymmetric in nature and are posed by a variety of malevolent non-State actors. This is starkly evident in the Red Sea, and in the environs of the Gulf of Aden.

India's own energy security increasingly demands a diversification to non-Gulf sources. The first article of this Section accordingly draws the reader's attention to the maritime tactics employed by *jihadi* insurgents active in Mozambique's Cabo Delgado district, where the *Ahlu Sunna Wa Jamaa* (ASWJ) has successfully disrupted the region's energy interests. The next article highlights the importance of diversifying data analysis to assess the risks of conflicts — involving State-sponsored violent non-State actors — spilling-over from the land to the sea. The penultimate article focuses upon the Red Sea conundrum, examining its impact on India's interests and the heightened security measures that constitute a State response. The final article provides a critical analysis of seaborne irregular human migration (IHM), arguing that scrutinising human movement is essential to mitigate such rising threats to maritime security.

It is reasonably expected that the several absorbing articles contained in this volume will prove useful to such policymakers, researchers, and practitioners, as are committed to the enhancement of maritime security. These articles underscore the importance of collaboration and cooperation in pursuing the shared goal of stabilising the Indo-Pacific maritime domain through the establishment of mitigating strategies and the judicious utilisation of all strategic tools, from dialogue to kinetic action.

Happy Reading!

Vice Admiral Pradeep Chauhan
AVSM and Bar, VSM, IN (Retd)
Director-General
National Maritime Foundation

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Maritime Security: Conceptual Thoughts and Strategies

New Situations and New Instruments Wallop Some Naval Conceptualisations: With Reference to Corbett and Mahan

Dr Glen Segell

The process of education, particularly of those who will hold within their hands the fate of the maritime security of their nation in a world undergoing substantial changes is by no means a definitive device. A useful means to improve naval cadet training to get cadets to examine some very important conceptualisations in the light of current events, which provides a guide for them in actions that they might have to take in the future. The objective is a reflection about the heritage of the profession, the development of abstract considerations and a broad philosophical appreciation of naval and maritime affairs. That is a vehicle for developing and spreading sound strategic thought that contributes to present and future naval planning, deployment, and operations.

The problem statement that this article addresses is that today, we are facing new situations that demand a constant review of conceptualisations. The solution statement that this article offers from this problem statement is to provide a pointer to critique certain conceptualisations for their validity. This has two-fold value. The first of which is to improve naval cadet training. The second is because it can be studied in conjunction with the operational tactics and strategy when applied.

The rationale behind these new circumstances is that all nations have been impacted by changes in the structure of international relations following major events such as World War II, the Cold War, and 9/11. The first two, involving inter-state conflicts, brought a crusade-like clarity to naval planning and deployment, shaping the size and type of warships and naval fleets. This occurred within the context of prevailing situations and threat environments, leading to the development of doctrines and strategies.

It was 9/11 that was a different watershed. The global increase of non-state violent and extremist organisations (VEO) with persistent low-intensity attrition threatening states offered a challenge to naval functions. Most VEO focused their activities and aggression landward against civilian targets. That forced the role of large naval forces almost into the obscurity of the mundane.

A positive development is the emergence of new instruments to address modern challenges. Technological innovations during and after the Cold War, such as missiles, drones, and cyber capabilities, have progressively equipped even small littoral warships with more firepower than the largest ocean-going destroyers of World War II. However, this also introduced additional challenges. For instance, land-based missiles have given even the smallest states or violent extremist organizations (VEOs) the capability to defend against amphibious landings.[1]

Such theorising forms the basis for the starting point of this article. In this theorising there is a temporal and thematic line of a synthesis that connects the narrative to the conceptualisations of two of many renowned and distinguished strategists in the field. They offer us a bag of tools from these conceptualisations. These are Captain Alfred Thayer Mahan (1866-1898) and Sir Julian Corbett (1854-1922). Mahan was a naval officer whose writings were nearly 20 years earlier than Corbett who was a civilian. Corbett's theories had more historical foundation but agreed with Mahan that they were only useful to naval professionals if they understand how to adapt that theory.[2]

Their writings and theories are often taught at war colleges and staff colleges, and they lie at the foundation of many naval strategic writings and teaching even one hundred years after their deaths. New situations and new instruments have challenged some of the age-old classic conceptualisations provided by Corbett and Mahan. Some are redundant for large maritime powers and irrelevant for small and medium States. Some have stood the test of time for any navy in creating a vibrant enterprise. There is no fixed answer to which are the accepted norm. With the proliferation of sovereign States since the end of World War Two there is not a simple time chart of testing the validity of their conceptualisations. Each State faces directing naval thinking according to their unique situations.

Notwithstanding there are some commonalities to be seen in those conceptualisations that have stood the test of time. Large navies alike will face similar operational deployments and challenges as will those who are only engaged in coastal defence. An intrinsic element of the commonality is the relationship between naval power and defence and foreign policy. Broadly the outlet of this is evident in the type of navy. This can be divided between riverine and littoral applications (brown-water navy), open-ocean applications (blue-water navy), and something in between (green-water navy).[3]

Due to capabilities and costs those who have a blue-water navy are typically large maritime states engaged in global power projection. While those who have only a brown-water navy are typically small to medium States not focused on projecting power outside of their own coasts. Notwithstanding capability Professor Colin Gray who was a civilian educator but who also served as a defence adviser to both the British and American governments, notes that there are strategic advantages to States who have larger navies over those who don't.[4]

It is the methodology of this article to follow the thematic line of the synthesis that connects the narrative of new situations and new instruments with selective conceptualisations from Mahan and Corbett. It draws largely on existing ideas and knowledge and critiques, to contribute to the body of knowledge for the purpose of training cadets and as well as in conjunction with the NMSS. Examples stem from lessons learned and applied historically with reference to Israel as a small to medium State and the larger maritime powers of Britain, China, Russia, and the United States. Sources quoted are both primary and secondary from serving or former senior naval officers and from recognised naval analysts and strategists.

The Conceptualisations of Mahan and Corbett

The starting point granting value for examining the intellectual heritage on which the understanding of naval power is based as undertaken by this article to educate cadets is to present some conceptualisations of Mahan and Corbett. While there are many more naval theorists and historians, Mahan and Corbett may well be the fathers of British naval power and maritime theory upon which many countries navies were born and initially raised. Their writings were published during the zenith of the British Royal Navy (RN) incorporating thinking from the 17th, 18th, and 19th centuries. Both died before World War One.[5]

Captain Brian O'Lavin of the US Naval Special Warfare Command has written that the applicability of Mahan's intellectual heritage on naval power has been reduced within the context of the different international situations which prevail since World War Two. For example, Mahan's theory that the concentration of a nations fleet to seek out and destroy the enemy fleet in a decisive naval battle were not applicable to the Cold War as there were no naval battles. Nor is it applicable to post 9/11 in counter insurgent battles against VEO that focus on landward attacks against civilians.[6]

Similarly, O'Lavin writes that new situations of the post-Cold War and VEO have reduced the applicability of Corbett's intellectual heritage on naval power. For example, the validity of his conceptualisation of securing the command of the sea or preventing the enemy from securing it. That means total command of the seas including all maritime communications or sea lines of communication (SLOC), whether for commercial or military purposes. The same reasoning applies that post 9/11 the conflict is in counter insurgent battles against VEO that focus on landward attacks against civilians[7]

Clearly once conceptualisations have been recognised as having reduced applicability then the doctrine, tactics, and strategy that incorporate them need to be reviewed. Taking this critique of conceptualisations onboard leads the narrative of new situations and new instruments of this article into a coherent synthesis that builds into an outcome. That is educating cadets to be informed naval officers that excel when in command of warships. Otherwise, the tail will be wagging the dog as naval officers' mindset will not be in harmony with the real world.

Large naval powers with blue-water navies and smaller with brown-water navies alike have recognised the need to constantly review and critique conceptualisations to synchronise them with deployments and operations. There is an importance of accurate definitions in the conceptualisations for navies world-wide rely on a certain amount of theoretical training for all officers. For example, the United States Navy (USN) that is a blue-water navy uses the term Anti-Access/Area Denial (A2/AD). In 2016 the head of USN naval operations, Admiral John Richardson, wanted to root it out. His reasoning was "*to ensure clarity in our thinking, we will no longer use the term A2/AD as a stand-alone term (acronym) that can mean different things to different people*."[8] However, changes take time, and it is still in use in 2023 by the USN and other branches.

A reference to this process also comes for a brown-water navy for example Israel. While there is an overall military prowess of the Israel Defence Force (IDF) according to the 2022 Global Naval Powers Ranking, Israel's navy arm is not included among the world's top 34 navies (unlike the navies of neighbouring countries Turkey and Egypt).[9] The reference is from Professor Dmitry Adamsky, who in addition to his academic career, has held positions in the Israeli Ministry of Defence and IDF including serving as assistant secretary of the committee charged with formulating Israel's national security concept. There he addressed the importance of defining an accurate and applicable systematic naval conceptualisation, especially when the nature of war changes due to technological innovations. He referred to the conceptual-organisational confusion that prevailed in the Israeli Navy on the eve of the Second Lebanon War in 2006.[10]

Taking Adamsky and Richardson in context is to quote Dr Benjamin Armstrong, who is a former USN naval aviator and who has lectured at U.S. Special Operations Command, the Defence Entrepreneur's Forum at the University of Chicago, and the U.S. Naval War College. He writes that Corbett agrees with Mahan that theories are only useful to naval professionals if they understand how to adapt them. If theories don't meet these criteria, then the conceptualisations are not fit for purpose and may well led to defeat rather than victory, or at least loss of ships and crew.[11]

An applied example of this rationale for a conceptualisation to be accurately defined, understood, and learned before it is anchored operationally; and where the narrative leads in a coherent synthesis that builds into an outcome is given by Professor Efraim Inbar. He was the Chair of the University of Bar Ilan's BESA

Research Centre. He describes the Israel Navy's missile warships first commissioned in 1969. The first written manual for their deployment was like a Bible with a new tactical language and concepts in which the theoretical analysis of various battle situations was translated into do and don't instructions. He adds that this wasn't sufficient as when they entered the 1973 Yom Kippur War four years later the lessons passed down orally from naval exercises generated a specific conceptualisation of what they could achieve operationally and what was impossible. In parts that differed from the original written manual.[12]

This article continues along this theme with the methodology of listing themes and phenomena where the synthesis is systemic and logical thinking and reasoning that has brought about changes. The structure of the article continues in two parts on 1) Revisiting Corbett's and Mahan's conceptualisations, and 2) Pursuing naval strategies. Examples are from Britain, China, Israel, Russia, and the United States. There are sub-sections in these parts to facilitate logical divisions: revisiting Alfred Mahan; revisiting Julian Corbett; decisiveness, naval supremacy, and naval control; control of all spaces, national security & constabulary; secure sea lines of communication; power projection; and naval diplomacy. The trend that emerges is not for maritime security roles of navies to replace their traditional naval war-fighting roles. It is merely that they are elevated and draw more attention given the world environment that has less naval warfare between States and increasing demands for maritime security functions.

Revisiting Corbett's and Mahan's Conceptualisations

In the years following World War Two there emerged both new situations and new instruments. The former largely dictated to by the latter for the size, shape, and functions of naval forces. The first catalyst was the advent of nuclear weapons and the strategy of deterrence. Warship deployment progressively became tools of diplomacy and deterrence rather than to engage the other side in naval combat as conceptualised by Corbett and Mahan.[13]

An example of this is submarines. Nuclear powered with nuclear weapons submarines for example in the RN and the USN provided a unique service in the

Cold War and beyond. Deployed in the depths of the oceans and undetectable they guaranteed a nuclear second-strike capability with intercontinental ballistic missiles. Such a strategy of deterrence and naval deployment challenged the conceptualisations of Mahan who had not noted the importance of technological developments.[14]

Furthermore, since the end of World War Two there has only been two occasions when submarines attacked and sunk another ship. One was the sinking of the Argentine Navy's ARA General Belgrano (C-4), a light cruiser, on 2 May 1982 during the Falklands War. This was by the RN nuclear-powered submarine HMS Conqueror with a conventional warhead torpedo and the loss of 323 lives.[15] The other was by the Pakistan Navy's diesel powered PNS Hangor (S131) on 9 December 1971. It sank the Indian Navy's INS Khukri (F149), an anti-submarine frigate, with one homing torpedo.[16]

Revisiting Alfred Mahan

Submarines were not the only example of the changing role of naval forces as proxy land wars dominated the Cold War and not naval battles. Functions such as command of the sea and decisive battles (through which naval supremacy is supposed to be achieved) were less dominate components of naval strategy for all warships than previously. When the Cold War ended in 1989 the United States Naval War College (USNWC) went so far as to teach that the USN should assume that it had command of the sea. It didn't need to exercise control through constant naval presence.[17]

Taking this onboard and besides the end of the Cold War there were two other events that led the USN to move away from Mahan's conceptualisations of ocean battles. This eventuality guided the USN fleet in restructuring with new doctrine and strategy. The first was when Iraq launched two Exocet-type French made missiles on the American destroyer USS Stark that was sailing in the Persian Gulf in May 1987. How to defend warships from missiles, mines and artillery batteries located landward and indeed deploy amphibious landings facing the same threats became a priority.[18]

The second was experiences from the Gulf War of 1991 (Operation Desert Storm). It involved combined and joint operations with the primary role of the USN being in support of landward operations. At the onset of battle the USN launched 12 Tomahawk cruise missiles against land targets from submarines while other naval surface ships launched 285 at the same time.[19]

Mahan's naval warfare conceptualisations didn't include such littoral or coastal warfare or such threats. These were all wake-up calls that conceptualisations such as Mahan's of two fleets that duel until one of them wins were not applicable for contemporary naval operations. The USN was acutely aware that warships and systems had to have additional roles of defending from land attack, striking land targets, and in joint with multi-service and combined allied action. Moreover, naval officers had to be trained for such diverse roles and functions.[20]

Other examples that brought significance to these observations include the attack of an Islamic fundamentalist group Al-Qaeda by an explosive boat on the destroyer USS Cole in October 2000 outside the port of Aden;[21] and attacks on naval vessels along the coast of Yemen by Houthi rebels ongoing since 2004.[22]

Such new situations and new instruments progressively led to an evolution in USN doctrine and strategy. This negated many of Mahan's conceptualisations and brought about a new size and shape of the USN. In 2023 Captain Drennan of the USN whose sea duty assignments have included two Los Angeles Class Fast Attack Submarines and five Nimitz Class Aircraft Carriers, including Chief Engineer in USS Harry S. Truman (CVN 75) summed up such a USN evolution. He observed the post-Cold War and post 9/11 type of warfare as being fundamentally different from warfare on the open sea for two main reasons. Firstly, warships that can operate in littoral areas are limited in size, speed of movement, and dimensions (due to limited manoeuvrability). Secondly, there is a likelihood that the enemy will take advantage of his opponent's closeness to the shore to attack ships.[23]

Such experiences and an evolution in doctrine and strategy is not confined to large blue-water navies. An example of this for a small brown-water navy was damage to the Israel Navy Ship (INS) Hanit in the Second Lebanon War 2006. It hit a Chinese made land to sea missile launched by Hezbollah that is an Iranian proxy terror group, when it was close to shore supporting land forces.[24] Conscious of the need for change the commander of the Israel Navy Admiral Eli Sharvit (2016-2021) identified the cause of the problem. He said that the navy was not capable of defending its ships from land-based missiles as coastal/littoral warfare and asymmetrical warfare had not been concepts in the doctrine and strategy and so captains had not been trained. A process to do so commenced.[25]

Revisiting Julian Corbett

New situations and new instruments also demand reviewing the conceptualisations of Corbett.[26] These should also be critiqued with those of Admiral Sir Herbert Richmond who was a naval officer and his only disciple as a naval historian.[27] It could be argued they were as equally influential strategic thinkers on naval and maritime strategic matters as Mahan.[28]

Corbett's writings are different from those of Mahan as added the dimension of land warfare. He believed that total defeat or to subjugate the adversary, could not be realised by naval warfare alone and required victory in land battles.[29] Corbett used Carl von Clausewitz's book On War as a heuristic point of departure.[30]

At first glance it could be assumed that with this reference to land warfare that perhaps Corbett's conceptualisations would be applicable to proxy wars in the Cold War and counterinsurgency against VEO after 9/11. However, Professor Jerker Widén of the Swedish Defence University who has studied Corbett says this not the case. The reasoning is that Corbett did not address sea to land warfare but proclaimed land combat between the adversaries. The Cold War instruments in the form of nuclear weapons and inter-continental ballistic missiles with the doctrine of deterrence did not lead to direct land battles between America and the Soviet Union. Even wars between ideological proxies for example Vietnam highlighted that victory or loss in these didn't result in total defeat of either side.[31]

Similarly, Dr Prakash Metaparti an expert on logistics and maritime studies at the Hong Kong Polytechnic University informs that the dominant warfare post-9/11 is asymmetrical combat that does not postulate naval forces. Given their lack of roles against adversaries, the functions of navies have moved from naval warfare more towards maritime security.[32]

In revisiting both Mahan and Corbett, it is Professor Geoffrey Till who is one of strongest advocates that the conceptualisations of Corbett and Mahan have waned and have in part been walloped by new situations and new instruments. He is a British naval historian who has taught at the Britannia Royal Naval College, Dartmouth, Royal Navy College Greenwich and the Joint Services Command and Staff College educating cadets and officers. His writings echo and were echoed by teachings at the USNWC. He emphasised that the location of engagement with an adversary would define strategy. He pointed out that while the area of coastal areas is barely sixteen per cent of the global maritime space, it has decisive importance. This is since all ports are in them as are the choke points that could restrict or limit access. That highlighted the importance of littoral areas to the economic well-being and security of countries. So, he placed the battle more inshore than in the open oceans.[33]

Pursuing Naval Strategies

Clearly then there are new situations and new instruments elucidated both by naval officers, civilian researchers and theoreticians and professors at educating faculties. Going one step further and with deeper analysis is to note that the modern naval arena is not just a division of open sea and coasts. It can be divided into functions where Professor Ken Booth provides three main categories: military, policing, and diplomacy (Trinity of Naval Functions). He educates at a university and has also been a visiting researcher at the USNWC.[34]

Booth's categories interjected into the legacy of Corbett's and Mahan's conceptualisations provide six topics that will be addressed in more depth as the next stage of this article: decisiveness, naval supremacy, and naval control; control of all spaces; national security & constabulary; secure sea lines of communication; power projection; and naval diplomacy.[35]

In doing so an appraisal is undertaken of which of Corbett's and Mahan's conceptualisations remain valid and those that do not. That also draws a full circle to demonstrate the purpose of reviewing conceptualisations for educating cadets and in conjunction to the NMSS. This indicates the importance and significance of the topic addressed in this article - pursuing naval strategies needs to be based on sound and relevant conceptualisations.

Decisiveness, Naval Supremacy, and Naval Control

Ideally cadets at military education faculties should spend their time in the class and library reflecting on what the strategic world looks like so that they are better prepared for how they could operate in that world thereafter. There is no one means to achieve decisiveness, naval supremacy, and naval control yet the study of different views all contributes to doing so. Different literature and lecturers will profess a diversity of thought all resting on sound foundations to provide a more holistic picture. To be sure Mahan and Corbett had different views, both valid for certain circumstances.

For example, Mahan and Corbett differed on the decisiveness of naval power. On the one hand Mahan emphasised the victories achieved by the RN during the 18th, and 19th centuries were indeed in decisive battles and a series of naval blockades. These were intended to achieve naval superiority (command of the sea).[36] Corbett thought naval power was important, but not decisive, and argued that it rarely won wars by itself. They were not able to totally defeat or subjugate the adversary. To totally defeat or subjugate the adversary required land battle. He drew his assertion on historical evidence of Britain's campaign against Napoleon's army during the Peninsular War. Yet Corbett agreed with Mahan that there needed to be a focus on denying sea command to the opponent.[37]

As noted previously there has been an accented reduction in the value of both Corbett and Mahan on this topic in the Cold War because there were no direct land or naval battles between the two sides that could have brought any decisiveness or victory.[38] The Cold War was an ideological struggle between competing political and economic beliefs, philosophies, and systems. From the 1960s on the Soviet Union looked towards global domination through revolutions and proxy wars to change leadership and political systems as called for by its President Nikita Khrushchev's.[39]

Intrinsically it won the battle by such means but eventually lost the war due to economic collapse in 1989. Progressively during the Cold War, the world had less states with electoral democracies. Only a handful of the tens of African, Asian, and Latin American states who attained sovereign independence after World War Two espoused electoral democracies. By the 1980s in the last days of the Cold War only 23% of the world's states had electoral democracies. Even after the Cold War by 2016 this had risen to only 55%.[40]

These were astute observations taken onboard by serving naval personal. For example, Stephen Jones, a USN officer added a professional weight to these observations. He informed considering new situations and new instruments that increasingly a navy's traditional roles and tasks in supervision and surveillance of the seas and oceans was being performed by satellites and patrol planes. For this naval presence aka Mahan wasn't essential. Jones' deductions from his naval experience remained consistent throughout the Cold War and after.[41]

In line with practice the USN has an element of a bottom-up approach to educate and adjust doctrine and strategy. Adding to Jones' observations for example in 1974 Admiral Stansfield Turner, president of the USNWC, published his critique of the conceptualisations of naval superiority of Mahan. Turner had numerous roles including shore bombardments in the Korea War, combat operations off the coast of Vietnam and monitoring Soviets fleets. In that article, Turner referred to the missions of the USN, and claimed that the term naval superiority was outdated, and that it should be replaced by the concept naval control.[42]

A scholar Professor Barry Posen, who also worked as a consultant for the RAND Corporation and an analyst for the US Department of Defence, also commented on these views of serving officers and educators. He wrote that after his intensive research of both blocs in the Cold War that it was difficult to achieve naval superiority in the terms meant by Mahan and that of land warfare victories called for by Corbett. He reiterated Turner's view that the purely military role of a navy conceptualised to achieve naval superiority or supremacy would decrease. In its place could be conceptualised the role of naval control.[43]

A rejoinder came from Turner when he was appointed supreme commander of NATO forces in Southern Europe and later Director of the CIA. He wrote on the increasing significance of intelligence to determine the location and intent of the enemy fleet. If this was possible and successful, then naval control need only be over limited areas in terms of territory for a limited period rather than complete supremacy over the ocean.[44] In analysis of the immediate post-Cold War period Gray found that the shift from naval supremacy to naval control remained a valid shift. Gray argued that the goal of naval operations should be to support landward operations and not to be objectives in themselves.[45]

A debate and discussion ensued on this topic of decisiveness, naval supremacy, and naval control between the critiques of Mahan and Corbett. Following this could well provide the basis for assigning a simulation exercise for naval cadets in education faculties. To start the debate Professor Eric Grove further defined the term naval control. He was an educator at Britannia Royal Naval College, Royal Naval College, Greenwich and the University of Cambridge, a researcher at think tanks and consultant and co-author for the first edition of the RN's, *The Fundamentals of British Maritime Doctrine (BR1806)*.[46]

Grove's definition of naval control commenced with agreeing with Turner that it is the conditions under which one state entity has freedom of action to use the sea for its own purposes in a certain area and for a limited period. He contributed by defining five main categories of naval control: absolute control, working control, disputed control, actual control of the enemy and absolute control by the enemy.[47] Till further contributed to the debate by defining four purposes for naval control: to ensure the regular supply of the country's industry; to strengthen or resupply the forces operating overseas; to supply the Allied forces overseas; and to ensure the operation of naval forces operating in the mission of power projection on the coast.[48]

In 2015 Professor (Emeritus) Robert C. Rubel, of the USNWC applied to a case this discussion with reference to Mahan's and Corbett's conceptualisations on defeat or subjugation.[49] The case took a scenario where the main threat to America was China. It posed the question on how victory could be attained given Chinese naval strategy also has its origins in Mahan's conceptualisation.[50] His conclusions were if China were to follow Mahan's conceptualisations on decisive naval battles, then China could not attain victory. Even if China destroyed the USN they had not occupied America. Similarly, American victory could not be discussed as a purely naval victory following Mahan's conceptualisations or with land victories following Corbett's conceptualisations. Chinese naval and land forces could not be destroyed, and China could not be occupied. Decisiveness could only be attained by neutralising China's power projection globally by other means, be they economic or political.[51]

Control of All Spaces

The crux of Rubel's case about America and China are like those discussed in the British maritime doctrine document of the RN published in 2017. A wide range of potential state and VEO adversaries were looked at. The conclusions were that victory could not be measured solely from naval or land combat. Decisiveness towards defeat of an adversary could be outlined when there was control of the maritime space (including the seabed), the airspace above it, and the landward coast—all no longer posing a threat.[52] In 2021 USN Admiral Joe Sestak added to this thinking on decisiveness and victory. He pointed out that no country could achieve supremacy in maritime or air space without also controlling cyber space.[53]

Such contemplations and thinking are not only applicable to the doctrine and strategy of large maritime blue-water navies for example Britain and the United States. They can also be found in the experiences, doctrine, and strategy of a small brown-water navy such as Israel. In 2016 the commander of the Israel Navy Admiral Eli Sharvit called for a strategic review given that a prerequisite for naval operations offshore required that a land-based missile threat must be neutralised. That meant control of the land adjacent to the coast.[54] In 2022 the current commander of the Israel Navy Admiral Sa'ar Selma added that naval control would be seen as serving a purpose within a battlespace and not an end. The battlespace was multi-dimensional, and victory was required in all (land, sea, air and cyber) spces.[55]

It is fair to state that these views of a wide range of battlespaces place the nail in the coffin operationally for Mahan's and Corbett's conceptualisations of victory be it naval solely or naval and land. That does not mean that they should be ignored. It is important to educate cadets on history that includes not only their writings but also to add their critiques. To this must be added real world contemporary cases as part of simulations to elicit and develop decision making skills for when they take command of warships. It would not be expected of cadets and officers to know and be capable of doing everything, given concern that this might lead them to be jack of all trades and master of none. More preferential would for each to specialise to be an expert in certain functions and roles. Yet an element of being an expert would require being aware of the function and roles of others to succeed in joint and combined operations in a multi-dimensional environment.

National Security & Constabulary

The sea battlespace can be further divided to include maritime. Maritime constabulary or policing roles have also been conceptually referred to as cognitive dissonance in certain academic literature.[56] It might be cost effective to have the same ships undertake multiple roles and indeed they may have the capability to do by being platforms for an array of weapons and systems. However, the rules of engagement for different roles requires that the ships' captains must be confident to make an array of decisions with the appropriate knowledge.

That necessitates a comprehensive education not only on tactics and strategy in naval warfare, counter-piracy and counter-terrorism but also coastguard functions that include: maritime safety; vessel traffic management; ship casualty and assistance service; fisheries inspection and control; border control; environmental protection and response; prevention and suppression of trafficking and smuggling and connected law enforcement; search and rescue; monitoring and surveillance; customs activities; accident and disaster response; maritime, ship and port security; and in protecting national assets in the maritime economic zone.[57]

A larger maritime country might have both a navy and a coastguard such as the United States. A singular national fleet tasked with overall naval control for warfare, national security, coastguard roles, and performing peacetime constabulary duties is more likely evident in small to medium countries.[58] An example of this is Israel because of budget constraints. It has only nine corvette/ missile ships and forty-five patrol boats for a coastline of 273 km with three major ports, eight marinas and offshore gas fields. Almost seventy percent of Israeli citizens live in cities and settlements along this coast.[59]

The lessons could start by a discussion on what transpires when a new situation arises and what they would do. That in essence is the theme of this article in reviewing the conceptualisations of Mahan and Corbett given new situations and new instruments. A case that could be applicable to is Israel's experience of the defence of offshore gas fields. Israel's experience that led to new instruments both in warships and weapon systems started in 2012.[60] This unfolded against the background of the discovery of the offshore submarine gas reserves in the Eastern Mediterranean Sea off Israel, Lebanon, and Cyprus. The Israeli Cabinet tasked the navy with the task of protecting Israel's sovereign and economic interests in these and not to set up a separate coastguard.[61]

For this purpose, Admiral Ram Rothberg commander of the Israel Navy (2011-2016), formulated a new operating concept that had two components. The first was how to protect the gas production platforms from rocket and missile attack. The defence industries responded by developing the naval C-DOME system. That is an advanced naval configuration of the land-based Iron Dome system has proven very successful protecting against thousands of rockets and missiles launched from Gaza and Lebanon in recent years.[62]

The second component was to evaluate warships as platforms for the C-DOME. The navy evaluated and found that its existing fleet could not do this or even effect naval control of the sea surrounding the gas production platforms. These were further offshore than the navy had ever operated. Four new corvette type ships were specially constructed in German shipyards and entered service as the Sa'ar 6 Magen class in 2021. These also gave the navy additional long-distance war fighting capability. So, the IDF Chief of Staff Eisenkot took advantage to add to the navy the role of striking VEO in foreign countries, protecting shipping lanes and supporting special operations throughout the Mediterranean Sea and deep into the Indian Ocean. Hence, carrying a helicopter was added to the ship's design.[63]

Whilst these were warfare and maritime security roles, an additional element emerged to the new situation and that was the authority over maritime economics. A private multi-national corporation (The Chevron Corporation) had the contract for the production facilities of the gas fields. But in times of conflict the navy was granted the authority to shut them down for security reasons. Naval officers had to be educated to be able to make such informed decisions. This was put to the test in May 2021 during a counter-insurgent operation in Gaza. Production from the gas fields was shut down by the navy for a few weeks due to threats of the gas production platforms being hit by missiles launched by the Hamas VEO in Gaza. The navy had multiple tasks simultaneously to protect these platforms with the C-DOME and at the same time land special operations ground forces as well as launch sea to land missiles.[64]

This example of protecting gas fields and production platforms is a case where a navy has been assigned a role to achieve national maritime security not addressed in the conceptualisations of Mahan and Corbett as they did not exist in their lifetime. For today's world the decisiveness they referred to has changed to one of ensuring defence and security short of combat but that is a form of victory. Another three dimensions that similarly are short of combat but require achieving decisiveness are the next three sub-sections on: secure sea lines of communication, power projection and naval diplomacy. In these elements of their conceptualisations are shown to retain certain validity.

Secure Sea Lines of Communication

The purpose of reviewing Corbett's and Mahan's conceptualisations is also to examine where they remain valid in pursuing strategies with the goal of educating cadets in conjunction to the NMSS. One of these is Mahan's argument that certain functions cannot be replaced by any other means than a naval presence of ships. That is valid today for example, in addressing secure sea lines of communication (SLOC). The security of shipping lanes and keeping then open is a constabulary function. It is essential to ensure trade, logistics, passenger ships and the movement of military forces between ports. These could be short lanes along coasts, through straits, harbour inlets, canals and bays or long sailing routes in the open sea.[65]

Whilst the function and role and the conceptualisations of such a necessity remain valid since Mahan's and Corbett's day new instruments have evolved. These take the form of diverse technologies some of which are not naval. This impacts the number and types of warships needed for SLOC. Stephen Woodall has looked at this. He served in the USN and has had academic and research positions. He wrote in his doctoral research that in World War Two a force of ten aircraft carrier battlegroups might have been required, with a strategy built around defensive barrier operations to protect the Atlantic SLOC. He compared this to the Cold War where this could have been achieved by three carrier battlegroups positioned near maritime chokepoints. The difference being the range and firepower of naval aircraft, cyber to detect the location of an adversary and missiles to strike them.[66]

To facilitate education on such changes a simulation exercise could be given to cadets to stand in the shoes of decision-makers and warship captains. They will be provided with the outline of events and theories, asked to make decisions, and then see how the real-world situation evolves in comparison. Such an exercise would guide them in actions and decisions that they may have to take in the future.

One such case of SLOC they could be asked to examine and simulate is the blockade of Ukrainian ports by the Russian Black Sea Fleet after the onset of hostilities in February 2022. The blockade prevented the export of wheat and grain and became one of the main challenges to global human security between February and July 2022. One option was to break the naval blockade by NATO fleets led by the USN. There were two dilemmas. One was that it would have drawn NATO into the war. The other was that it would have violated the (Montreux) Convention regarding the Regime of the Straits (1936) that restricts the entry of foreign warships into the Black Sea—the SLOC between the Black and Mediterranean Seas. The quandary was whether to abide by international convention and customary practices or whether to take military action for humanitarian purposes. If the latter path had been chosen there was a danger of escalation with many more casualties and states involved.[67] If those cadets in the simulation thought that naval means could resolve this SLOC conundrum, then they would have been mistaken. The solution achieved was a United Nations and Turkey led diplomatic effort to resolve the export blockade.[68]

Power Projection

Whilst securing and keeping SLOC open and defending ports and entire coastlines requires in part naval presence this might not be enough. What might be needed is taking the battle or the threat of battle to the territory of the adversary. The dictum being that the best means of the defence is the offense and not on one's own territory. That is achieving decisiveness, naval control, or even victory without placing one's own country and population in a position of facing an adversary's firepower. Pursuing such a strategy could be by power projection and / or naval diplomacy. That means Mahan's and Corbett's conceptualisations that naval forces are a means of projecting power to, within, and from the maritime space remain valid.[69]

However, some new situations and new instruments require certain additions and modifications to their conceptualisations. Today power projection is more than just naval power even though a dictum could be that the more naval oriented the adversary state is, the higher the level of naval power projection will be required. A group of academic researchers and professors have examined many inter-state wars, proxy wars and VEO counter-insurgency operations including the most recent in Syria, Iraq, and Ukraine. They deduce that power projection can be separated into two categories. The first is when power projection is related to the combat component of the naval strategy. The second is related to the diplomatic component of the naval strategy. In the latter fleets can be used as a show of force to deter, dissuade, or persuade short of combat or to bring the war to an end.[70]

Examples of the first are provided by Till who describes that during World War Two naval power projection included the destruction of enemy forces, logistical support, and amphibious assault operations. The landings in Normandy in June 1944 led to the end of World War Two. Another example is from the Cold War, that of the Inchon landings in the Korean War 1950. These two examples lend to naval involvement of power projection being the support of land forces as a strategic combat enabler.[71]

Yet progressively during the Cold War and after amphibious assault operations have become restricted due to new instruments. Owing to shore defences by missiles Till has concluded that the chances of carrying out successful major amphibious operations are low.[72] A case on this to analyse for educating cadets is the Russia-Ukraine conflict since February 2022. The Russian Black Sea Fleet was not able to use its amphibious fleet to land ground forces on the shores of Ukraine. Terrain constraints, amphibious lift limitations, difficulty sustaining air dominance, and logistical issues all pointed to the chancy success of any amphibious operation.[73]

Clark and Sloman add to the debate on power projection related to the combat component of the naval strategy with cases on VEO. They inform that it is easier than previously for navies to use a relatively small amount of force to attack long areas of the coastline in power projection. The range and firepower of missiles today are far superior to those of naval artillery of Corbett's and Mahan's day. But missiles can also be used by VEO and states as defenders to limit the attacker's options to successfully carry out amphibious operations by defending the beaches with missiles.[74]

To this can be added the experience and pursuit of strategies by a small State's brown-water navy that is also its coastguard. That entails power projection as a prompt response to some potential flash point including against insurgents and wider problems of criminality and disorder at sea. Israel is an example with information provided by Admiral Yedidia Groll-Yaari, the commander of the Israel navy (2000-2004). He found that naval power projection for warfare and maritime security can be achieved by using warships offshore, naval based drones and cyber in the integration of systemic warfare. He introduced three battle-space operational concepts for this: control, attack, and sustainment.[75]

Dr Tim Benbow, who has lectured at the Britannia Royal Naval College Dartmouth and the Defence Studies Department at King's College London where he is also the Deputy Director of The Corbett Centre for Maritime Policy Studies uses these concepts with cases. He shows that naval forces are well suited to coastguard type power projection operations on the spectrum of conflict intensity short of inter-state wars. He provides examples on control of the maritime space, attacking insurgents and criminal elements and sustaining secure SLOC for cargo and passenger vessels.[76]

Naval Diplomacy

Inherent to any form of naval power projection is the political purpose and goal. This relates to the diplomatic component of the naval strategy of power projection. Naval doctrine and strategy have an umbilical tie to defence and foreign policy and diplomacy. Navies are a tool and means to achieve these. That lends to another element of the conceptualisations of Mahan and Corbett that retains certain validity. Mahan commented on this with direct reference to Corbett's study of the Seven Years' War (1756-1763). He wrote that the strength of English action in that war came from holding the three related functions of army, navy, and diplomacy in one hand.[77]

Examples are provided by Sir James Cable, a British diplomat and naval strategic thinker who wrote a series of works published between 1971 and 1994 about gunboat diplomacy. He defined it as the use or threat of limited naval force, otherwise than as an act of war, to secure advantage or to avert loss. He divided the examples of gunboat diplomacy into four categories: definitive, purposeful, catalytic, and expressive. All of them are tools of diplomacy as a means of coercion. That is more the threat of the use of force that resulted in not needing to use force because the objectives were achieved by this show of force or capability as a type of diplomacy.[78]

Booth has added examples in the post-Cold War era. He informed that the diplomatic role of the navy was a part of a state's foreign policy. According to him, to keep essential shipping lanes unimpeded, such as those in the Persian Gulf, the foreign policy of the United States relies on the symbolic display of naval strength. He highlighted photos from the USN where in the caption that appears next to aircraft carries it is written 90,000 tons of diplomacy.[79]

Naval diplomacy is as evident a role for small states with brown-water navies as it is for large maritime powers with blue-water navies. Kevin Rowlands, the head of the Royal Navy Strategies Study Centre, surveyed 500 naval incidents from the post-Cold War era. He notes that both small, medium, and large maritime states procure vessels with different systems on them to suit a mix of doctrine and strategies including as a means of foreign policy and diplomacy. He identifies three types of naval diplomacy: cooperation, convincing, and coercion. These give warships and navies symbols of national sovereignty and power, and not only purely military roles.[80]

An example for Israel comes from the IDF Chief of Staff Lieutenant-General Aviv Kochavi in 2019. He referred to the status of manned surface vessels. He stressed that despite the growing trend towards the development of unmanned vessels, they would be used mainly for deception missions, electronic warfare, counter-arming, and anti-terrorist warfare. They could not and would not replace manned surface vessels as they are essential for naval control and naval diplomacy.[81]

This role of naval diplomacy places warships' captains as a feature and tool of civil-military relations (CMR). They must diplomatically coerce through their presence when projecting power but short of provoking an armed response. That leads to the need to educate the topic of international relations, political science and CMR at naval academies. The objective is to appreciate decision making and command and control as being a mix of: 1) the professional military expertise of the commander of a naval force in the field; 2) naval control resting with a joint branch headquarters that would have the relative advantage of monitoring, controlling and influencing the fire attack plans of all the forces (land, sea and air) and intelligence on the arrays of the enemy; and 3) power projection and naval diplomacy determined by the goals and objective of political elites.

Crucial to how this is undertaken from a technical point of new instruments is the Revolution in Military Affairs (RMA). It is an enabler of capabilities in their broad sense of command, control, communications, computers (C4) and intelligence, surveillance, and reconnaissance (ISR) – in sum C4IRS. This also enables political elites to view the battle from afar making them better informed. This might be positive enabling the professional expertise of naval officers commanding warships to have an input to decision making.[82]

It might also be negative as political elites might wish to issue commands to the warship captains. A case study on China's status as a blue-water navy State, focusing on its centralised control of forces, has been conducted by Professor Andrew Erickson from the U.S Naval War College. He warns with examples that such over-centralisation towards the direct involvement of political elites may harm the capabilities of the Chinese navy.[83]

Similar positives and negatives apply for a small brown-water navy state such as Israel. Or Barak who is researcher at the National Security Studies Centre at the University of Haifa informs that increased computerisation has value because it enables the integration of military decision-making of different units at the tactical, strategic, and systemic levels. Yet it could lead to inexperienced and untrained civilian-political elites' involvement in battlefield decision making.[84] In sum naval cadets need to be educated also to project power and be diplomatic in CMR with their own political elites to ensure that the strategy pursued is a viable naval and maritime one.

Conclusion

This article commenced with the problem statement that we are facing new situations and new instruments with a bag of tools dependent upon age-old conceptualisations. The solution statement it offered was to provide a pointer to critique certain conceptualisations of Mahan and Corbett for their validity and hence pursue appropriate strategies. This has a two-fold value. The first of which is to contribute to naval cadet education. The second is because it can be studied in conjunction to the NMSS.

To sum up the points raised in this article would be to say that now everything is in the melting pot. A conclusion to be drawn is that there has been a paradigmatic shift in naval affairs since Corbett and Mahan. This shift involves a revolution in military affairs in terms of technology, operating doctrines, strategies and tactics, joint and combined operations, and in the aspects of decision-making of civil-military relations in real-time. Increasingly with new situations and new instruments since World War Two it is fair to state that many conceptualisations offered by Corbett and Mahan for the use of naval power have changed. Some remain valid.

Cadets at military faculties are students and students do not learn simply by listening. Cramming for tests, rote learning, and blind tradition of following traditional texts such as Corbett and Mahan need in addition a critiquing of, by, and for today's world. Any professional military education system requires a mix of a general education, with an emphasis on the individuality and development of a cadet's critical faculties. A lecture and an article can but touch on the fringe of a subject; it can indicate certain points, draw out certain principles, excite interest—or otherwise. But it cannot replace the hard reading, the persistent study, the writing down, and the discussion of views by which alone a professional's knowledge is to be distinguished from that of an amateur and practical experience.

To this end, a simulation exercise that might be undertaken at naval academies could be to get cadets to delve deep into the heritage of the profession, the development of abstract considerations and a broad philosophical appreciation of naval and maritime affairs to determine the desirable characteristics of naval and maritime strategy for their future positions in the real world aboard ships. This article has provided a few pointers to help this, and so too contributes to present and future naval planning, deployment, and operations. Whilst this article has drawn largely on existing ideas and knowledge it's contribution to the body of knowledge and to education is by providing a critique on how new situations and new instruments have walloped some age-old and tested naval conceptualisations.

The potentials to be developed and to be realised are in the next steps. Moreover, the nurturing of specialist think tanks for the development of concepts and doctrines specific could well follow the example of the USNWC, the Concepts and Doctrine Centre in the RN, and the FRS Foundation for Strategic Research in France. To this should be added the bottom-up approach where captains of warships can contribute their experiences to be written into doctrine. For example, on counterinsurgent operations, coastguard and constabulary roles and geo-strategic shifts with new instruments such as missiles, drones and cyber. That might be akin to improving overall efficiency by promoting harmony between the quarter-deck and the boiler room and raising executive officers' awareness of the technical realities of the steam age. The alternative would end in blind herd instinct and battle failure.

Beyond these beginnings, sooner or later cadets provided with the right directions in their education will light up a renaissance. And not just about points of view such as Corbett's and Mahan's conceptualisations on decisiveness, naval control, and victory. Being educated to look at the maritime space holistically with the full and proper examination of any conceptualisations tends towards serendipity when in combat or engaged in maritime security roles including naval diplomacy. The value of a maritime space also includes protecting the country's way of life and economic resources.

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The Merchant Marine in the Crosshairs: Latest Tool of Strategic Messaging?

Captain Kamlesh K Agnihotri (Retd) and Mr Chemi Rigzin

On 25 December 2023, the *Novocherkassk*, a large Russian naval landing ship, became the latest victim of a series of attacks on naval vessels in the Black Sea during the ongoing Russia-Ukraine conflict, which has been raging since February 2022. The ship was apparently hit by anti-ship cruise missiles at its base in Crimea.[1] The list of Russian naval ships that have faced attacks from Ukrainian missiles, UAVs, and surface/sub-surface drones—starting with the debilitating attack on the Russian Cruiser and flag ship of Russia's Black Sea Fleet, the *Moskva*, in April 2022—is fairly large, and includes all types of vessels, including a submarine. An open-source collation of such ships is placed at Table 1:[2]

Table 1: Russian Navy Ship Casualties during the ongoing Russia-Ukraine Conflict

Ship Name/Type	Outcome of Attack	No. of Ships
Moskva (*Slava* Class guided missile cruiser)	Damaged, and eventually sank	1
Rostov-on-Don (Kilo Class submarine	Damaged beyond economical repair	1
5 x *Raptor* Class patrol boats	3 destroyed; 2 damaged	5
1 x Project 02510 BK-16E High-speed assault boat	Destroyed	1
1 x Project 640 small patrol boat	Destroyed	1
Saratov Tapir Class landing ship	Destroyed	1
3 *Ropucha* Class landing ships	*Minsk* damaged beyond economical repair; *Olenegorsky Gornyak* and another damaged;	3
1 x *Serna* Class landing craft	Destroyed	1
Vasily Bekh: Project 22870 rescue tug	Destroyed	1
1 x Project 266M *Natya* Class minesweeper	Damaged	1
Askold: cruise missile corvette	Damaged	1
	Total	17

Source: Newsweek 90

While the numerous Russian naval ship casualties, when seen in isolation, appear quite terrible in scale, they can still be explained away as the anticipated outcomes of a conventional State-on-State warfare, wherein military hardware bears the maximum brunt. However, the wanton and wilful attacks on the merchant ships of third-party countries that are not at war with anyone—as seen recently in the Red Sea and as far down as the mid-Arabian Sea—has quite another connotation. Therefore, the question that begs urgent attention of the global community —and indeed of all stakeholders interested in secure oceans conducive to risk-free trade and energy flow—is whether certain States are using this lesser belligerent means for strategic messaging in a relatively peaceful environment, albeit amidst the prevailing tension in the West Asian region.

This article undertakes a brief survey of a few major ship-targeting incidents—by live ordnance firing or other less volatile measures—in and across the Red Sea, and then assesses the impact of such attacks on sovereignty, economic security, and maritime interests of the affected States. It also seeks to provide a circumstantially viable validation of the hypothesis that some States may be resorting to such 'below the conflict threshold' means to fulfil their desired geopolitical ends, and finally examines the response strategies of affected stakeholders including India to address the emerging challenges to their maritime security and economic wellbeing.

Targeting of Merchant Shipping in the Red Sea and Adjoining Arabian Sea

The latest edition of the Israel-Hamas conflict, which flared up after the horrific attacks perpetrated by Hamas from across Gaza on hapless Israeli citizens on 07 October 2023, threatens to assume larger proportions in scale, scope, and spatial dimension with every passing day. On one hand, the Lebanon-based Hezbollah elements and the Gaza-based Hamas fighters have been firing rockets on Israel, and Israel has been responding in equal measure. On the other, Yemen-based Houthi rebels have taken an altogether different approach to demonstrate their support to the Hamas and the greater Palestine cause. Their unilateral decision to attack merchant ships that have any linkages with Israel, in the Red Sea — and the subsequent expansion in scope to target all ships therein regardless of ownership and nationality — as long as Israel continues its military operation in Gaza, has caused the fallout of the Israel-Hamas conflict to spill over into the maritime domain.

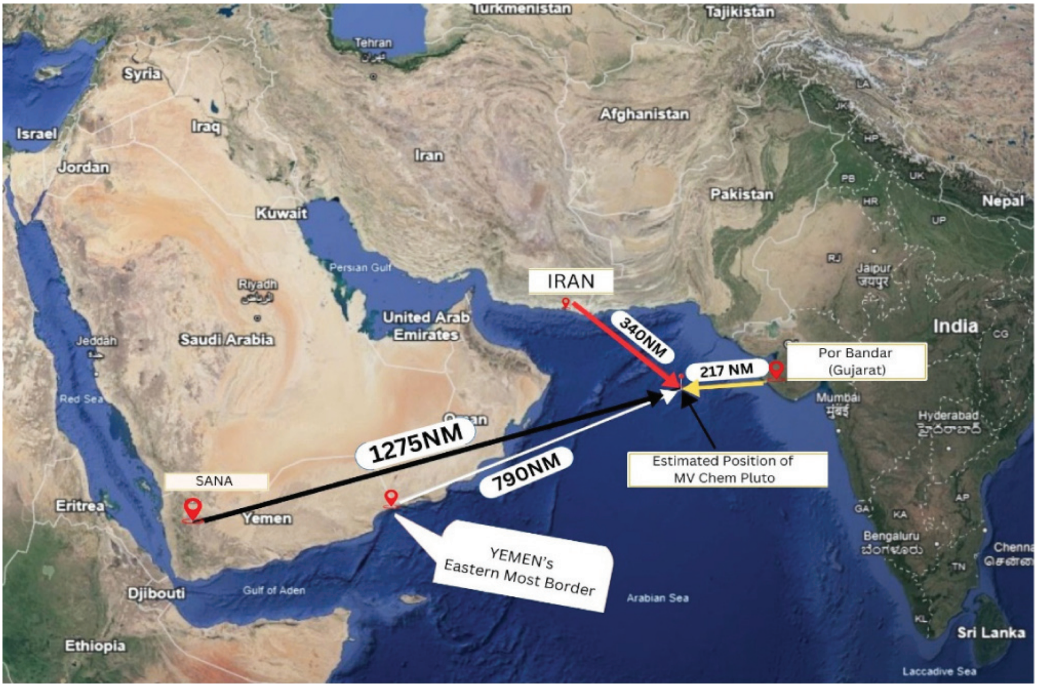
MV *Galaxy Leader* became the first ship to be attacked, on 19 November 2023, wherein the Yemen-based Houthi rebels spectacularly boarded the India-bound vessel using a helicopter in a commando-style raid and hijacked it.[3] The cargo vessel, part-owned by a British company and an Israeli shipping magnate, was subsequently commandeered to the Houthi-controlled port of Hodeida in a brazen display of the Houthi's ill-conceived intent and commensurate capabilities. Subsequently, the Gabon-owned and Indian-crewed oil tanker, the MV *Saibaba*, transporting crude oil from Port Said to India, was attacked in the Red Sea on 23 December 2023, and became the 14th vessel to be targeted since the *Galaxy Leader* incident.[4]

That date (23 December 2023) turned out to have ominous connotation for Indian maritime interests, given that another tanker, the MT *Chem Pluto*, heading towards the Indian port of Mangalore from the Saudi Arabian Port of Al Jubail in the Red Sea, was attacked by an explosive-laden aerial drone in the Arabian sea, about 217 nautical miles (NM) west of Porbandar in Gujarat. Figure 1 below depicts the approximate location of this attack. The ensuing fire on board was successfully extinguished by the ship's crew, comprising 21 Indians and a sole Vietnamese. The vessel, flying the Liberian flag and owned jointly by entities from Japan and Netherlands, was subsequently escorted by Indian naval and coast guard ships to Mumbai for assessment of damage, inspection, and further repairs.

A Reuters report cited a Pentagon official as saying that the unmanned assault drone was launched from Iran.[5] However, Iran's foreign office was quick to deny the accusation, calling it "worthless" and "… an attempt by the US to distract public attention…"[6]

While conclusive attribution for the attack may not be feasible, a logical analysis, comprising the measurement of distances from some probable points of launch to the site of drone attack at Table 2 (and depicted in Figure 1), vis-à-vis the capabilities of probable originators in the context of the ongoing Israel-Hamas conflict, is quite instructive.

Figure 1. Approximate Location of Drone Attack on MTChem Pluto


IRAN
340NM
217 NM
Por Bandar (Gujarat)
1275NM
790NM
SANA
Estimated Position of MV Chem Pluto
YEMEN's Eastern Most Border
Turkmenistan
Tajikistan
Tehran
Syria
Israel
Iraq
Jordan
Afghanistan
Iran
Pakistan
Kuwait
Nepal
Persian Gulf
Riyadh
Jaipur
Saudi Arabia
United Arab Emirates
India
Jeddah
Mumbai
Red Sea
Hyderabad
Oman
Eritrea
Yemen
Bengaluru
Djibouti
Gulf of Aden
Arabian Sea
Chennai
Ethiopia
Sri Lanka
Laccadive Sea

Source: Base Map from Google Earth. Markings by the Authors

Table 2: Distance from some probable points of launch to the site of drone attack

Possible Originating Point	Probable point of Attack	Estimated distance
Sana'a (Yemen)	217 NM west of Porbandar	1275 NM (2320 km)
Eastern Border of Yemen	217 NM west of Porbandar	790 NM (1435 km)
Eastern Border of Iran	217 NM west of Porbandar	340 NM (612 km)

Source: Authors

First of all, the distance of 1,275 NM from Sana'a, the centre of the Houthi controlled part of Yemen, to the location of attack appears to be well beyond the reach of the drones in their possession. In fact, even a distance of 790 NM measured from the eastern border of Yemen— even though this is not an area under Houthi control—may still be beyond the attack range of the drones generally held by non-State actors. Secondly, the maritime domain awareness (MDA) picture and technologies for tracking of a vessel at high seas—so far away from the coast—to enable accurate targeting, would certainly not be available to the rebels. Thirdly, the Houthi rebels already have an adequate number of vessels within their attack range in the Red Sea and the proximate waters across the Bab-al-Mandab in the Gulf of Aden, to progress their heinous agenda. Thus, it would not be operationally prudent for the rebels to reach so far out in the Arabian Sea to press home their position — however illegal, unethical, and rather rooted in criminality — with minimal expected gains for all their efforts.

That raises the question of who, if not the Houthis, could be behind this attack? A critical relook at the issues raised above does point to the fact that only the 'littoral States' would have the MDA wherewithal — including access to the automatic identification signals (AIS) — to track the movement of merchant ships and carry out subsequent targeting. Further, the datalink capabilities required — whether by terrestrial or aerial/satellite means — to precisely direct unmanned combat aerial vehicles (UCAV) capable of self-destruct missions, would also be within the preserve of States. If that be the hypothesis, there are only two States between the Strait of Hormuz and India — an indisputable fact rooted in geographic reality.

Tool for Strategic Messaging?

While the objective of this exercise is not to investigate a 'whodunnit', the possible motives behind States getting involved in unprovoked, though deniable, attack on merchant ships and non-combatants on the high seas, that too in peacetime, certainly merits greater examination. The most obvious reason, proffered by Houthis themselves, is that they will continue to disrupt the commodity and energy flow across the international sea lanes (ISLs), till the world at large, duly alarmed with the threat to global maritime trade, collectively pressurises Israel to declare a ceasefire in Gaza. However, in the case of an attack that empirically appears to be beyond the reach and capabilities of the Houthis, the intent of States—whosoever they may be—comes into question.

In the instant case, it is widely believed that the Houthi rebels, engaged in a civil war in Yemen for the past decade or so, have the tacit support of Iran, by way of ideological indoctrination, financial support, and the provision of military hardware. In fact, the debilitating drone attacks on Saudi Arabia's oil installations in September 2019, though claimed by Houthi rebels, had a clear signature of Iran's involvement; and the subsequent US investigations tried to prove as much with circumstantial evidence.[7] Since the definitive role of Iran in past and present disruptive actions by Houthi rebels—as indeed its suspected intent towards greater destabilisation of the West Asia/Middle-East region—has not been conclusively established, the article will refer to this abstract country as a 'Said State Player' (SSP) hereinafter.

In order to prevent wanton and random attacks by Houthi militants on commercial ships transiting the Red Sea, the US, announced the commencement of Operation PROSPERITY GUARDIAN, as part of Task Force (TF) -153, under the broad umbrella of the Combined Maritime Forces (CMF). The initiative, comprising naval forces from multiple countries,[8] has been proactively destroying incoming drones and boats, using ship-based firepower.[9] While only a few nations operating with TF-153 have publicly acknowledged their participation, some other countries engaged in same effort, have chosen to remain unidentified.

India formally joined the CMF as an associate partner in April 2022; which enabled the Indian Navy to work closely with the US Navy and naval forces of other collaborating countries in strengthening maritime security in the western part of the Indian Ocean.[10] Media reports indicate that since the advent of the recent Houthi-ascribed drone and missile attacks on merchant ships in the Red Sea, the Indian Navy has 'mission-deployed' five of its six most potent and heavily armed *Kolkata* Class destroyers, as also Indian Coast Guard patrol vessels in a supporting role in the seas around the Arabian Peninsula.[11] While the Indian Navy has neither confirmed nor denied these reports,[12] the fact that either INS *Kolkata* or INS *Chennai* have been seen to swiftly respond to a variety of maritime incidents in the region in full public view, is not lost on observers and analysts.

Thus, the SSP, by carrying out a surprise drone attack on a merchant ship just beyond the Indian exclusive economic zone (EEZ) and having a clear Indian connect — in that it was headed to an Indian port — has surely sought to convey an unequivocal strategic message to India. One can logically surmise that the message seeks to dissuade India — traditionally seen as a long-standing friend of the SSP — from joining the US-led Operation PROSPERITY GUARDIAN against the Houthi activities in the Red Sea and adjoining waters off Yemen.

There are, supposedly, other broader motives for the SSP, in addition to the above India-specific signalling; and they all have inherent elements of strategic communication to varying extent and for different recipients. Some plausible ones are mentioned below:

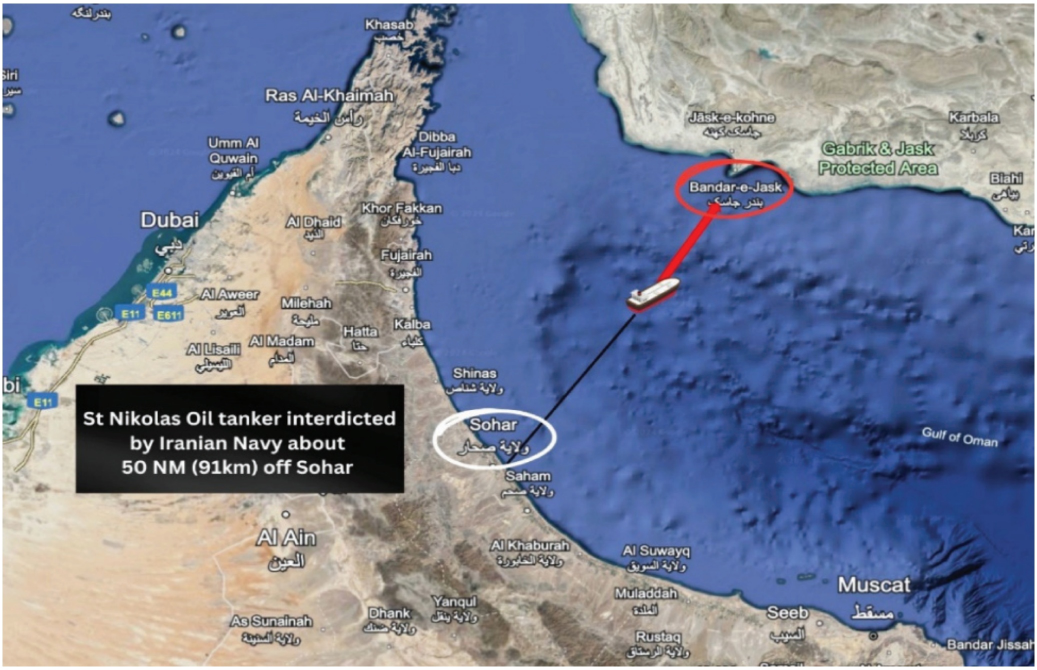
- Warn those oil-exporting countries within the Persian Gulf region that have sectarian difference with the SSP, that their energy-export system will be deliberately disrupted if they do not overtly support the Palestinian cause. Further, if they continue to align with the US to contain or contest unilateral influence-building endeavours of the SSP in the region, this could prove to be detrimental to their national interests.
- Expand the scope and scale of Israel-Hamas conflict to the whole of the West Asian littoral and the adjoining maritime areas of the Arabian Sea, by involving those countries that are aligned to the SSP's ideology — whether religious or cultural — and may have similar agendas.
- Inflame anti-West sentiments in the region by projecting the US and the collaborating forces as highly partisan and unreasonable in their actions when they respond by use of force — however limited in scale — to keep the critical sea lanes open and maintain the freedom of navigation therein.
- Propel this largely localised conflict onto the international arena, with the objective of somehow embroiling the US and other associated western allies into a warlike situation to an extent where the other major adversarial powers such as China and Russia are forced to consider some kind of counteractive response. If the precariously poised situation somehow attains kinetic dimension, the SSP would certainly be satisfied with the outcome.
- Signal to the world-at-large that its economic and social well-being — on account of the interruption of trade and energy flows — will be significantly and adversely impacted if the global community does not act in unison to

exert overbearing pressure upon Israel — through the US, of course, — to cease hostilities in Gaza.

Beyond Strategic Messaging?

The attacks by Houthi forces on merchant vessels in the Red Sea, as also on other ships in the Arabian Sea, did present a modicum of doubt over the involvement of the SSP — even though this has been pretty common knowledge for long. However, all pretences at being the tacit 'behind-the-scenes' actor were dropped, when the Iranian Navy seized MT *St. Nikolas*, a Greek-owned tanker, about 50 NM off the Omani coastal town of Sohar, on 11 January 2024. The vessel, which was transporting about 1,45,000 tonnes of crude oil from the port of Basra (Iraq) in the Persian Gulf to a refinery in Turkey, was subsequently commandeered toward the Iranian port of Bandar-e-Jask across the Strait of Hormuz.[13] Figure 2 presents a spatial perspective of the incident and its location.

Figure 2: Approximate Location of MT St Nikolas Seizure Incident


Khasab
Ras Al-Khaimah
Umm Al Quwain
Dibba Al-Fujairah
Dubai
Al Dhaid
Khor Fakkan
Fujairah
Al Aweer
Milehah
Hatta
Kalba
Al Madam
Al Lisaili
Shinas
Sohar
Saham
Al Ain
Al Khaburah
Al Suwayq
Muladdah
As Sunainah
Dhank
Yanqul
Rustaq
Seeb
Muscat
Bandar Jissah
Gulf of Oman
Jask-e-kohne
Bandar-e-Jask
Gabrik & Jask Protected Area
Karbala
Biahi
E44
E11
E611

St Nikolas Oil tanker interdicted by Iranian Navy about 50 NM (91km) off Sohar

Source: Base Map from Google Earth. Markings by the Authors

Iran stated that this action was in response to an earlier incident of April 2023, wherein the US Navy had interdicted the same ship — then named the MT *Suez Rajan* — in the South China Sea as part of its 'sanctions-enforcement' regime. The entire cargo of 'contraband' Iranian oil, supposedly destined for China, was confiscated; and later transhipped to a port in Texas.[14] This action has the potential to place Iran in direct confrontation with the US. Iran however, appears to have taken care to keep this action just about in the 'grey zone' in that the ship — owned by a Greek company, flying the flag of the Marshall Islands, carrying Iraqi oil, and destined for Turkey — has no direct connection with the US or its national interests. However, its strategic signal — articulated as a response to the US having "stolen"[15] the Iranian oil earlier —could not have been more explicit. The US, for the time being, has restricted itself to a diplomatic statement: "*We condemn this apparent seizure. The Iranian government should immediately release the ship and its crew. These provocative and unacceptable actions need to stop.*"[16]

Indian Response Strategy

India publicly denounced the attack on the MT *Chem Pluto* and underscored the resoluteness of its intent to address the emerging challenge. Shri Rajnath Singh, India's Defence Minister, asserted that "*… the Government of India has taken the attacks very seriously and … that the perpetrators of these attacks will soon be brought to justice …*"[17] The media, in fact, attributed the collective sense of Indian anger to these 'very strong' words of the Indian Defence Minister: "*Those who have carried out these attacks, we will find them from the bottom of the sea …* "[18] [sic]

And the Indian Navy — becoming increasingly combat-ready, credible and a future-ready Force— is more than capable and committed to 'walking the talk'. In this context, it is worth recalling that India was one of the first countries to deploy its warships, in November 2008, for the countering of piracy in the waters off Somalia and the Gulf of Aden. Soon thereafter, INS *Tabar* became the first ever warship to take decisive kinetic action against an ill-intentioned pirate mother-ship, and destroyed it.[19] India has, since then, maintained continuous deployment of its warships on anti-piracy duty over the past decade-and-a-half. Cutting to the contemporary timeframe, India, additionally began to deploy Indian Navy ships under Operation SANKALP — which translates to 'Resolve' — since June 2019, to convey its intent to protect the security of its energy flows, after random attacks were reported on ships transporting oil from the Persian Gulf.[20]

Subsequent to the *Chem Pluto* attack, an increased contingent of Indian naval and coast guard ships and other associated assets have been deployed in a wide swath of the Arabian Sea. This response-strategy has started yielding the desired results, as seen in the successful Indian Navy's mission to recover the hijacked cargo vessel, the bulk carrier MV *Lila Norfolk*, from the clutches of pirates in the north Arabian Sea, on 04 January 2021. The Indian Navy's marine commandoes (MARCOS), duly supported by Indian P-8(I) maritime reconnaissance aircraft, UAVs, ships, and helicopters, rescued all 21 crew members including 15 Indians.[21] This operation, although not directly related to the ongoing Houthi actions, signalled the firmness of the Indian Navy's own resolve to be a credible first-responder in multifarious contingencies within the Indian Ocean Region.

Conclusion

The contemporary scope of maritime warfare extends beyond traditional paradigms, and increasingly encompasses advancements in various high-technology applications such as the extensive use of drones, as seen in the ongoing turmoil in and around the Arabian Peninsula. The integration of MDA tools into the kill chain further enhances the capabilities of States — and those of non-state actors, too — oft-times endowing them with asymmetric operational advantage. Consequently, there is a tendency on part of some actors to indiscriminately leverage such asymmetric advantages for strategic messaging. However, in recognition of the protracted and intricate nature of conflict that may subsequently erupt if merchant vessels are considered to be easy prey for predatory attacks; it becomes imperative for States to be mindful of the escalatory potential of such strategic signalling endeavours. Therefore, due prudence must be exercised while using this instrument.

As far as the currently prevailing maritime instability in the Red Sea (and extending well beyond it into the Arabian Sea) is concerned, the attacks on merchant vessels —

whether carried out by the Houthis, pirates, or even by State parties under a cloak of deniability — are likely to continue for some time in future, especially as Israel has indicated that its offensive in Gaza will not end any time soon. The coalition of State-parties under Operation PROSPERITY GUARDIAN are presently trying to address the evolving threat by the judicious use of limited force as a defensive measure, so as not to further expand the scope and expanse of conflict. However, with the Houthi resolve of exacting revenge against the warships of TF-153 which targeted their bases ashore — duly aided and abetted by ordnance support from the SSP — and given the fact that these ships are operating in constricted waters in the Red Sea, it appears to be only a matter of time before they get lucky, and a warship is hit. In this dynamic situation, where more and varied kinds of attacks are occurring with ominous regularity, a successful incident against a warship—howsoever minor—will leave no option to the defending coalition of countries, than to escalate the conflict.

In this tenuous and potentially explosive situation, the Indian Navy's choice of deploying its warships and associated support systems in good strength around the affected region appears to be quite prudent. This approach will ensure the ready availability of its assets and their operational preparedness to intervene quickly to address the emerging threats to India's maritime and economic security. Such an operationally poised combat-ready force will also be able to mitigate the impact of the so called 'strategic communication' that the SSP or any other party seeks to convey to India. The proactive posturing of such a potent force, if and when absolutely necessary, will enable the country to pose some 'strategic questions' of its own to the originators of such strategic signals. In the process, if an opportunity presents itself to collaborate with other stakeholders who identify themselves with the free, open, and secure seas consistent with the prevalent 'rules-based order', the Indian Navy must contribute positively—though not necessarily with grand fanfare and undue publicity.

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An Analysis of Australia's National Defence Strategy 2024

Ms Harshita Dey

On 17 April 2024, the Australian government unveiled two seminal documents. The first was its "National Defence Strategy 2024" (NDS-2024), while the second was the "Integrated Investment Program 2024" (IIP-2024). The NDS builds upon the findings of the "Defence Strategic Review 2023" (DSR-2023) and positions the country as a *"middle-power maritime nation"* with its own distinct national interests. In common with many countries of the western Pacific, Australia, too, has sought to tie its economic growth to trade with China while sustaining its security from robust engagement with the United States of America (US). The process of analysis of the Australian NDS-2024 undertaken in this article begins by tracing the changes undertaken by the Australian government to enhance the country's defence within the Indo-Pacific and then exploring its implications for the Australia-India dyad. It is important to acknowledge that the NDS-2024 directly addresses concerns that had been identified in the DSR-2023,[2] and provides a roadmap to meet these challenges. Table 1 illustrates this:

Table 1

Ser	Concerns Highlighted in DSR-2023	Approach Adopted by NDS-2024
1	Reduced Strategic Warning Time	Increased focus upon the national intelligence community and "persistent situational awareness"
2	Obsolete Force Model	Investment of A$ 42.1 billion on defence, especially submarines and their supporting infrastructure over the next decade. This signifies a strategic decision to prioritise a critical maritime capability.
3	Workforce Challenges	Planned increase in defence workforce funding, from A$ 17.1 billion to A$ 25.2 billion, in recognition of the importance of a skilled workforce for maintaining and operating military capabilities.

4	Limited long-range strike capabilities	IIP-24 clearly lists the investments that would be made by the Australian government to enhance long-range strike capabilities for the RAN, the RAAF, and the Royal Australian Army.
5	Undersea warfare vulnerabilities	NDS-24 prioritises investments in submarines, the surface fleet, and collaboration under AUKUS to enhance undersea warfare capabilities.
6	Inadequate air and missile defence	Australia plans to manufacture its own "Guided Multiple-Launch Rocket System" missiles, starting in 2025, to reduce reliance on foreign suppliers and strengthen its domestic missile defence capabilities.
7	Reliance on foreign-produced munitions	NDS-24 prioritises domestic production of select weapons and a secure supply chain.

Source: Compiled by Author

From Table 1, it is clear that an attempt has, indeed, been made by the Australian government to address the concerns raised by the DSR-2023. Limited budgetary resources necessitate prioritisation, reflecting the Australian government's clearly defined strategic objectives.

Objectives of NDS-2024

The main stated objective is *"to deter any actions that could lead to conflict, military coercion or direct action against Australia or our interests"*. To attain this objective, Australia has employed a *"strategy of denial"*[3] in five domains, namely, maritime, land, air, space and cyber. Deterrence has now become the primary strategic defence objective of Australia. By deterring conflict, Australia aims to prevent the escalation of situations that might thereafter need a military response. The objectives of the NDS-2024 are:[4]

Strengthening Military Capabilities: To deter aggression, Australia plans to bolster its military capabilities. This includes enhancing its ability to project power and operate alongside allies like the US.

Deepening Partnerships: Australia recognises the importance of collaboration. Partnering with Pacific Island nations, India, and Japan, involves information sharing, joint training, and addressing shared threats like climate change.

Optimising the Workforce: NDS-2024 emphasises workforce optimisation. This involves strategically allocating resources and personnel for maximum efficiency and performance within the Australian Defence Force.

Self-Reliance in Defence: The strategy acknowledges the importance of self-reliance for national security. Investment in domestic shipbuilding allows Australia to maintain and repair military equipment, reducing dependence on foreign suppliers.

Enhancement of 'Maritime'- and 'Naval' Capacity and Capability

To deter adversaries in the Indo-Pacific, Australia is significantly expanding its naval muscle. This involves modernising existing warships with advanced missile-defence systems and integrating long-range strike capabilities. The *Hunter* Class frigates, for example, bring superior capabilities in anti-submarine warfare and air defence, while a new generation of frigates will be replacing ageing vessels. A particularly innovative addition is "Large Optionally-Crewed Surface Vessels", offering long-range strikes and boosting overall fleet lethality. Helicopter support is crucial, too. The newly inducted MH-60R helicopters enhance anti-submarine capabilities and provide logistical support. Upgraded air-defence systems further strengthen Australia's defences against advanced weaponry.[5] To maintain this expanded fleet, Australia is investing in infrastructure upgrades, a series of amphibious vessels, but, strangely enough, only two replenishment ships. A continuous shipbuilding programme is expected to create over 8,500 jobs by 2030 and Canberra hopes that its partnerships ensure a robust domestic shipbuilding industry.[6] This naval expansion signifies a strategic shift for Australia, prioritising control of Indo-Pacific maritime approaches through a modern and lethal fleet.[7]

Indo-Pacific Region

Australia views the Indo-Pacific as its security lifeline. Rising US-China rivalry is Canberra's prime concern, with China's assertiveness seen as a threat to regional balance. Australia prioritises a rules-based order and stability, achieved through a strong US alliance, partnerships with India, Japan, and Southeast Asia, and a modernised military with nuclear-powered submarines (though the AUKUS construct). Transparency and regional cooperation are key for Australia, which seeks to deter aggression and maintain its role as the Pacific Island security partner of choice. While the Australian document emphasises collective security in the Indo-Pacific,[8] it does not explicitly mention the Indian and Japanese concept of a *"free, open, and inclusive"* Indo-Pacific. This notwithstanding, this regional vision aligns with India's own maritime objectives, which include: (1) Protection from sea-based threats to India's territorial integrity; (2) Stability (peace & prosperity) in India's maritime neighbourhood; (3) Creation, development, and sustenance of a 'Blue' Economy that is resilient against adverse maritime effects of Climate-Change; (4) The preservation, promotion, pursuit and protection of offshore infrastructure and maritime resources within and beyond the Maritime Zones of India (MZI); (5) The promotion, protection and safety of India's overseas and coastal seaborne trade and her Sea Lines of Communication (SLOCs), as also the ports that constitute the nodes of this trade; (6) Support to marine scientific research, including that in Antarctica and the Arctic; (7) Provision of support, succour, and extrication-options to the Indian Diaspora; and (8) Obtaining and retaining a favourable geostrategic maritime-position.[9] By collaborating with Australia and other regional partners who share similar visions, India can advance its own objectives in the Indian Ocean, and acting together, Canberra and New Delhi can more synergistically contribute to a more secure and stable Indo-Pacific.

Indian Ocean

The rising competition for influence in the Indian Ocean, with regard to control of sea lanes and strategic ports, has Australia on high alert. The NDS-2024 recognises the Indian Ocean's critical role in Australia's security and emphasises the need for regional stability. To achieve this, Australia prioritises cooperation. Australia seeks to significantly strengthen defence ties with India—such collaboration also extends to other Indian Ocean nations like Sri Lanka, Maldives, and Bangladesh through regular military deployments, training exercises, and information sharing. By prioritising regional cooperation and building strong partnerships based on transparency, Australia aims to safeguard the Indian Ocean's stability and secure her own strategic interests.[10] Notably, this pursuit of stability aligns perfectly with India's second objective of fostering stability (peace and prosperity) within its immediate maritime neighbourhood[11] and is identical to India's own principal maritime strategy in times of peace, namely, "Constructive Engagement".

United States

Facing a rising and increasingly assertive China, Australia prioritises its military alliance with the US.[12] The two countries aim to deepen defence engagement through combined exercises, technology-sharing (AUKUS), and boosting interoperability for deterrence. While the US partnership remains central to Canberra, Australia also seeks robust partnerships with India, Japan, and the States of Southeast Asia to address shared security concerns. The NDS-2024 clearly brings out Australia's alliance-centric approach in respect of the US, its focus on collective deterrence through combined military strength, its emphasis on advanced technology and interoperability with allies, and the high value it places on regional cooperation. Where India's own approach is concerned, Deputy National Security Adviser Vikram Misri has made it quite clear that *"India does not believe in partnering in military alliances. We are, however, a partner for many countries including in the military and defence field,"*[13] VAdm Chauhan is of the opinion that *"while conflict in the South China Sea has direct implications for Australia, Japan and the United States, it does not enjoy the same centrality for India."*

China

The NDS-2024 states quite unequivocally that China has been employing *"coercive tactics"*[14] in the Indo-Pacific to pursue its strategic objectives. It emphasises the potential for regional destabilisation due to the *"lack of transparency surrounding some of China's Indo-Pacific initiatives."*[15] This blunt appraisal has created much discomfort for China and has led to China's foreign ministry spokesperson to state (while interacting with the media):

> "China is committed to peaceful development and a national defence policy that is defensive in nature. We stay committed to the peace and stability of the Asia-Pacific region and the wider world and pose no threat to any country. The security risks in the

> region mainly come from some major countries outside the region. They have been forming exclusive groupings, stoking bloc confrontation, and in particular, muddying the waters in the South China Sea, as if the world needed any more instability. China firmly opposes it. We hope Australia will correctly view China's development and strategic intentions, abandon the Cold-War mentality, do more things to keep the region peaceful and stable, and stop buzzing about China."[16]

While Australia's stance on issues related to China may well challenge Beijing's regional ambitions and potentially damage the latter's international standing, it is nevertheless also true that China remains Australia's largest trading partner.[17] Additionally, Chinese companies control a disconcertingly large amount of Australian port infrastructure.[18]

This economic dependence of Australia upon China is an important factor for India to consider when evaluating its own strategic partnership with Australia in the Indo-Pacific. Offsetting such concerns that ought to be addressed by New Delhi is, of course, the fact that India, too, has a significant degree of dependence upon China for its own economic wellbeing.

Japan

Recognising Japan's vital role in regional security, the NDS-2024 elevates Japan to an *"indispensable partner"*[19] for peace and stability in the Indo-Pacific. This strong relationship is built on shared post-World War-II values and interests, allowing for close cooperation on multiple fronts. Australia prioritises trilateral cooperation with Japan and the US and holds that such cooperation fosters interoperability and coordinated action. The NDS-2024 emphasises the strengthening of strategic ties with Japan through consultations on potential conflicts while deepening collaboration on defence innovation and technology. In addition, Australia seeks *"high-end interoperability"*[20] with Japan's Self-Defence Forces across multiple domains and encourages greater Japanese participation in military initiatives within Australia. This focus upon a multifaceted partnership with Japan highlights Australia's desire to create a united regional front to address security challenges.

India, too, can and should leverage the existing Australia-India-Japan trilateral, with particular focus being placed upon cooperation in supply chain resilience.[21]

Moreover, this trilateral framework presents an opportunity for New Delhi to further India's own objective of promoting, protecting, and ensuring the safety of her overseas and coastal seaborne trade, Sea Lines of Communication (SLOCs), and the crucial port infrastructure that serves these trade routes.

AUKUS

AUKUS is a cornerstone of Australia's National Defence Strategy, fundamentally transforming the Australian approach to security and technology. The focus is on acquiring nuclear-powered submarines. It provides for a phased approach, with initial deployments of US SSNs to Australia, followed by the fielding of Australian-built SSNs. AUKUS also has a second line of thrust, which involves collaboration in eight areas of cutting-edge technology, wherein all three AUKUS partners have shown an interest in partnering with Japan.[22] This not only strengthens Australia's military capabilities but also aims to create a unified trilateral industrial base. By integrating with the US and UK defence sectors, Australia seeks to boost its own domestic industry and promote innovation. Overall, AUKUS is seen as critical for enhancing deterrence, achieving a technological leap, and fostering growth within the Australian defence industry.

Very substantial opportunities exist for India to collaborate within this second thrust line of the AUKUS programme, since India has independent and yet very significant technological prowess in all eight identified technologies, namely, (1) Undersea Capabilities; (2) Quantum Technologies; (3) Artificial Intelligence and Autonomy in contested environments; (4) Advanced Offensive and Defensive Cyber-Capabilities; (5) Hypersonic and Counter-hypersonic Capabilities; (6) Electronic Warfare; (7) Innovation (involving the integration of commercial technologies to solve warfighting needs); and (8) Information-sharing. If India can, indeed, partner AUKUS in these eight fields of defence high-technology, the combined effort would greatly contribute to a more secure Indo-Pacific, deterring potential Chinese coercion and intervention.

Indonesia

The NDS-2024 identifies Indonesia as "*an essential and enduring partner*".[23] This translates into a two-pronged approach. First, Australia is committed to fortifying its bilateral defence ties with Indonesia. This means increased investment in dyadic military cooperation, potentially involving combined exercises, training, and possibly technology sharing as well. Second, Australia recognises Indonesia's significance for regional security. The strategy stresses collaboration with Indonesia to address security challenges in Southeast Asia. By prioritising a deeper partnership with Indonesia, Australia aims to solidify both their bilateral relationship and contribute to a more stable Indo-Pacific region. India has an excellent opportunity to leverage the existing trilateral framework that includes Indonesia and Australia. Encouraging continued participation in trilateral security exercises would strengthen these partnerships and enhance their collective capability to maintain a stable, peaceful, and secure Indo-Pacific.[24]

Oceania

Oceania retains high importance for Australia's security as acknowledged in the NDS-2024, which emphasises *"Pacific family-first"*[25] solutions and prioritises supporting Pacific Island-States as they wrestle with their security challenges. Australia's aim is to be the preferred security partner through initiatives such as the "Pacific Maritime Security Programme", which seeks to bolster maritime security capacities and capabilities.[26] Investing in combined exercises and training fosters interoperability between Pacific Island maritime agencies and Australia, thereby strengthening regional capacity and enhancing regional capability. Australia emphasises respecting the sovereignty of Pacific Island-States and collaborating on shared challenges such as climate change. Overall, the strategy prioritises a cooperative approach, building a secure Pacific alongside—rather than in lieu of—Pacific Island leadership.

Given India's own existing engagement with Pacific Island-States through the "Forum for India–Pacific Islands Cooperation" (FIPIC),[27] there is an excellent opportunity for further collaboration with Australia.

Independently, India should explore ways to contribute to the "Pacific Maritime Security Program", thus complementing Australia's capacity-building efforts and jointly enhancing the security capabilities of Pacific Island-States. India's experience in coastal surveillance and disaster management can also be shared with Pacific Island-States, to substantial mutual advantage.

Additionally, both India and Australia are experienced practitioners in the provision of regional Humanitarian Assistance and Disaster Relief (HADR). Collaboration on pre-positioning relief supplies and combined deployments can bolster regional response capabilities.

Climate change is another area that is ripe for India-Australia cooperation. India and Australia can co-develop infrastructure projects aligned with Pacific Island needs, ensuring regional stability and prosperity. Both nations need to collaborate on initiatives that address climate's security risks in the Pacific, such as the provision of maritime infrastructure that is resilient against extreme weather events and rising sea levels. By working together, India, Australia, and the Pacific Island leadership, can become key trusted partners in maintaining a safe and secure Pacific.

India

As already stated, the NDS-2024 positions India as an indispensable *"top-tier security partner."*[28] This stems from shared concerns about regional stability. The Australian strategy prioritises strengthening this bilateral relationship through practical manifestations of their "Comprehensive Strategic Partnership."[29] This translates to increased collaboration on practical matters such as combined exercises, information-sharing, and defence-industry cooperation. Australia sees India as a crucial player in countering regional challenges such as that involving Taiwan, as also confrontation in the Indian Ocean. Recognising the strategic significance of the north-eastern Indian Ocean, Australia plans to work more closely with India through increased deployments and combined exercises in the region.[30] Overall, Australia's strategy seeks to forge a deeper security partnership with India to ensure a stable Indo-Pacific.

Conclusion

Within Australia itself, the NDS-2024 has received mixed reviews. While many consider it a positive step with clear direction and funding, some Australian experts feel that in focusing solely on military issues, the strategy neglects broader security ones and underplays the importance of utilising whole-of-Australia resources, including economic and diplomatic tools, all of which are crucial in today's complex environment.[31] This may, however, be an unfair criticism since the title of the strategy document is quite unambiguously "defence" rather than "security" strategy. That having been stated, even within this limited "defence" ambit, a surprising feature is that while much has been made of Australia's envisaged naval build-up, Australia plans to induct only two fleet replenishment ships. This seems rather inadequate for a navy that is expanding at such a rapid pace.[32] The NDS-2024 also glosses over the fact that the construction of a naval fleet of the size envisaged is a time-intensive process and Australia will have to live with significant capacity-gaps at least until the middle of the next decade. In the eyes of many scholars this gap-period is an extremely important one for Australia's defence and security. Another critical consideration when analysing Australia's National Defence Strategy is the tension between security concerns and economic realities. While the strategy acknowledges China's coercive actions, as highlighted by the Defence Minister, China remains Australia's largest trading partner. This underscores the interconnected nature of security (obviously incorporating "defence" as a subset) and economic interests. As in every nation, these are not independent but need to be made mutually reinforcing.

In essence, Australia's 2024 National Defence Strategy prioritises deterrence through military modernisation and partnerships. While this approach seeks to strengthen Australia's defence (and regional security) through collaboration with the US, Japan, India, and Southeast Asia, it glosses over the tension that is inherent between countering China's influence on the one hand and Australia's significant economic ties with Beijing on the other. Additionally, limitations in shipbuilding capacity present a potential gap in capabilities until the expanded fleet is fully operational. However, India's alignment with Australia's vision for a stable Indo-Pacific opens doors for collaboration on maritime security, defence infrastructure, the derisking of existing supply chains, and the creation of new ones. By leveraging these opportunities and fostering a cooperative regional order based on comity, India and Australia can forge a powerful partnership that safeguards a secure and prosperous Indo-Pacific.

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About the Author

Ms Harshita Dey was a Junior Research Associate at the National Maritime Foundation. Her areas of interest were maritime geostrategies of Oceania and varying nuances of maritime history.

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A Review of the Australian Cybersecurity Strategy 2023-2030

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1. On 22 November 2023, the Australian government released a comprehensive document describing the cybersecurity strategy for the country.[1] The document covers a time frame of 2023-2030 and describes a whole-of-nation approach towards achieving specific cybersecurity goals for its citizens and businesses.

2. The formulation of this strategy document began in December of 2022 with the government appointing an 'Expert Advisory Board' to guide the development of the strategy. The board prepared a discussion paper that solicited comments from individuals and organisations. It received more than 300 public responses. In addition to this discussion paper, the Department of Home Affairs also organised multiple discussions with industry, community leaders, and individuals. These responses were studied, and the final strategy paper was prepared accordingly.

3. The impetus for the promulgation of this strategic guidance appears to be the realisation on the part of the Australian government that with the advancement of internet and information technology [IT] enabled services that have permeated to almost all Australian citizens, there has been a concomitant increase in cyberattacks on Australian individuals and organisations within Australia as well as beyond its shores. Two recent major large-scale incidents occurred in October 2022, when the data of almost 20 million Australian citizens was lost in cyber-attacks on Optus[2] and Medibank.[3] The deleterious effects of these attacks, not just on the companies but also their customers, generated palpable urgency to address this problem on a national scale.

4. The “Australian Cybersecurity Strategy 2023-2030” (hereinafter referred-to as “the Strategy”) adopts an approach that emphasises specific actions by the government as well as industry. It highlights the Australian government’s commitment to a collaborative effort between government, industry, and individuals to achieve a secure cyberspace for all. It also specifies the goal of Australia becoming a global leader in cybersecurity by 2030. To achieve this this goal, the Strategy calls for a structured and phased approach, which may be summarised as follows:

(a) **Near term activities (2023-2025).** Strengthen foundational aspects by addressing critical gaps, identify vulnerable citizens and businesses, and work with global partners for cyber maturity.

(b) **Mid Term Activities (2026-2028).** Scale-up cyber-maturity across all businesses by investments in technology and a diverse cyber workforce.

(c) **Long Term Activities (2029-2030).** Establish Australia as a global leader in cybersecurity by 2030.

5. The Strategy terms these periods “Horizon 1”, “Horizon 2”, and “Horizon 3”, respectively. The activities of “Horizon 1” would appear to be synchronised with the next general elections that are due in September of 2025, perhaps giving the politicians concerned an achievement that they could use.

6. Some of the factors that have prompted the articulation of the Strategy are:

(a) Like all countries, Australia faces an increasingly hostile cyberspace environment. While businesses and the economy in general have adopted digital transformation to increase productivity and generate wealth, malicious actors have not been idle either. Cyber-attacks have grown in sophistication as well as in magnitude. In many cases State sponsored, or State-tolerated threat-actors have been relentless in their attempts to cause mayhem across all sectors of the nation’s economy.

(b) The acceleration in malicious activity is in many ways due to the fact that most means used to target vulnerabilities are now easily available at minimal cost as compared to the returns that they offer. The “attacker-as-a-service” model also ensures that lack of technical knowledge is no longer a hinderance to successful data breaches by even a novice attacker.

(c) In October 2023, while responding to the Australian Parliament, the Director General of Australian Signals Directorate (ASD) acknowledged Australia's offensive cyber capabilities and the actions that the ASD had taken against cybercriminal syndicates. However, as events have shown this is a short-lived victory as these threat actors quickly regroup under different names and most of them remain beyond the reach of law enforcement agencies.

(d) Australia considers itself to be a trusted partner for other nations in the region for the provision of collective capability as well as a credible leader globally in cybersecurity. Australia has strongly emphasised the rules-based international order and has consistently called out instances of malicious cyber activity by other States.

7. The overall approach of the Strategy is embodied by six interlocking "shields" representing different areas of focus:

(a) Shield 1: Strong Businesses and Citizens: Empowering individuals and businesses to defend themselves online.

(b) Shield 2: Safe Technology: Ensuring the security of technology products and services used by Australians.

(c) Shield 3: World-Class Threat-Sharing and Blocking: Improving information sharing and cyber threat detection capabilities.

(d) Shield 4: Protected Critical Infrastructure: Safeguarding essential infrastructure from cyberattacks.

(e) Shield 5: Sovereign Capabilities: Developing a strong domestic cyber-security industry and expertise.

(f) Shield 6: Resilient Region and Global Leadership: Collaborating with regional and international partners to improve global cyber resilience.

8. Even as the Strategy demonstrates the Australian government's resolve to address challenges posed to its digital economy from threat actors, it is not short on

the actual steps the government intends taking to provide protection to its citizens, businesses, and government institutions. Each of the “shields” mentioned above contain specifics of the various actions by the government that would ensure the articulation of desires expressed. For example, the actions that the government would take to ensure a positive outcome of “Shield 1” are:

(a) Advice and guidance to small and medium businesses by way of a free and tailored assessment of cybersecurity maturity. This guidance will be adaptable to keep pace with the growth of this sector of business. A reduction of regulatory compliance requirements would also ensure active participation of small and medium businesses.

(b) Provide support to ensure resilience to this community when faced with cybersecurity incidents. Recovery capability will be provided by dedicated teams of cybersecurity professionals who understand the small business environment.

(c) Building cybersecurity awareness among the citizenry to enable it to embrace the opportunities provided by digital technologies. This awareness campaign is designed to help Australians understand the evolving nature of cyber threats and how to protect themselves. This awareness campaign is also focused on vulnerable communities to provide cyber literacy. Rural and isolated communities that rely on the availability of digitally delivered services comprise one such target group.

(d) Build upon existing domestic law-enforcement and offensive cyber activities to disrupt the activities of threat actors. Currently the Australian Federal Police (AFP) and the ASD use offensive cyber capability as a criminal investigation tool towards prosecution or disruption. The Strategy calls for an expansion of these activities to make Australia a harder target to attack.

(e) On most occasions, under-reporting of ransomware incidents by businesses is due to the punitive actions likely to be faced by victim organisations for failing to protect their data. The Strategy calls for legislating a “no-fault, no-liability” ransomware-reporting obligation for businesses.

(f) Most of cases of payment of ransom do not result in the recovery of encrypted data. The Strategy calls for the government to strongly discourage businesses and individuals from paying ransom to cybercriminals. Along with this advice, the Strategy also advances the development of a "ransomware playbook" that would provide guidance to businesses on preparing, dealing and recovering from a ransomware attack.

(g) To enhance the adoption of the digital economy by businesses, the Australian Government will work with industry to ensure cyber security is appropriately considered in the boardroom and informed by clear guidance on cyber best-practices, and lessons learned from previous cyber incidents. To clarify business expectations of cyber governance, the Australian government will provide corporate obligations for critical infrastructure owners and operators and to collaborate with industry to design best-practice principles to guide good cyber governance.

(h) In a deviation from the current practice being followed elsewhere, the Strategy calls for reducing the need for (1) people to share sensitive personal information with government, and (2) for businesses to access services online. This would help in reducing the risks and impact of identity theft and fraud. Cybersecurity of the Australian Government's "Digital ID" System is recognised in the Strategy as being crucial to this.

(i) In keeping with the theme of working with individuals and organisations the Strategy emphasises the government's desire to support victims of identity theft by increasing funding for this.

9. Recognising the fact that cybercrime is a global threat, the Strategy calls for the Australian government to work with international coalitions to provide effective deterrence and response to cybercrime. The calling out of States that provide safe harbour to threat actors has been emphasised in the Strategy. A case in point is offered by recent public attribution of the attackers responsible for the data breaches at Optus and Medibank in Sept-Oct 2023 being based in Russia.

10. While most national strategy documents are fairly clear on "what" is desired and hence to be articulated, it is the "how" part that is left vague (possibly to cater

for evolution of the threat over time) or at best promulgated much later when events have overtaken the premise of the strategy. What is especially noteworthy in the Australian case is that there is a detailed "Plan of Action" released by the Australian government, as an accompanying document.

11. This "Cyber Security Action Plan" supplements the Strategy and specifies the key initiatives that will be taken over the next two years as detailed in the "Horizon 1" timeframe. This Action Plan describes the implementation details of the measures designated as part of all six Cyber Shields. "Horizon 1", which focuses on strengthening Australia's cyber security foundations, will address the critical gaps in Australia's Cyber Shields to build strong businesses and citizens through deep partnerships across industry and government.

12. The Action Plan will be reviewed every two years, with actions being modified, added, and deleted, as required by changed circumstances or the environment. Even more importantly, the Action Plan designates the leading and supporting government agencies for each action items. This is intended to ensure accountability while providing authority to the concerned agency.

Comparative Analysis vis-à-vis India

13. The details and the expanse of the Strategy and the accompanying Action Plan emphasise the importance of cybersecurity, which is considered essential for the continued development of Australia and to provide a safe and secure digital environment to Australian citizens and businesses. The Strategy provides a focused approach to help realise the Australian Government's vision of becoming a world leader in cybersecurity by 2030. Indeed, there is much to admire and, perhaps, emulate.

14. By way somewhat unflattering contrast, the Indian government's own approach still remains one of a series of disjointed efforts without a single overarching document describing a similar intent. There are multiple agencies each with their niche domain that have promulgated often similar requirements to ensure cybersecurity of their respective constituencies. What is common is that most of these regulatory

requirements, instead of providing meaningful guidance or assistance to either the citizens or businesses, simply emphasise punitive measures.

15. Among the bodies that oversee and regulate cybersecurity for Indian entities are the following:

(a) The Ministry of Communications, and the Ministry of Electronics and Information Technology (MeitY) are the two primary ministries that deal with all aspects of cyberspace governance in India. The Department of Telecommunication (DOT) under the Ministry of Communication is responsible for policy, licencing, and coordination, in respect of all matters relating to telecommunications.

(b) The charter of MeitY includes policy matters relating to IT, electronics and the internet, and matters relating to cyber laws as well as other IT related ones. MeitY has three statutory bodies that function under its overarching control, namely, the "Controller of Certifying Authority "(CCA), the "Indian Computer Emergency Response Team (CERT-In)", and the "Unique Identification Authority of India" (UIDAI).

(c) The "Information Technology Act, 2000" and its companion, the "Information Technology (Amendment) Act, 2008" provide the foundation of India's cyber legal framework. The Regulations issued pursuant to the requirements of these Acts outline the obligations and responsibilities of various authorities and organisations.

(d) The most recent regulation regarding data protection is the "Digital Personal Data Protection Act, 2023", which was passed by the Parliament in August of 2023. However, the regulations and responsibilities of the various designated authorities have yet to be promulgated, leaving the implementation of this Act in limbo. The "National Cyber Security Policy" which sought to provide strategic direction is a document that dates to 2013.

(e) There are, of course, some things to cheer about. Sectoral bodies providing regulatory oversight to their constituents, such as, for example, the Reserve Bank of India (RBI) for the banking (and other financial institutions) sector, do provide guidance in terms of the requirements to address cybersecurity concerns.

(f) In the bulk, however, there is a yawning gap to be bridged. India has a population of almost 900 million internet users with a large ecosystem of digital payments and is firmly committed to sustaining a digital economy. However, it must be admitted that this large population, many of whom lack even the basic education, is left to its own devices when it comes to providing cybersecurity protection and guidance.

16. It is not the intention of this article to list all issues that are missing or not receiving adequate attention from the government. The foregoing paragraphs purports only to highlight that disjointed and desultory efforts will, in all probability, prove inadequate for the provision of strategic guidance on the cybersecurity front. This is especially important now with the growing number of cyber-attacks on citizens and businesses. While India has achieved an enviable level of digital financial inclusion for a large segment of its population, there is still an extremely rudimentary understanding of cybersecurity requirements.

17. What is needed is a comprehensive cybersecurity strategy that gives a timebound action plan with clear authority and accountability assigned—one that provides both, citizens and businesses, with a robust legal framework that can assist them in developing the requisite resilience to recover after a cyberattack. Most importantly, the approach must shift from one centred upon punitive action to one centred upon empathy, guidance, and support. For all these aspirations, the Australian cyber strategy offers an excellent example of a best practice that could and should be adopted and adapted.

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Book Review

Australia's Pivot to India

Author: Andrew Charlton. Australia: Black Inc, 2023. 256 pages, Rs. 800 (online), ISBN: 978-1760644772

Ms Harshita Dey

Australia and India have long shared a unique bond, encompassing everything from cricket to a thriving Indian diaspora. The recently released book *Australia's Pivot to India* by economist-turned-politician Andrew Charlton seeks to unravel the intricate tapestry of India-Australia relations. Moreover, the Australian Prime Minister, Anthony Albanese, gracing the book's launch event underscores the significance of the book. The author's writing is easy to comprehend, thereby making this book an engaging journey.

The book weaves a narrative of the historical connections between the two nations, highlighting their mutual support during food shortages and the pivotal role played by the Indian Garole sheep in the success of Australia's wool industry. Diplomatic recognition in 1817, and maritime trade from Bombay, Madras, and Calcutta to New South Wales enriched their ties during colonial times. Notably, Australia acknowledged India's sovereignty in 1944, even before its formal independence. Yet, the book observes that these relations did not progress as rapidly as they could have, following India's independence. Charlton's objective lies in shedding light on the historical depth of this relationship; further, he emphasises that it has not been leveraged to its full potential over the past seventy-five years.

According to Charlton, the foundation or the 'central core' of the bilateral relationship between Australia and India is their economic relation. Identifying this, he delves into how divergent economic policies drove a wedge between the two nations and credits India's economic liberalisation as a catalyst for rejuvenating the relationship since it increased economic interactions between the two nations, thereby, creating more opportunities for diplomatic interaction between the two.

India-Australia relations, often summed up as the "Three C's" — the Commonwealth, curry, and cricket — have been positive for many years. This book provides a comprehensive overview of the relationship, including chapters on cuisine, cricket, the Commonwealth, commerce, and the author's personal experiences while travelling through India. It also highlights the new focus on the "Four D's" — democracy, defence, *dosti* (friendship), and diaspora.

The author's overarching goal is to emphasise (to Australians) the significance of fostering a strong relationship with India, an emerging global superpower. He underscores that the Indian diaspora in Australia is the bridge to India, crucial for building a strong relationship with this emerging global powerhouse. Hence, Australians should actively work on creating a welcoming environment for the Indian diaspora to strengthen their ties with India.

While talking of India-Australia relations one cannot overlook the Indian Ocean, which is of great significance to both the countries for trade and security. Both countries share a common goal of maintaining a free, open, and inclusive Indian Ocean. Charlton also addresses Australia's evolving stance toward India's military modernisation and assertiveness, especially with respect to India's deepening engagement with the United States. As a result, Australia and India have been engaging on a variety of fronts, including the Quadrilateral Security Dialogue (Quad), trilateral, bilateral, and other multilateral forums. They have also participated in various military exercises, including MALABAR and INDAUDEX.

Charlton's book effectively conveys the historical nuances of India-Australia relations and the reasons behind their previous shortcomings and gradual improvements. The book's title — *Australia's Pivot to India* — naturally evokes thoughts of the shared Indian Ocean between the two countries. However, the book does not extensively explore maritime collaboration, aside from the mandatory historical mentions, shared Indo-Pacific goals, and ongoing joint maritime exercises.

While the author briefly references collaboration in oceanographic studies and Antarctic exploration between India and Australia, he does not delve into the specifics regarding the potential for future cooperation. Charlton acknowledges Australia's need for partners in order to pool resources for building its defence capabilities, however, leaves the question of how India could fit into this equation unanswered.

The book touches on Australia's ambitions in the Pacific Island nations but omits any discussion of collaborative efforts, such as the International Solar Alliance and the Coalition for Disaster Resilient Infrastructure, to which both countries have contributed. The author also refrains from suggesting potential joint ventures in enhancing regional infrastructure, connectivity, and security in the Pacific Island region. The book does not mention Australia's lead role in the marine ecology spoke of the IPOI,[1] nor does it discuss any possible collaborations between the two countries on any of the IPOI spokes.

Charlton's book does not explore non-traditional threats with respect to maritime crime emerging from the sea, including those of illegal migration and drug trafficking. This is a significant omission, as these threats are becoming increasingly important in the Indian Ocean Region.

In comparison, D Gopal's book *India-Australia Relations: Convergence and Divergence*, which was published over a decade ago, discusses energy security, security of the Indian Ocean, and non-traditional security challenges in the Indian Ocean. This suggests that there is room for more discussion on the collaboration between Australia and India in the Indian Ocean, given that new challenges are emerging.

Considering the weight that the title lends to a book, Charlton could have added more value by providing a more detailed discussion of the maritime relationship between Australia and India. He could have explored the specific ways in which the two countries can collaborate to address non-traditional threats of maritime crime, including illegal migration, drug trafficking, piracy, and cyber security. He could have also discussed the potential for cooperation in other areas.

In conclusion, *Australia's Pivot to India* is a valuable resource for those interested in the historical aspects of bilateral relations between India and Australia, as well as the Australian Government which seeks to raise awareness among Australians about the benefits of hosting the Indian diaspora. However, readers looking at the maritime dimension may find that while the book touches on this aspect, it could benefit from a more in-depth exploration of potential collaborations and opportunities in this realm.

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About the Reviewer

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ENDNOTES

1 The Indo-Pacific Ocean's Initiative (IPOI) accords first-order specificity to SAGAR (Security And Growth for All in the Region) — India's maritime policy. It was first introduced by India's Prime Minister Narendra Modi at the Shangri-La Dialogue in 2018, and aims to promote a free, open, and inclusive Indo-Pacific

Multilateral Maritime Security Perspectives

A Contemporary Assessment of the Maritime Impact of the India-US Foundational Agreements

Ms Anuttama Banerji

India has situated its maritime defence partnership with the United States (US) within a broader bilateral and multilateral framework in recent years to manage various traditional and non-traditional challenges in the Indian Ocean Region (IOR). Arguably, the US is now believed to view the IOR through a South Asian and potentially India's lens.[1] US has also renamed the erstwhile "Pacific Command" to the "Indo-Pacific Command" to reinforce this fact.[2] Over the years, this strategic shift in US policymaking has indicated an expansion in the US's strategic swath at a time when growing Chinese maritime presence in the western Pacific Ocean and the IOR has enabled a natural convergence of diplomatic and strategic interests between India and the US.[3] As a result, the US has now increasingly come to view India as a strategic bulwark against a rising China in the IOR.[4]

This shift has enabled the advancement of bilateral defence ties between India and the US with the foundational agreements — the "General Security of Military Agreement" (GSOMIA), the "Logistics Exchange Memorandum of Exchange "Agreement (LEMOA), the "Communications Compatibility and Security Agreement" (COMCASA), and the "Basic Exchange and Cooperation Agreement" (BECA) — emerging as 'catalysts' or 'facilitators' in the process. Consequently, maritime partnership between India and the US has emerged as a natural subset of the defence partnership within the cooperative bilateral framework. In order to substantiate the importance of the 'maritime' partnership within the context of the larger bilateral one between India and the US, an Indian scholar has argued that *"the* *maritime domain (has) become the actionable ground for implementing the promise of the (India-US bilateral) partnership"*.[5]

This article attempts to assess the impact of these foundational agreements upon the growing maritime partnership between India and the US. In addition, it suggests means to further operationalise the agreements by addressing structural impediments that limit the potential of the relationship.

Foundational Agreements and their Impact

The regular conduct of combined exercises such as those of the MALABAR series,[6] which seek to promote naval diplomacy and enhance interoperability,[7] and the various editions of the tri-Services India-US Exercise TIGER TRIUMPH, which enables military-to-military cooperation within the realm of humanitarian assistance and disaster relief (HADR) among other exchanges,[8] have created an enabling environment for the growth of the India-US bilateral defence partnership.[9] This camaraderie between the two partners and the emergence of new geopolitical realities within the IOR, where certain revisionist States are striving to change the existing 'rules based international order', has brought about a natural convergence of interests between India and the US. This convergence is strikingly visible within the maritime domain, with the foundational agreements acting as convenors of this partnership.[10]

Moreover, these foundational agreements have also emerged as confidence-building measures (CBMs) that have facilitated the growth of greater trust between India and the US. For instance, formalisation of these agreements has been viewed as a 'foreign policy statement by India and an acceptance of the *"extended arm of friendship of the predominant superpower."* [11] Similarly, Indian military practitioners have opined that signing these agreements have amplified strategic options for the parties involved, thereby, *"posing a credible deterrence to both State and non-State actors that may potentially conspire to undermine the stability of the beneficiary State"*, in this case, either India or the US.[12] Within this context, the contents of these agreements and their impacts are listed below for greater conceptual clarity.

General Security of Military Information Agreement (GSOMIA) and Industrial Security Annex (ISA)

India signed the "General Security of Military Information Agreement" (GSOMIA) in 2002 to protect information shared between the militaries of India and the US.[13] Over time, as the bilateral relationship became more complex, the GSMOIA was augmented by the "Industrial Security Annex" (ISA) — an extension to the GSOMIA that was signed in 2019. This is an important development, since the ISA has enabled the exchange of classified information between the defence industries of India and the US.

Interestingly, before the signing of the ISA, only government departments could share classified military information.[14] The ISA has also pioneered the formation of the "Indo-US Industrial Security Joint Working Group" that has specifically brought the Indian and US industrial collaborators together for the joint creation of cutting-edge technologies.[15] The signing of the ISA also supported Indian efforts to be a part of the global supply chain in the defence sector.[16]

Similarly, the finalisation of the "Defence Trade and Technology Initiative" (DTTI) in 2012, which initiated the co-production and co-development of defence systems, and India's designation, in 2016, as a 'Major Defence Partner' (MDP) by the US, have enabled India to be treated at par with other defence treaty allies of the US, potentially furthering the sale of weapon systems to India.[17] At the same time, the awarding of the US 'Strategic Trade Authorisation' (STA-1) status in 2017 has enabled India to acquire license-free access to dual-use technology products from the US, in the civilian and defence sectors.[18]

Logistics Exchange Memorandum of Agreement (LEMOA)

India and the US signed the "Logistics Exchange Memorandum of Agreement" (LEMOA) in 2016 — a bespoke remodelling of the more commonly encountered "Acquisition and Cross-Servicing Agreements" (ACSA), specially tailored to address Indian interests and sensitivities.[19] The India-centric LEMOA came with a wide mandate, wherein it enables, for example, ships of one country to replenish their fuel stocks in the other country during port calls, exercises and training.[20]

In conjunction with the “Helicopter Operations from Ships Other Than Aircraft Carriers” (HOSTAC) protocol that was signed in 2017 and which enables helicopters of the two navies to land and take off from each other’s warships, the LEMOA has enabled the commencement of various activities that are likely to be of especial significance in potential or future contingencies. For instance, the LEMOA allows Replenishment at Sea (RAS) activities between ships of the Indian Navy and the US Navy as also its auxiliary vessels. It can also be used for accounting purposes during training exercises.[21] Most importantly, LEMOA has provided India with enduring access and refuelling facilities within US military facilities in Djibouti, Diego Garcia, Guam, and Subic Bay.[22]

As a corollary, the signing of the Master Ship Repair Agreement (MSRA) by the US Navy and Mazagaon Dock Shipbuilders Limited in August 2023, in addition to the US Navy’s use of the Larsen & Toubro shipyard at Kattupalli for ship repairs,[23] has reinforced India’s position as a hub for maintenance and repair for forward-deployed US Navy assets and auxiliaries in the Indo-Pacific.[24]

Communications Compatibility and Security Agreement (COMCASA)

The signing of the “Communications Compatibility and Security Agreement” (COMCASA)—once again an India-centric customised version of the “Communication Interoperability and Security Memorandum of Agreement” (CISMOA) for India — has enabled the installation of US Combined Enterprise Regional Information Exchange (CENTRIX) System terminals, enabling secure exchange of information between both partners in text and web-based formats.[25] Furthermore, the agreement enabled India to access COMCASA-protected equipment such as advanced “Global Position System” (GPS) and “Identification Friend or Foe” (IFF) systems where the adjective “advanced” indicates additional features to provide protection against jamming and spoofing.[26]

Finally, on the weapons-procurement front, COMCASA has enabled India to acquire the most advanced versions of Unmanned Aerial Vehicles (UAVs) from the US, boosting India’s combat ability.[27] This is significant, as thus far, despite acquiring large military platforms like the C-130J Super Hercules special mission transport aircraft and P-8 (India) long range maritime reconnaissance and anti-submarine aircraft, India did not have access to encryption technologies and other sophisticated software with which the US versions of these platforms were equipped.[28] Thus, signing the COMCASA resulted in greater operational efficiency for the Indian forces, with Indian military units getting access to a secure 'common tactical picture' that would enable surveillance aircraft to receive data from the US and other partner countries.[29]

Basic Exchange and Cooperation Agreement (BECA)

The signing, in 2020, of the Basic Exchange and Cooperation Agreement (BECA) for geospatial intelligence has augmented Indian precision-strike capabilities, while increasing India's access to advanced satellite data, nautical charts and real-time intelligence to improve targeting solutions; when conducting missile strikes.[30] BECA has also facilitated operational information-sharing. Within the maritime domain, BECA has enabled the exchange of critical maritime information and geospatial data pertaining to Chinese submarine transits in the Indian Ocean.[31] BECA has also allowed India access to advanced Electronic Intelligence (ELINT) clusters.[32]

Additional Spinoffs

It is within the context of these foundational agreements that the genesis of the "India-US Defence Acceleration Ecosystem" (INDUS-X) and the "Initiative on Critical and Emerging Technologies" (iCET) lies. These have assisted in creating an ecosystem for startups to collaborate on industrial defence production. Such a collaborative project has increased enduring engagement to newer areas of cooperation such as space and next-generation telecommunications, with coproduction of defence articles becoming possible between stakeholders in India and the US.[33]

Finally, signing these agreements has enabled India to gain access to Missile Technology Control Regime (MTCR) Category -1 Unmanned Aerial Systems (UAS) such as the Sea Guardian UAS manufactured by General Atomics, in addition to the General Electric F-414 jet engines.[34] The latter is considered a 'crown jewel' within the realm of technology in the US.[35]

Path Ahead

While the Foundational Agreements have been signed by both India and the US, there is considerable scope to enhance their beneficial impact and to simultaneously minimise potential irritants. Examples in this regard might include the following:

The US will need to address Indian concerns pertaining to the US Navy and its Freedom of Navigation Operations (FONOPs) in the IOR.[36] In this regard, it is important to note that the US Navy had conducted a Freedom of Navigation Operation (FONOP) approximately 130 nautical miles west of the Lakshadweep Islands, inside India's Exclusive Economic Zone (EEZ) in April 2021. This FONOP gave rise to the "Goldilocks Dilemma" for India —- "*as New Delhi sought the right balance of US naval presence in the Indian Ocean littorals — not too hard, not too soft, but just right.*"[37]

India and the US should regularly engage in more *"high-end combined operational activities involving their naval forces"* both at the bilateral and multilateral level.[38] Interestingly, a precedent for the same had been set when the Indian Navy had launched Operation SAGITTARIUS, in the aftermath of the 9/11 attacks and performed its constabulary role, duly escorting and protecting US ships passing through the Indian Ocean at the time.[39] In similar vein, the Indian Navy conducted the 24th edition of the Exercise MALABAR with the navies of navies of the other members of the QUAD, namely, the US, Australia and Japan,[40] engaging in advanced surface and anti-submarine exercises (amongst others) at a time when India was managing a standoff with China along the border in Ladakh.[41]

Bilateral maritime cooperation could be significantly enhanced by addressing the contents of the 1920 US Merchant Marine Law that protects US shipyards from overseas competition and permits only non-combat ships to be repaired in other countries. This legal requirement restricts the full leveraging of LEMOA and the MSRA, and limits India's potential to be a logistics hub for the US military in the advent of a future conflict.[42]

Maritime cooperation can be progressed further through a signing of the "Security of Supply Arrangement" (SOSA) and the "Reciprocal Defence Procurement (RDP) Agreement", to ensure supply-chain sustainability and the priority delivery of defence purchases to meet potential military contingencies.[43] In fact, signing the RDP Agreement is a prerequisite to *"promote standardisation, interchangeability, and interoperability of conventional defence equipment"* for the US. Only if the RDP is signed can India become a "Defence Federal Acquisition Regulation Supplement" (DFARS) compliant country.[44] As a corollary, a 'DFARS compliant status' would enable Indian companies to potentially co-produce military hardware with their US counterparts.

While the enabling agreements have facilitated defence procurement, India and the US are now shifting their focus on broadening and deepening their maritime partnership to include undersea communication and maritime Intelligence, Surveillance and Reconnaissance (ISR) within its realm.[45] As India attempts to reduce its dependencies on Russian weapon systems and platforms, update its inventory through diversified sources — especially the US — it will need to navigate all the legal mechanisms for the technological transfers to actually come through.[46] In this regard, India will have to negotiate regulatory barriers such as the International Traffic in Arms Regulation (ITAR) export-control regulations that protect US security interests in line with the US "Arms Export Control Act" (AECA) and the "Commitment on Foreign Investment" in the US (CFIUS) if meaningful technology transfers are to occur.

Finally, Indian agencies will need to understand the complexities attached to the "US Munition List" (USML) that designates several categories of items as 'sensitive' — especially those that fall within the bracket of 'defence articles', such as surface vessels of war and special naval equipment and have relevance within the naval domain. In addition, it also includes items of export linked to communication, remote sensing, navigation that have both naval and maritime applications.[47] These engagements should take place between concerned representatives of the designated government agencies on a priority basis. Once this Rubicon is crossed, India would find itself in a considerably more advantageous place.[48]

Conclusion

The India-US bilateral maritime partnership, as a subset of the larger defence partnership, is likely to grow in scope and intensity in the years to come. Although the formal signing and operationalisation of the four foundational agreements has taken twenty years, the resultant consensus on the defence partnership has increased prospects for cross-domain interoperability in the years to come.

Strategic convergences are likely to develop further between India and the US as the latter attempts to manage specific revisionist powers in the Indo-Pacific. However, the true test of the partnership will occur when a military contingency emerges in mutual and/or overlapping geographical areas of concern.

While the signing of the foundational agreements has facilitated a transformation in ties, India will still have to navigate the structural impediments in the legal and operational realms that limit the partnership, so as to ensure better bilateral interoperability between the two countries. Such an approach will ensure that the India-US bilateral relationship emerges as an "all weather partnership" in this century.

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About the Author

Ms Anuttama Banerji is a policy analyst and Junior Research Associate within the Americas Cluster at the National Maritime Foundation. She graduated with a Master's degree in International Relations from the London School of Economics and Political Science (LSE) in 2018. Her research dwells on the maritime geostrategies of India and how these are likely to be impacted by those of the Indo Pacific powers of North and South America, especially the US. She has prior published work to her credits across different national and international platforms. She can be reached at usa2.nmf@gmail.com.

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A Critical Analysis of the European Union's Key Maritime Security Engagements in the Indian Ocean

Ms Saaz Lahiri

This article has a two-fold purpose. First, it seeks to provide readers with baseline information about the EU's current endeavours and engagements in the IOR, relevant to maritime security. This is an aspect that has received relatively scant attention in contemporary literature, being largely overshadowed by China's growing prominence and assertiveness in the Indo-Pacific. Secondly, it proposes a set of recommendations for the Government of India which, if adopted, would bolster New Delhi's approach to the EU within the maritime domain.

Maritime security has been an unwavering priority for nation-states that have interests vested at sea. Foremost among such nations, many of which are pioneers of marine navigation, shipbuilding, and commerce, are the member-states that comprise the European Union (EU). The "European Union Maritime Security Strategy" (EUMSS), which enunciates the EU's specific maritime interests and the approaches through which it intends to pursue and preserve these interests, was updated in 2023 to better address the maritime security challenges faced by the EU member-states and the broader international community. This strategy emphasises greater cooperation among member-states on the one hand and international partners on the other, in facing challenges such as piracy, maritime terrorism, environmental threats, illegal fishing, etc.

Similar to the EU, India, too, has a rich maritime tradition[1] and a deep-rooted connection with the sea. The Indian Navy articulated India's maritime security concerns stemming from its maritime interests, through a meticulously formulated strategy document released in 2015. This document, entitled, *"Ensuring Secure Seas:*

Indian Maritime Security Strategy"[2] describes India's maritime security interests to include the protection of territorial integrity and sovereignty against threats in the maritime environment, ensuring the safety of Indian citizens and goods traversing the maritime domain, as also the resources to be found within the maritime domain, advancing peace, security, and stability in the Maritime Zones of India (MZI) and areas of interest, and preserving national interests in the maritime sphere.[3]

The EU Commissioner for Environment, Oceans and Fisheries, has encapsulated similar objectives of the EUMSS in the following statement,

> "The updated MSS will better protect our citizens and promote our blue economy activities and our interests at sea. We will tackle climate change and environmental degradation on maritime security, strengthen maritime surveillance tools, enhance our defences against cyber and hybrid threats, and reinforce the protection of critical maritime infrastructure".[4]

While significant collaboration exists between India and the EU regarding security matters such as joint efforts on Operation ATALANTA, the 'EU-India Strategic Partnership: A Roadmap to 2025'[5] nevertheless reveals numerous untapped opportunities. This paper purports to undertake a critical analysis of the EU's maritime security engagements in the Indian Ocean. Specifically, it focuses upon two key elements of this engagement, namely, (a) naval operational deployments, and (b) information sharing. This paper examines the EU Naval Force (EUNAVFOR) deployments in the Arabian Sea and the Coordinated Maritime Presences (CMPs) in the Indian Ocean. It begins with an examination of the EU's Operation ATALANTA conducted by EUNAVFOR, evaluating its many accomplishments and a few shortcomings. It also underscores ideological alignments and opportunities for deeper collaboration with the Indian Navy. The concept and mandate of the CMP in the Northwestern Indian Ocean are explored in depth in order to identify areas for cooperation, possibly within a new "Maritime Area of Interest" (MOI) of a future CMP. It also reviews the EU's information-sharing initiatives in the Indian Ocean region (IOR) and delves into the EU's Maritime Domain Awareness (MDA) initiatives alongside similar MDA initiatives by India. Finally, the article presents succinct recommendations for India and the EU to consider in the forthcoming stages of their Strategic Partnership.

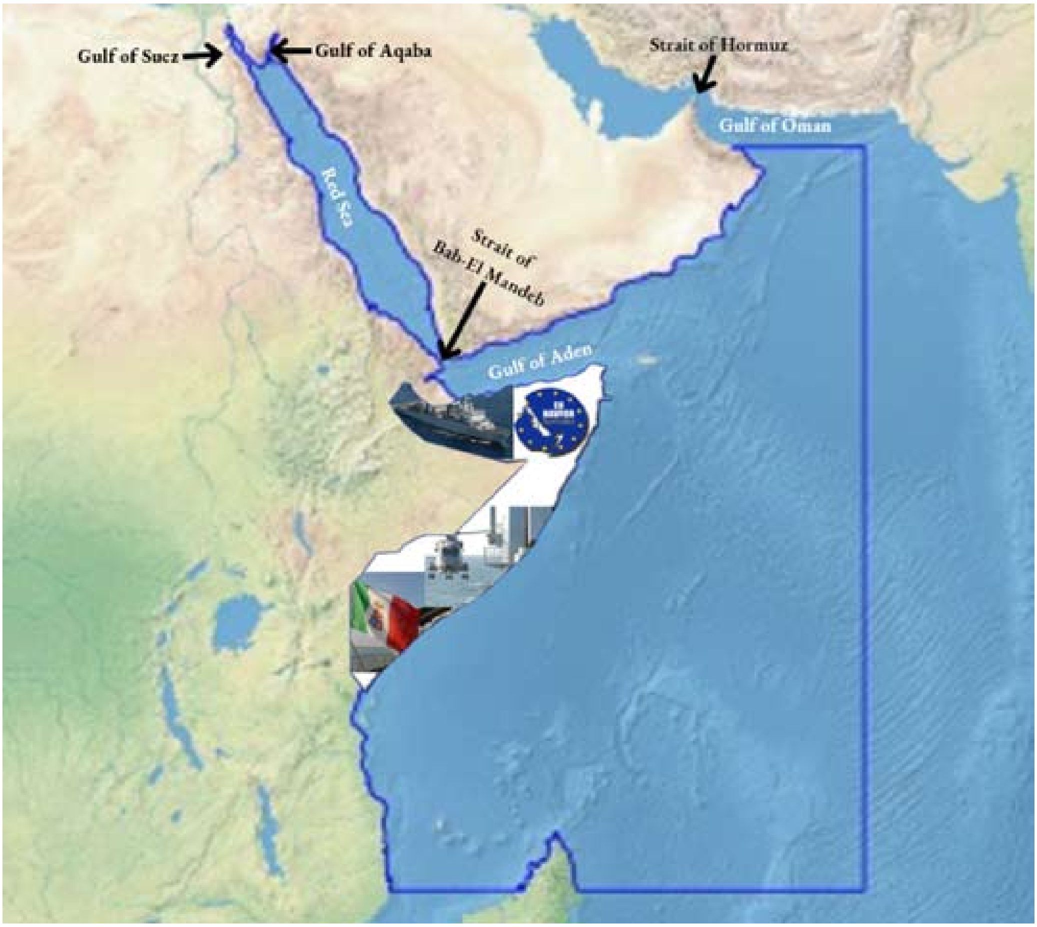
EUNAVFOR Somalia: EUNAVFOR Operation ATALANTA, EUTM Somalia, and EUCAP Somalia

The European Union Naval Force (EUNAVFOR) Operation ATALANTA holds significance for the EU's naval diplomacy and the implementation of its "Common Security and Defence Policy" (CSDP) in the north-western segment of the Indo-Pacific. Established in 2008, the operation aims to promote collaboration among EU member-states for the prevention, deterrence and suppression of armed robbery and piracy off the coast of Somalia.[6]

Op ATALANTA, an internationally acknowledged initiative, boasts significant participation from both, national and multi-national military partners, including EU member-state navies, those cooperating with the Combined Maritime Forces (CMF) programmes, and naval forces of Asian partners nations such as India, Japan, South Korea, Russia and China.[7] Noteworthy achievements include the seizure of 15,953 kg of narcotics, the delivery of 3.2 million tonnes of food and aid, the release of 2,628 hostages, the detention of 135 pirate vessels, the protection of 707 "African Union Mission in Somalia" (AMISOM) vessels, and the transfer of 171 pirates to appropriate authorities leading to the conviction of 145 pirates.[8] Op ATALANTA has employed two main approaches, namely, military engagement and information exchange.[9] Participating forces conduct regular checks of vessels in high-risk zones and engage in 'friendly approaches' with local seafarers to share 'Best Management Practices' (BMP) for protection against piracy, and to monitor fishing activities.[10] The Area of Operations (AoO) of Op ATALANTA is depicted in Figure 1.[11]

To disrupt and deter piracy and armed robbery, EUNAVFOR warships apprehend pirates based on prior intelligence or sightings reported by Maritime Patrol Aircraft (MPA) and merchant vessels.[12] The "Maritime Security Centre (Horn of Africa)" (MSCHOA) complements these efforts, providing a web-based platform established by the EU in collaboration with the shipping industry to safeguard maritime transport traversing through the Gulf of Aden.[13] The EUNAVFOR has also developed "MERCURY", an internet-based counter-piracy coordination tool, MERCURY's 'Chat Room' facilitates dialogue amongst the EU, Combined Task Force 151, NATO, the "United Kingdom Maritime Trade Operations" (UKMTO) Centre,

Figure 1. European Union Naval Force Somalia – Area of Operations


Gulf of Suez
Gulf of Aqaba
Strait of Hormuz
Gulf of Oman
Red Sea
Strait of Bab-El Mandeb
Gulf of Aden

Source: Outline Map (AoO)- Ministerio De Defensa, details/graphics drawn by author

and deployed assets from China, Japan, India,[14] Russia, Malaysia and Seychelles.[15] Additionally, the EUNAVFOR supports other EU maritime security programmes such as MaSé (Maritime Security)[16] and CRIMARIO (Critical Maritime Routes in the Indian Ocean).[17] The EUNAVFOR has carried out numerous naval interoperability exercises alongside navies throughout the IOR, extensively collaborating with the Indian Navy (IN).

A prominent example of India-EU naval engagements has been the IN-EUNAVFOR anti-piracy operation in the Gulf of Aden on 18-19 June 2021. A total of five warships from four navies — two ships from France and a ship each from India, Italy, and Spain — participated in this operation, which included anti-submarine warfare (ASW) exercises, cross-deck helicopter operations, boarding operations, underway replenishment, and search and rescue (SAR). Most recently, in August 2022, the EUNAVFOR Flagship, the *ESPS Numancia*, conducted various joint maritime activities with two of the Indian Navy's frontline guided-missile destroyers, INS *Chennai* and INS *Kochi*, in the Gulf of Oman. Subsequently, the EUNAVFOR flagship, *ITS Durand de La Penne*, exercised with another Indian destroyer, INS *Vishakhapatnam,* as part of the EU's strategy for collaboration in the Indo-Pacific.[18] Notably, the IN and EUNAVFOR have also shared common ground on various matters, such as anti-piracy operations, and safeguarding vessels operating under the UN charter of the World Food Programme (WFP).[19]

EUNAVFOR Operation ATALANTA's renewed mandate consisting of "executive" and "non-executive" tasks are tabulated below: -

Table 1. EUNAVFOR ATALANTA New Mandate

EUNAVFOR ATALANTA	
EXECUTIVE TASKS	**NON-EXECUTIVE TASKS**
Protect World Food Programme vessels and other vulnerable vessels.	Contribute to monitoring drug trafficking, arms trafficking, suspected IUU fishing and illegal charcoal trade in the area of operations using existing means and capabilities.
Detect, prevent, and suppress piracy and armed robbery.	Contribute to the EU's integrated approach in Somalia and to all significant activities that help address the root causes of piracy and its networks.
Contribute to the disruption of drugs and arms trafficking.	Support other EU missions, programmes, and instruments in Somalia such as EUTM Somalia, EUCAP Somalia, EU DEL Somalia and the CMP NWIO.
Contribute to maritime security.	Support the promotion of the overall regional maritime security architecture, all relevant programmes implemented by the commission, and the links developed with the RMIFC (Madagascar) and the RCOC (Seychelles).[20]
	Cooperate with Operation AGENOR and develop synergies with the European-led Maritime Situation Monitoring in the Strait of Hormuz / European Maritime Awareness in the Strait of Hormuz (EMASoH)

Source: EU NAVFOR ATALANTA[21], information tabulated by the author

To gain a deeper insight into the establishment of EUNAVFOR Somalia, it is crucial to examine the specific programmes and initiatives implemented by the EU in Somalia. In 2010, the "European Union Training Mission" (EUTM) was established to support the Somali National Army (SNA), followed by the launch of a civilian mission, the "European Union Capacity Mission 'Nestor'" (EUCAP Nestor) which focused on the enhancement of civilian security forces in the Horn of Africa. Following a Strategic Review, EUCAP Nestor was renamed EUCAP Somalia,[22] focusing solely upon activities concerning Somalia's maritime security authorities and law enforcement agencies.[23] These three missions — Operation ATALANTA, EUTM Somalia, and EUCAP Somalia — all operate within the CSDP framework. However, coordination challenges emerged among these EU initiatives in Somalia due to differing reporting structures. The EUTM encountered challenges in coordinating with non-Western partners involved in advisory and training roles in Somalia, with some SNA members suggesting that the EU-provided training was not on par with that of other programmes.[24] As part of the EU's integrated approach, the EU Delegation (EU DEL) Somalia, EUNAVFOR ATALANTA, EUTM Somalia, and EUCAP Somalia merged to form 'EUNAVFOR Somalia'.[25]

Coordinated Maritime Presences (CMP)

The "Coordinated Maritime Presences" is another operational initiative implemented by the EU. Given the Indo-Pacific's sensitive geopolitical dynamics, marked by US-China rivalry, it was recognised that EU member-states were likely to deploy naval assets for extended operations in the region.[26] Additionally, 'freedom of navigation' remains a significant priority for the EU. Therefore, France advocated a 'whole-of-EU' approach via the CMP. This concept also features in the "Strategic Compass"[27] document, which is aimed at enhancing the EU's defence and security efforts.[28] The CMP's adaptable approach aims to bolster the EU's role as a reliable and enduring security partner, aligning with the EUMSS.[29] The pilot case of the CMP in the Gulf of Guinea proved effective, showcasing the EU's growing role as a regional 'maritime security provider'.[30]

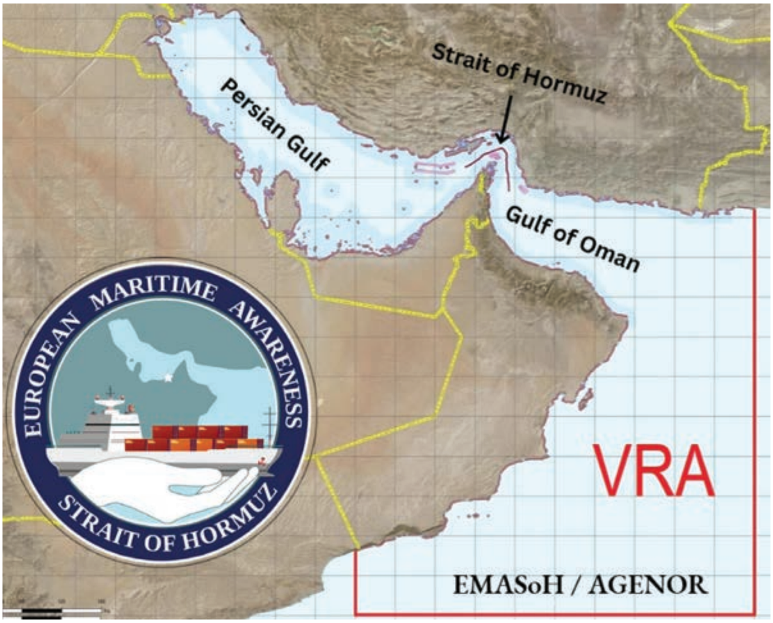
It is important to note that the CMP is not a CSDP *mission* or a *planned operation*; it is instead, an *ad hoc*[31] coordination on a voluntary basis, with assets displaying the EU flag but remaining under their respective national chains of command.[32] It is likewise important to acknowledge that EU member-states have a significant presence in the IOR through their national assets, aligned with their respective national strategies. Their naval activities serve national interests in areas of concern that are also pertinent to the EU. The EU anticipates that the CMP as a tool will enhance coordination among naval deployments from member-states, ensuring a prominent EU maritime presence in the chosen 'Maritime area of Interest' (MAI), that is, the Northwestern Indian Ocean (NWIO). This will be done by the creation of a 'Maritime Area of Interest Coordination Cell' (MAICC) which will facilitate member-states to share data (situational information) collected while sailing within the MAI. This would enable a continual collection of data pertaining to the specified MAI flexibly and economically.[33]

The EU's area of maritime interest in the NWIO encompasses two critical chokepoints, namely, the Strait of Hormuz and the Strait of Bab-el-Mandeb. In the Gulf of Oman, the EU established the 'European Maritime Awareness in the Strait of Hormuz' (EMASoH) in January 2020. Operation AGENOR, the military track of EMASoH, involves assets from Germany, Belgium, Denmark, Greece, France, Italy, Netherlands, and Portugal, as well as Norway (a non-EU member-state).[34] The Voluntary Reporting Area (VRA) for EMASoH is depicted in Figure 2.[35] EMASoH fosters collaboration among these nations to establish a unified strategic approach aimed at de-escalating tensions in the Persian Gulf region, particularly, between Iran and its adversaries.[36]

One could posit that the selection of the NWIO as a new MAI, stems from the EU's pre-established naval missions and maritime competencies gained through initiatives such as EUNAVFOR Op ATALANTA and the European Maritime Awareness in the Strait of Hormuz or EMASoH.[37] The NWIO MAI is depicted in Figure 3.[38]

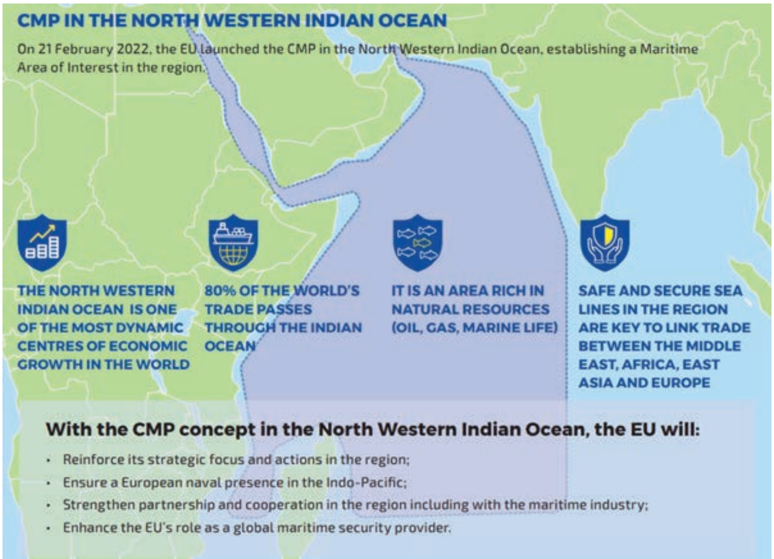
Another example of naval cooperation between India and the EU took place within the paradigm of the CMP. In June 2021, the IN, and the assets of the EUNAVFOR conducted exercises in the Gulf of Aden, featuring five warships from four different nations: India's INS *Trikand*, Italy's ITS *Carabinere*, Spain's ESPS *Navarra* and France's FS *Tonnere* and FS *Surcouf*.[39]

Figure 2. The Area of Interest of EMASoH,


Strait of Hormuz
Persian Gulf
Gulf of Oman
EUROPEAN MARITIME AWARENESS
STRAIT OF HORMUZ
VRA
EMASoH / AGENOR

Source: EMASoH, Annotations by the author

Figure 3. CMP in the NWIO



CMP IN THE NORTH WESTERN INDIAN OCEAN

On 21 February 2022, the EU launched the CMP in the North Western Indian Ocean, establishing a Maritime Area of Interest in the region.

THE NORTH WESTERN INDIAN OCEAN IS ONE OF THE MOST DYNAMIC CENTRES OF ECONOMIC GROWTH IN THE WORLD

80% OF THE WORLD'S TRADE PASSES THROUGH THE INDIAN OCEAN

IT IS AN AREA RICH IN NATURAL RESOURCES (OIL, GAS, MARINE LIFE)

SAFE AND SECURE SEA LINES IN THE REGION ARE KEY TO LINK TRADE BETWEEN THE MIDDLE EAST, AFRICA, EAST ASIA AND EUROPE

With the CMP concept in the North Western Indian Ocean, the EU will:

- Reinforce its strategic focus and actions in the region;
- Ensure a European naval presence in the Indo-Pacific;
- Strengthen partnership and cooperation in the region including with the maritime industry;
- Enhance the EU's role as a global maritime security provider.

Source: CMP Factsheet

Additionally, Germany dispatched its frigate FGS *Bayern* to the Indo-Pacific in August 2021 for a six-month deployment, engaging in Freedom of Navigation Operations (FONOPS) in international waters. FSG *Bayern* also participated in the Maritime Partnership Exercise in the Gulf with the Indian Navy for Anti-piracy Operations.[40] Warships from Denmark, Italy, the Netherlands, and Germany are expected to visit South and Southeast Asia in 2024, and port calls in India are very likely.[41] While Greece, Spain and Portugal could play larger roles in the Indo-Pacific, budget constraints, particularly due to the focus on the Russia-Ukraine conflict, make this scenario unlikely.

Maritime Domain Awareness (MDA) Tools of EU and India

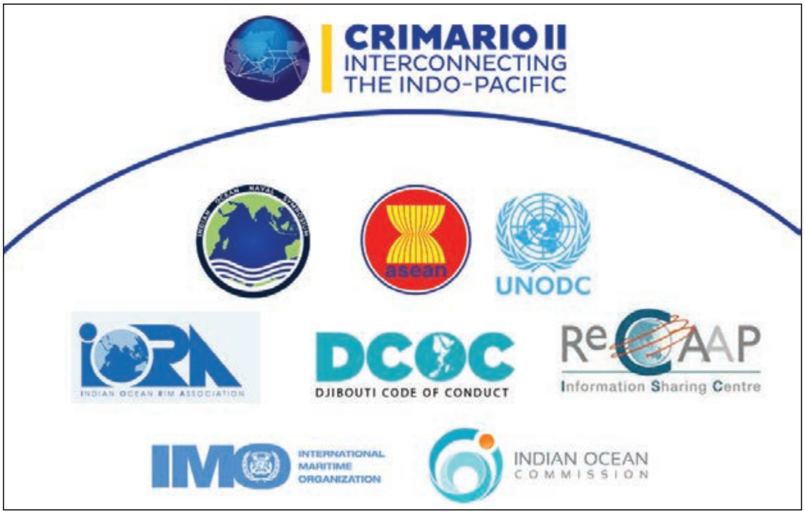
The EU's maritime operational deployments require significant Maritime Domain Awareness (MDA) by way of information-sharing networks. The following segment will outline the MDA initiatives and tools of the EU. Subsequently, the section will also delve into India's own "Information Fusion Centre–Indian Ocean Region" (IFC-IOR), and the development of the MITRA-NISHAR fusion software.

EU's MDA Initiatives and Tools. The EU's "Critical Maritime Routes" (CMR) programme, operating as an "Instrument for Stability" (IfS),[42] was established to combat piracy and promote information-sharing in the Horn of Africa and Southeast Asia.[43] Another EU-funded project, the "Critical Maritime Routes Monitoring, Support and Evaluation Mechanism" (CRIMSON), coordinates CMR initiatives such as the "Critical Maritime Routes in the Indian Ocean" (CRIMARIO)[44] programme launched in 2015.

(a) **CRIMARIO.** CRIMARIO aims to enhance MDA and maritime safety in the northern segment of the Western Indian Ocean by establishing information-sharing infrastructures, enhancing law enforcement capacities for vulnerable nations, and strengthening inter-agency cooperation in maritime surveillance.[45] CRIMARIO also provides comprehensive training and capacity-building programmes. Maritime data processing courses using IORIS were conducted with Kenya, Madagascar, Comoros, Seychelles, and Mauritius.[46] CRIMARIO's mandate ended in 2019. It is important to note that while CRIMARIO remains funded by the EU, it does not necessarily reflect the official opinion of the EU; CRIMARIO is managed by civilian staff and there is relatively little military involvement.[47]

(b) **CRIMARIO II.** CRIMARIO's mandate was extended in 2020 and was renamed as "CRIMARIO-II". The latter sought to build upon the experience of its initial phase, broadening its area of interest to now encompass the waters of South and Southeast Asia. In 2022, CRIMARIO II's geographical scope covered the Indo-Pacific region.[48] CRIMARIO II seeks to focus upon enhancing cooperation and synergies among various information-sharing entities. These include Regional Information Fusion Centres, National Maritime Operation Centres, National Maritime Information Sharing Centres, Joint Operations Centres, and several regional organisations (see Figure 4). Additionally, third-party nations, including EU member-states, and partners such as Japan, the USA, and Australia, are also involved.[49]

Figure 4. CRIMARIO II's collaboration with various regional organisations in the Indo-Pacific L-R: Indian Ocean Naval Symposium (IONS), Association of Southeast Asian Nations (ASEAN), United Nations Office on Drugs and Crime (UNODC), Indian Ocean Rim Association (IORA), Djibouti Code of Conduct (DCoC), Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP), International Maritime


CRIMARIO II
INTERCONNECTING
THE INDO-PACIFIC
INDIAN OCEAN NAVAL SYMPOSIUM
asean
UNODC
IORA
INDIAN OCEAN RIM ASSOCIATION
DCOC
DJIBOUTI CODE OF CONDUCT
ReCAAP
Information Sharing Centre
IMO
INTERNATIONAL MARITIME ORGANIZATION
INDIAN OCEAN
COMMISSION

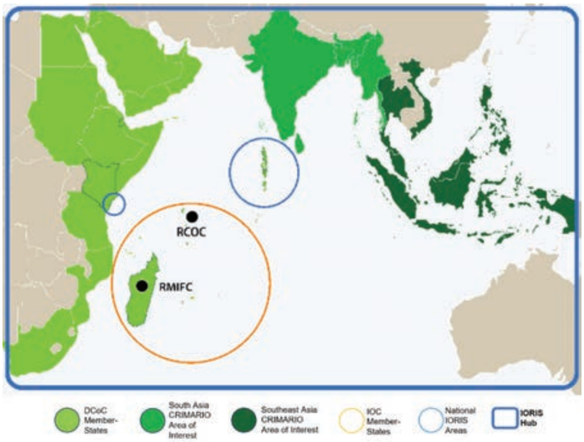
Source: Collated by the author

Organisation (IMO), and Indian Ocean Commission (IOC).

CRIMARIO II has achieved significant milestones, such as deploying the IORIS platform in a variety of maritime exercises. These exercises took place between France and the Philippines in March 2023, as well as during the Philippines interagency exercise in August and November of 2023. IORIS was also utilised during the Pacific Island Exercises in March of 2023 and the IONS exercise in November of that year. Additionally, CRIMARIO's training programme has been implemented in Thailand, the Pacific Islands (Pacific Fusion Centre), and South Africa.[50] To enhance Maritime Situational Awareness (MSA) in the Western Indian Ocean, the EUNAVFOR Op ATALANTA and CRIMARIO signed a collaborative agreement to exchange information and data via the IORIS platform.[51]

(c) **IORIS.** IORIS is a non-military maritime coordination and information-sharing tool, which caters to national and regional multi-agency needs. It operates as a secure web-based platform, facilitating joint planning and coordination of maritime operations, including crisis- and incident-management.[52] This tool is adaptable to the specific needs of the centre/organisation using it, offering features such as geographic displays, Automatic Identification System (AIS) data, and communication facilitation. Currently, over 50 national and regional maritime agencies from 23 nations in the Indo-Pacific utilise IORIS.[53] The IORIS community areas are depicted in Figure 5.

Figure 5. IORIS Community Areas


RCOC
RMIFC
DCoC Member-States
South Asia CRIMARIO Area of Interest
Southeast Asia CRIMARIO Area of Interest
IOC Member-States
National IORIS Areas
IORIS Hub

Source: Image from Mr Martin Cauchi-Inglott's presentation on IORIS, at the 2021 edition of the Indo-Pacific Regional Dialogue (IPRD-2021)

(d) **SHARE.IT.** SHARE.IT is an interoperability framework that seeks to enable selective information exchange among different Maritime Fusion Centres. The EU projects it as the crucial missing link for

Maritime Situational Awareness (MSA) in the Indian Ocean and beyond.[54] Information Fusion Centres, such as IFC Singapore, RMIFC Madagascar, etc., collaborate every six months to address developmental challenges and ensure confidentiality, integrity, and sustainability of data protection.[55] The recent 3rd SHARE.IT interoperability conference in Bangkok gathered over 48 directors and experts from various regional and national Information Sharing Centres in the Indo-Pacific.[56] VAdm Pradeep Chauhan, the Director-General of the National Maritime Foundation, participated in the 3rd SHARE.IT Interoperability Conference (see Figure 6), and opined that India would plug-in its own non-military MDA software into the SHARE.IT platform once the SHARE.IT stakeholders had co-developed and tested the platform.[57]

Figure 6. VAdm Pradeep Chauhan, DG NMF, at the 3rd SHARE.IT Interoperability Conference in Bangkok

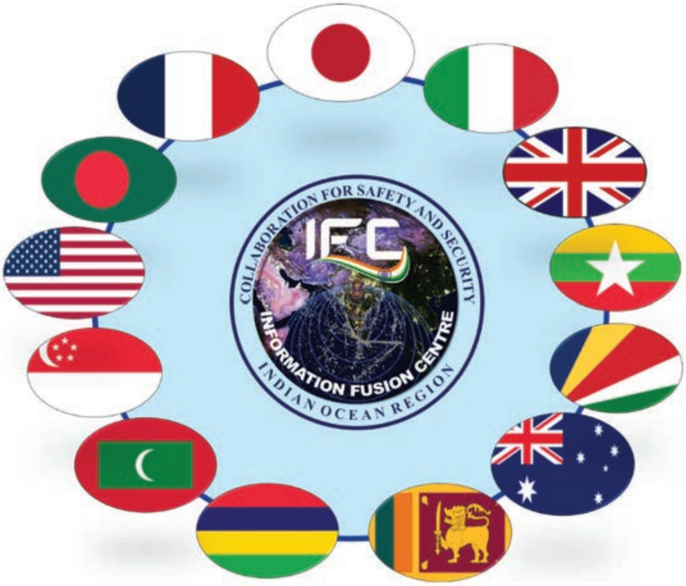
Courtesy: NMF

India's MDA Capabilities

The MDA initiatives and tools of India are as follows:

(a) **IFC-IOR.** The "Information Fusion Centre – Indian Ocean Region" (IFC-IOR) was established by the Indian Navy in 2018. Despite its geographically restrictive name, the IFC-IOR seeks to address maritime security challenges across the wider Indo-Pacific, through a mix of national and collaborative approaches. It acts as an information-sharing hub[58] that uses the indigenously developed "Merchant Ship Information System" (MSIS) to develop a 'Common Operation Picture' (COP) for information exchange and has over 67 linkages in 25 countries. There are (as of early-2024) 13 'International Liaison Officers'[59] (ILOs) positioned within the IFC-IOR, which enables them to identify, track, and monitor developments in the maritime domain well beyond just the IOR (see Figure 7).[60]

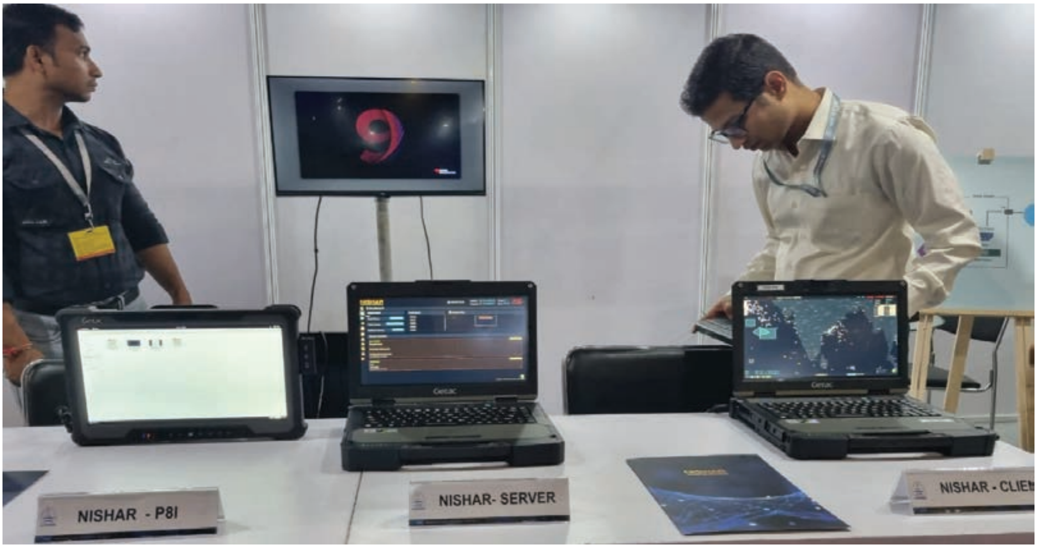
Figure 7. The 13 International Liaison Officers in the IFC-IOR (as of early-2024) are from Australia, Bangladesh, France, Italy, Japan, Mauritius, Maldives, Myanmar, Seychelles, Singapore, Sri Lanka, the UK, and the USA.


IFC
COLLABORATION FOR SAFETY AND SECURITY
INFORMATION FUSION CENTRE
INDIAN OCEAN REGION

Source: Image collated by the author.

(b) **MITRA-NISHAR.** To achieve interoperability amongst 'friendly foreign countries' (FFCs), the Indian Navy has developed a communication platform called the MITRA Terminal, which utilises the NISHAR (Network for Information Sharing) application. MITRA-NISHAR (see Figure 8)[61]

Figure 8. NISHAR communication link and MITRA Terminal launched at MILAN 2024



Source: NewsAIDN

> was inaugurated by Shri Rajnath Singh, the Hon'ble Defence Minister of India during MILAN 2024, a naval exercise conducted by the Indian Navy in and off the port-city of Vishakhapatnam, for friendly navies.[62] The primary goal of NISHAR is to enable FFCs to strategically monitor and safeguard their maritime environments with precision through information exchange at the tactical level. NISHAR serves as a secure and encrypted web and satellite-based tool, facilitating real-time communication through the creation of a COP. This COP is generated by consolidating AIS and radar tracks, Maritime Safety Information System (MSIS) feeds, and Internet Query Services, thereby, enhancing the overall COP for maritime situational awareness (MSA).[63]

While the CRIMARIO-II team is at pains to project CRIMARIO-II as public goods applicable in the maritime common, this projection begs the question of whom these 'critical maritime routes of the Indian Ocean' are "critical" for? If the answer is that they are critical for the EU and its member States but not necessarily for every other State outside of the EU, then CRIMARIO-II is as much an 'influence building' tool as any other. It is, consequently worrying to find that a few European

Union External Action Service (EEAS) representatives perceive NISHAR as a direct competitor of IORIS; they question NISHAR's client base, its technological uniqueness, and its sustainability.[64] If the EU and India continue to pursue their respective agendas in the Indo-Pacific regarding MDA, the environment may become competitive rather than cooperative. When comparing the mandates of CRIMARIO[65] and CRIMARIO II,[66] it certainly appears that the EU is attempting to expand its own influence beyond the Indian Ocean; the focus area of these programmes has progressively shifted eastwards[67] and now has reached the Strait of Malacca. That having been said, it must be admitted that he EU's simple demand and supply model of MDA tools, in terms of IfS has given it a significant advantage in the Indian Ocean.[68]

Way Ahead for India and the EU

India has often been perceived to be the 'preferred security partner'[69] and 'first responder' in situations of crisis; relief operations undertaken in the wake of natural disasters, non-combatant evacuation operations, counter-piracy missions, search and rescue missions, post-conflict relief missions, capacity-building missions, and financial assistance.[70] Through its maritime policy of Security and Growth for All in the Region (SAGAR), India has focused upon the security and safety of its trade, energy, shipping, assets, fishing and resources in the maritime domain, while strengthening ties with its maritime neighbours on these very subjects and, in addition, on issues such as maritime security capability-enhancement, infrastructural development, information-exchange, etc.[71] The EU needs to understand and address the requirements and security concerns of the Indian Ocean countries without imposing its agenda (howsoever subtly) when engaging with them.

Given that the mandates of several EU programmes — including CRIMARIO II and the CMP NWIO — are concluding this year, and with the mandate of the EU-India Strategic Partnership: Roadmap due to end next year, this is an opportune moment for the India and EU to consider the recommendations set forth in the succeeding paragraph.

Policy Recommendations

(1) While the EU has several ongoing collaborative programmes in the IOR and often conducts joint operations and/or exercises, it could be advantageous for it to adopt a training approach that is not so much a "teacher-and-pupil" model but rather, one that recognises and utilises the experiential strengths of its regional participants in addressing maritime security challenges such as piracy and lack of safety at sea — perhaps a more "collaborative" model, thereby maintaining a more 'comprehensive' maritime security architecture. This is especially crucial in the western segment of the Indo-Pacific, namely, the Indian Ocean and its fringing seas.

(2) The EU, working in close collaboration with India and the Indian Ocean Naval Symposium (IONS), could benefit from the initiation of truly-combined training sessions and operational planning processes for the benefit of member-States of the Indian Ocean Rim Association (IORA), Djibouti Code of Conduct (DCoC), the Bay of Bengal Initiative for Multi-Sectoral and Economic Cooperation (BIMSTEC), and even the Association of Southeast Asian Nations (ASEAN). Shared expertise in implementing such activities in areas of mutual interest would enhance cooperation between India and the EU.

(3) The CMP could be more than merely a coordination concept for the EU navies. For the EU and its member-states to integrate further into the Indo-Pacific, the CMP may be used to project the EU as a reliable "maritime security partner" rather than the stated (overly grandiose) aim of becoming a 'global security provider'.

(4) If India can, indeed, be co-opted as a trusted partner, the next MAI (and perhaps the next CMP) could include the Bay of Bengal region, in line with the strategic objectives of the EUMSS.[72] It would be best if this was to result from a combined EU-India-BIMSTEC gradual effort rather than countries concerned being presented with a *fait accompli* that would almost certainly raise suspicion and breed resentment.

(5) Additionally, the mandate of the next CMP could facilitate an increase in military-to-military connections with several member-States and partners within the Indo-Pacific, allowing for pre-planned naval exercises, port visits, and information exchange. This presents opportunities to strengthen naval engagements with key allies like India, Japan, South Korea, Indonesia, and the Philippines.[73]

(6) India and the EU could utilise their respective Track 1.5 & Track 2 institutions to flesh-out Track 1 engagements on issues such as non-traditional security threats (e.g., piracy, armed robbery, lawfare, hybrid threats, illegal, unreported, and unregulated fishing (IUUF), etc.) whenever warships of EU member-States make a port call in India.

Operational Recommendations

(1) The Indian Navy should leverage the forthcoming deployments to South and Southeast Asia by warships of EU member-States by organising informal MDA/MSA workshops and introducing MITRA-NISHAR.

(2) An EU representative urgently needs to be nominated as an ILO in the IFC-IOR. This will enhance MDA, expertise development, and coordination of the activities of the multiple stakeholders within the maritime areas of common interest to the EU and India.

(3) India and the EU share similar ideologies on neighbourhood cooperation, and both have deployed naval assets in the Horn of Africa, the Gulf of Oman, and the Red Sea, for the same purpose. The Indian Navy could take the lead for the conduct of combined interoperability exercises with such navies, utilising MITRA-NISHAR, thereby also creating ample opportunities for Track 1 dialogue.

(4) Twelve Indian Naval ships[74] and warships of EU member-States (under the EUNAVFOR Op ASPIDES)[75] were separately deployed in early 2024 in the Red Sea to protect merchant vessels against ongoing Houthi attacks. It is clear that the opportunity for the EU and the India to mount at least coordinated

if not combined operations was not seized. Together, the IN and the navies of the EU member states could explore interoperability mechanisms in the Red Sea to augment collaborative efforts, possibly facilitated through the use of NISHAR.

(5) Similarly, Op SANKALP[76] and EMASoH Op AGENOR are internationally recognised operations deployed by India and the EU respectively, in the Gulf of Oman. Information concerning merchant vessels transiting the Strait of Hormuz and possible changes in their sailing behaviour could be shared, thereby, enhancing naval cooperation.

Conclusion

The evolving landscape of maritime security demands robust strategies and collaborative efforts from nation-states and international organisations alike. Both the EU and India have demonstrated a commitment to safeguarding their maritime interests through comprehensive strategies such as the EUMSS and the Indian Maritime Security Strategy. However, there remains untapped potential for deeper cooperation, as detailed in this article. By leveraging information sharing and exploring naval and maritime cooperation in areas of mutual interest, India, and the EU can enhance the extant maritime security architecture, safeguard their national economic interests, and address collaboratively emerging challenges in the maritime domain. Towards these ends, implementation of the recommendations outlined in this analysis can further strengthen the strategic partnership and contribute to a safer and more secure maritime environment.

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Spain's National Strategy for Maritime Security 2024: An Analysis

Ms Saaz Lahiri

This article seeks to: (a) highlight the major features of Spain's newly updated "National Strategy for Maritime Security 2024", providing policymakers and researchers alike with a comprehensive overview of Spain's maritime security interests and objectives; (b) offer an analysis of Spain's action plans/measures to fulfil its strategic goals, laying the groundwork for exploring potential areas of collaboration in maritime security between India and Spain.

Spain, renowned as one of history's great maritime powers, is perhaps best known for the Spanish Armada, colloquially dubbed the 'Invincible Armada',[1] which dominated the seas from the 15th to the 17th centuries, complemented by a well-founded shipbuilding industry. However, the defeat suffered by Spain at the hands of Britain in the famous Battle of Trafalgar in 1805 dealt a crippling blow to the former's maritime supremacy.[2] Once a prominent blue-water navy facilitating global colonisation, contemporary Spain stands, somewhat diminished, as a mid-sized modern navy aspiring to evolve into a post-modern force.

Nevertheless, as one of the leading maritime nations amongst the 27 member-states of the European Union (EU), Spain is still a significant European power and is also the 16th member of the North Atlantic Treaty Organization (NATO). Spain played a pivotal role in initiating the EU's "Maritime Strategy" of 2010. Further, Madrid provides steadfast support to the EU in the realms of security and defence, actively endorsing initiatives such as the "Strategic Compass", the "Permanent Structured Cooperation" (PESCO), and the "European Defence Fund", while concurrently engaging within NATO.[3]

This paper examines Spain's interests and objectives within the maritime domain, primarily through an analysis of the country's "National Strategy for Maritime Security 2024" (NSMS 2024). It commences by delineating Spain's distinctive geography, which then highlights existing and potential threats and risks to Spain's national maritime interests. The paper thereafter examines the NSMS 2024, evaluating Spain's three strategic objectives, as well as its approach and the measures that are planned to be implemented to achieve them. It goes on to underscore the uncommon yet imperative inclusion of "Sustainable Development Goal 14" in national security matters, the connection of the Blue Economy with Spain's security interests, its collaboration with the EU and NATO to tackle issues of maritime security, amongst other aspects, to underscore the Strategy's 'holistic approach'. Subsequently, the article chronicles naval exercises conducted between the Indian Navy and the Spanish Navy, both bilaterally and within multilateral frameworks. In conclusion, the article offers insights into potential areas of cooperation in defence procurement and manufacturing, and the mutual interest of Spain and India in preserving their respective underwater cultural heritage.

Unsurprisingly, one of the most influential contemporary maritime security strategies is that of the USA (2005). Following the US lead, Portugal issued its *"Estrategic Nacial para of Mar"* in 2006, France developed its *"Livre Bleu: La Strategie Nationale pour La Mer et les Oceans"* in 2009, and Denmark adopted "An Integrated Maritime Strategy" in 2010. Germany, Ireland, and the United Kingdom also published their strategies in 2011, 2012 and 2014, respectively.[4] Of course, many of these strategies and guidelines have been subsequently updated or revised. In like manner, while Spain released its inaugural "National Strategy for Maritime Security" (NSMS) in 2013, which advocated a dual-focused security policy in the maritime realm: safeguarding national maritime interests and contributing to international endeavours aimed at maintaining order at sea, it issued a revised version in March 2024.

Spain has long recognised that geography is a major determinant of foreign policy, specifically dictating niche or domain-relevant strategies for all nations. Even within a contemporary context, Spain's maritime legacy extends well beyond the geography of its Mediterranean neighbourhood. The EU, for instance, recognises

Spain's relevance, given that the operational command/headquarters of the "EU Naval Forces (EUNAVFOR) Operation ATALANTA" is based in Rota, Spain.[5] Moreover, Spain's forward maritime presence is observed in areas such as the Gulf of Guinea, the Horn of Africa, and now the Red Sea, as Madrid appears to be quite committed to enhancing Spain's visibility in the Indo-Pacific. The following segment outlines Spain's 'strategic' geography.

Spain's 'Strategic' Geography

Spain's national identity is inherently maritime, stemming not only from the history of the Spanish thalassocracy but more significantly, from its geography. The strategic significance of Spain is considerable, situated as it is at the confluence of the Indo-Pacific and the Euro-Atlantic spheres, which facilitates maritime transit between the eastern Pacific and the western segment of the Indian Ocean, thus serving as a vital nexus. Located at the intersection of Europe and Africa Spain exhibits a distinctive geographic profile as a quasi-island bordered by the Mediterranean, Cantabrian, and Atlantic seas (See Fig 1).[6] It boasts the second-longest coastline in Europe. Additionally, Spain's territorial expanse encompasses the Balearic Islands in the Mediterranean, the Canary Archipelagos in the Atlantic, and three enclaves — Ceuta and Melilla on the northern coast of Morocco, and Llivia on the French side of the Pyrenees —further augmenting its strategic significance.[7] Moreover, Spain serves as a vital bridge between continents, notably facilitated by the Strait of Gibraltar,[8] a critical choke point in itself.

Through its access to the Mediterranean, Spain maintains connections with West Asia and North Africa (WANA), while its Atlantic coastline enables integration into major international trade routes extending to the Americas. Although Spanish ports and maritime terminals certainly offer several advantages in terms of international maritime trade and transportation of goods and people, they also pose national security risks. Collectively, these attributes make a significant contribution to Spain's predominant maritime character and its pivotal role in global maritime affairs.

As is to be expected, Spain prioritises its jurisdictional waters as well as its legal continental shelf, and the 'International Shipping Lanes' (ISLs) that link the Spanish peninsula to its island territories. The NSMS additionally highlights various other maritime areas of interest. These encompass the Mediterranean Sea, with a particular focus on the Atlantic margin, West Africa, and the Gulf of Guinea; and the Indo-Pacific region — notably North Africa, the Horn of Africa, and the Persian Gulf, as well as Southeast Asia, with specific focus upon such international fishing grounds as are frequented by Spanish fishing vessels. Notably, the Antarctic and the Arctic regions are also extended areas of interest.[9]

The European approach to addressing the Russia-Ukraine threat involves a comprehensive strategy across the EU. However, given that relying solely on safeguarding the eastern flank may not be feasible for all member-states of the EU,[10] maritime nations such as Italy, Greece, Germany, France, the Netherlands, and Spain, have put several of their eggs in the 'Indo-Pacific' basket. The significance of this strategic shift cannot be overstated.

Strategic Lines-of-Action

Before delving into an analysis of Spain's National Strategy for Maritime Security, it is important to understand Spain's definition of Maritime Security,

> "The combination of preventive and response measures aimed both at protecting the maritime environment from threats and intentional illegal acts, and at limiting the impact of natural hazards, accidents, and of harm to the environment, economic activities and people".[11]

Within its overall maritime strategy, Madrid has delineated three strategic objectives: (1) to protect Spain's maritime interests at sea and from the sea; (2) to improve Spain's maritime capabilities; and (3) to enhance the safety of the seas. To realise these strategic aims, Spain intends to execute targeted initiatives that are aligned with a set of progress indicators. To facilitate this, periodic assessments are planned to be conducted every three years.

Protection of Spain's Maritime Interests at and from the Sea

Seven specific actions have been outlined to protect Spain's maritime interests, both at and from the sea. These activities encompass maritime surveillance using national assets and fostering international cooperation to ensure compliance with national and international maritime laws by commercial vessels.[12] Additionally, plans are being developed to enhance the resilience of submarine cables and critical maritime energy infrastructure, both within and outside Spanish waters.[13] Efforts are also underway to expand the delineation of Spain's maritime areas in the Celtic Sea, the Gulf of Biscay, and areas west of the Canary Islands, and to extend Spain's continental shelf to optimise resource-utilisation. These endeavours will involve diplomatic initiatives internationally, and coordination among domestic public authorities, to ensure correct delineation. Furthermore, safeguarding Spain's internationally recognised "underwater cultural heritage" involves the Civil Guard and the Navy functioning in protective and surveillance activities. Hydrographic surveys will also be conducted to update maps of underwater archaeological sites.[14]

Addressing Illegal, Unreported and Unregulated Fishing (IUUF) by Spanish nationals is another government priority. Measures are being implemented to monitor and regulate fishing activities. Importantly, authorities aim to ensure that fish-products that are imported, exported, or re-exported by Spain comply with international conservation and management measures.[15]

Spain also intends to establish a framework for 'Marine Spatial Planning' in five areas, namely, the Canary Islands, the Strait of Gibraltar and the Alboran Sea, the northern and southern Atlantic coast, and the Balearic Islands. It is expected that this framework would promote sustainability in domestic maritime sectors.[16]

Finally, enhancing interoperability among ongoing operations and information-sharing centres involves digitalising and monitoring inter-departmental information-sharing processes and agreements. Regular meetings with heads of maritime-security operation centres would be scheduled based on identified agendas, and the National Maritime Security Council would maintain an updated list of national capabilities and resources.[17]

Enhancing Spain's Maritime Capabilities

Spain's primary focus is on integrating cutting-edge technology, such as smart sensors, artificial intelligence (AI), and communication systems, into existing sea and air assets. Additionally, efforts are underway to modernise shipyards and fleets, including the incorporation of autonomous navigation, and the usage of "green" hydrogen and other forms of renewable energy as fuel-sources,[18] aiming to preserve Spain's underwater cultural heritage, and marine biodiversity, as also to enhance oceanographic activities. Spain addresses challenges such as illegal submarines, semi-submersibles, and remote-controlled vessels, through the utilisation of AI, coastal surveillance, and port surveillance systems employing remote-controlled drones.[19] Additionally, Spain strives for increased autonomy at the EU level in three Permanent Structured Cooperation (PESCO)[20] developmental projects, namely. the development of the European Corvette, an anti-remote-controlled submarine system, and the 4E (Essential Elements of European Escort) programme[21], with Spain leading in five areas within this programme.

Special attention is paid to the security of maritime terminals, which are considered critical infrastructure, and would undergo regular and periodic assessment and monitoring procedures by authorities to ensure the safety of supply chains.[22] Spain's shipbuilding industry is poised for growth as Spanish companies participate in planning international deployments, aided by Spain's Projects for Economic Recovery and Transformation (PERTE)[23], promoting autonomy in the shipbuilding sector, including auxiliary companies and suppliers of advanced technology.[24]

Spain's maritime interests heavily influence decisions on public funding for research, development, and innovation (R&D&i). A framework is intended to be established to fund selected public and private institutions engaged in such R&D&i.[25] Efforts are also being made to promote maritime culture and awareness to stimulate interest in maritime professions, enhancing Spain's comprehensive response capabilities to address risks and threats to national security.[26]

Enhancing Safety of the Seas

Spain prioritises the intensification of its participation in the EU's Common Security and Defence Policy (CSDP) operations, and within NATO, Madrid is especially focused upon the issue of attributability in respect of international submarine cables crossing the high seas.[27] The vulnerability of these cables necessitates stronger international cooperation for their surveillance and protection. In addition, Spain's (relatively) increased presence in the Indo-Pacific could potentially enhance its ability to safeguard the International Shipping Lanes (ISLs)[28] relevant to it and address other threats arising from maritime traffic and fishing activities.[29]

Addressing transnational criminal activity is another key area of focus for Spain, which seeks more intensive and extensive cooperation with the EU to tackle challenges such as IUUF, illicit trafficking by sea, and cross-border crime.[30] Greater attention would be paid to public authorities for the conduct of operations and for training missions aimed at strengthening the maritime capabilities of partner countries.[31] Additionally, efforts would be undertaken to encourage greater judicial collaboration, and counter-terrorism activities, with a focus on pre-emptive and multidisciplinary approaches undertaken by EU member-states and select partner nations.

Spain's strategy to achieve "Sustainable Development Goal 14" (Life Below Water) involves the adoption of appropriate prevention, preparation, and response measures to protect marine resources within protected maritime areas, and the conservation of coastline, seas, and oceans. These measures include the incorporation of aerial drones fitted with sensors and the revision of marine strategies to integrate policies from different sectors.[32]

Last but not least, all economic sectors linked to the sea would undergo scrutiny to assess the effects of climate change, enabling Spain to create maps identifying potential areas of impact. As a result, Spain expects to be better able to prepare preventive and response measures for essential infrastructure such as ports, industrial facilities, pipelines, regasification terminals, and desalination plants.[33]

Key Take-Aways from Spain's NSMS 2024

Spain's 2024 decision to update the NSMS, following the revision of the EU Maritime Security Strategy (EUMSS) in March 2023, aims to enhance coordination efforts amongst domestic departments, public authorities, and other key players. The revised strategy focuses on optimising decision-making processes, implementing preventive measures, and executing actions across diverse maritime sectors. Moreover, despite the EU having released its "Strategy for Cooperation in the Indo-Pacific" and the EUMSS in 2022, the 27 individual member-states of the EU maintain distinct sets of national interests, which may or may not align with the EU's collective objectives. Consequently, the EU27's national strategies/guidelines enable them to foster stronger bilateral relations with key partners according to their specific interests. For Spain, these strategic interests include the development of its maritime industries into high-value strategic assets and the promotion of closer engagement between the public and the private sectors in maritime-related economic activity.[34] Navatia and Marine Barcelona, amongst the other 70 "Small & Medium Enterprises" (M/o MSME) involved, would participate in a collective effort across 40 projects. The PERTE Naval initiative aims to elevate SMEs as the primary agents driving industrial transformation within the naval shipbuilding sector.[35] This is almost identical to the Indian approach and there is clearly much that each country can learn from the other.

Spain's approach to ensuring and enhancing maritime security is comprehensive, as evidenced by its focus on achieving SDG-14, enhancing its Blue Economy, addressing climate change and marine pollution, and developing 'Maritime Spatial Planning' frameworks. This 'holistic' approach emphasises preventive planning as a common response to complex situations requiring concerted action by different authorities or partner nations.[36] In line with Spain's strategy for achieving 'holistic' maritime security, India similarly seeks to generate maritime security by endeavouring to be free of threats and challenges arising 'in-', 'from-', or 'through' the sea.[37] Likewise, Spain's dedication toward enhancing the capabilities of its partner nations closely mirrors India's own efforts stemming from New Delhi's maritime policy of 'Security and Growth for All in the Region' (SAGAR).

Illegal migration poses a particularly significant threat to Spain, necessitating bilateral and EU collaboration agreements. This involves optimising search and rescue (SAR) capacities and capabilities at sea, the provision of humanitarian assistance, and facilitating the preliminary identification and processing of immigrants. Incorporating AI technologies and surveillance systems, modernising maritime capacities and capabilities, and implementing measures to counter hybrid threats, are all specified as thrust areas within the NSMS 2024.[38]

Hybrid malevolent strategies, encompassing economic coercion, cyber-attacks, disinformation campaigns, and low-intensity warfare, present a significant challenge. Spain — hosting various submarine cable landing points, and LNG regasification terminals — faces heightened vulnerability to these threats. Additionally, concerns related to national interests, illicit trafficking, cross-border crime, and environmental threats contribute to Spain's risk assessment[39] Please refer to Fig 2.[40]

Interestingly, while Spain's NSMS indicates that the country possesses a 10,000 km coastline,[41] the *Instituto Geographico Nacional* indicates Spain has an 8,000 km coastline, while La Moncloa, the website of the Ministerial Departments of the Government of Spain, states that the Spanish Coastline is only 5,755 km in length.[42] This discrepancy has a number of implications pertaining to coastal surveillance and, by extension, raises questions about the Spain's strategic goals.

Like several other countries, Spain, too, is grappling with the issue of seabed mining. Despite becoming a member of the International Seabed Authority (ISA) in 2023 and ratifying the High Seas Treaty of the United Nations Convention on the Law of the Sea (UNCLOS), Madrid advocates for the EU member-states to conduct analyses of seabed mining in areas designated as the common heritage of mankind. On the other hand, Spain's focus on sustainability is evident in its 'precautionary pause' in seabed mining activities, highlighting its unique stance on the matter.[43]

Alongside its sovereign responsibilities, Spain attempts to strike a balance with its collective responsibilities as a major stakeholder in the EU and in NATO. Spain's actions at sea and along the coastline align with its efforts to collaborate and promote the initiatives of the International Maritime Organisation (IMO), the EUMSS, and NATO's Maritime Strategy.[44] Madrid finds that Spanish interests demand stability in the region in the Gulf of Guinea, as maritime insecurity in this area could adversely impact energy supplies and trade flows not only for Spain alone but also for the EU as a whole.[45] This interest is closely aligned to the EU's collective maritime security objectives and this realisation drives Spain's willing involvement in the "Coordinated Maritime Presence" (CMP) initiative in the Gulf of Guinea.[46]

While the NSMS includes measures to protect critical maritime undersea infrastructure, such as submarine cables and pipelines, there is no direct mention of an extant or aspirational framework specifically for underwater domain/situational awareness. Such a framework would, of course, support Spain's own capacity-building efforts under the EU's PESCO initiatives (See Fig 3).

Recently, political instability in Yemen manifested itself as a significant threat to commercial vessels transiting the Strait of Bab-el-Mandeb and the Red Sea. Of consequence was the fact that as naval attention shifted to the Red Sea, there was a notable reduction of presence in the Gulf of Aden and its environs, resulting in an increase in illicit maritime activity, including piracy attacks on ships and marine infrastructure, interference with radio communication systems, and attacks on navigation. Similarly, Spain's financial responsibilities to the EU in relation to the Ukraine-Russia war is likely to impede Spain's ability to address organised criminal maritime activities such as the exploitation of migrants at sea and IUUF.

Additionally, the release of the EU's "Strategy for Cooperation in the Indo-Pacific", and the strategies/guidelines issued by other member-states are likely to inspire Spain to follow suit, given its geographical positioning and considerable security interests in the region.

Spanish-Indian Maritime Interface

Against this backdrop, it is useful to examine Spain's relations with India, and the burgeoning relations between India and Spain in the Indo-Pacific. Both, India[47] and Spain are full-fledged members of the Combined Maritime Forces (CMF), thereby highlighting their commitment to uphold the International Rules-based Order (IRBO) by protecting maritime trade, improving maritime security, and preventing and monitoring illicit activities by non-State actors in the CMF Area of Operation (AOR).[48] Moreover, Spain is an "observer" within the Indian Ocean Naval Symposium (IONS).[49] Since maritime security efforts are usually undertaken by each nation's principal maritime-security force, namely the Indian and the Spanish navies, it is important to promote and leverage interaction between them so as to enhance interoperability. This requires the conduct of combined wargames, table-top exercises, and real-world exercises.

Combined Maritime Activity between Spain and India

The Indian Navy (IN) and the Spanish Navy have conducted a reasonable number of combined exercises, bilaterally and through the European Union Naval Forces (EUNAVFOR). In August of 2019, the Indian Navy Ship (INS) *Tarkash* made a port call in Cadiz, Spain, to demonstrate India's operational reach, conduct maritime-security exercises, and strengthen solidarity with friendly nations.[50] On 18-19 June 2021, INS *Trikand* and four EUNAVFOR Somalia Operation ATALANTA assets, including the Spanish frigate ESPS *Navarra,* participated in counter-piracy exercises.[51] These exercises comprised cross-deck helicopter landings, night patrols, and manoeuvres on the high sea off the coast of Somalia.

On 26 September 2023, INS Sumedha and ESPS Metero conducted an extensive "Maritime Partnership Exercise" in the Mediterranean Sea (see ***Fig*** 4). Personnel from the Indian Navy along with their counterparts from the Spanish Navy participated in advanced communication drills and tactical manoeuvres, including boarding operations. The exercise was designed to promote seamless collaboration between the two navies across a variety of mission scenarios, such as humanitarian relief, anti-piracy procedures, coordinated tactical operations, etc., and sought to minimise errors resulting from miscommunication[52]

Following the 'India-EU Maritime Security Dialogue' on 05 October 2023, INS *Sumedha once again* exercised, this time with Spain's ESPS *Tornado,* alongside three other EU member-states' naval assets (see Fig 5) off the coast of Ghana. These exercises demonstrated India's and the EU's commitment in bolstering maritime security in the Gulf of Guinea within the framework of the Yaoundé architecture.[53]

Areas of Tangible Maritime Cooperation

Spain and India boast a robust "Strategic Defence Partnership" with a pronounced maritime focus,[54] evidenced by transfer-of-technology (ToT) agreements involving private sector entities from both nations. Recently, Spain's Ambassador to India — His Excellency Mr Jose Maria Ridao Dominguez — expressed Spain's optimism and keen interest in India defence industry, specifically in terms of defence technology-sharing and partnerships.[55] Two key areas of collaboration within this "Strategic Defence Partnership" include the procurement and manufacturing of ships and submarines, and the development of critical underwater infrastructure, such as submarine cables.

The maritime focus of the 'Strategic Defence Partnership' notwithstanding, the partnership does concentrate upon the cooperation in aviation as well. Spain's ongoing manufacturing of the Airbus C-295 programme underscores the potential of the defence agreements between the two nations.[56] Spain has already delivered the first Airbus C-295 tactical transport aircraft, while another 16 such aircraft are being manufactured for the Indian Air Force (IAF) in Spain and will be delivered in 'fly-away' condition by 2025.[57] Additionally, under an industrial partnership between the two countries, 40 of these aircraft are being manufactured and assembled in India by Tata Advanced Systems (TASL).[58]

Apart from its ongoing collaboration with the IAF, Spain is also a major contender for the ₹43,000 Cr procurement by the Indian Navy under the "Project-75 India", submarine acquisition programme.[59] M/s Navantia, a leading Spanish government-owned shipbuilding company, is competing neck-to-neck with Germany's "ThyssenKrupp Marine Systems" (TKMS) for this mega naval contract, which involves a significant transfer of technology to the Indian construction partner. While TKMS has chosen Mazagon Docks Ltd (MDL) as its partner, Navantia will work with Larsen & Toubro, India.[60] Navantia's "S-80" submarine design relates to a 3000-tonne submarine diesel-electric submarine (Fig 6 refers)[61] fitted with state-of-the-art (but yet to be proven) Air Independent Propulsion (AIP) system. Like that of TKMS, the Spanish design, too, satisfies the Indian Navy's requirements.[62]

Apart from the tender for submarine construction with L&T, Navantia is also understood to be keen to construct Landing Platforms Dock (LPDs) within India. LPDs are versatile vessels used to transport military personnel and supplies, improving a navy's amphibious capabilities. Some three years ago, in 2021, the Indian Navy had issued a Request for Information (RFI) for four LPDs, and Navantia has stated that it would be willing to enter into a Transfer of Technology (ToT) agreement, in respect of its *Juan Carlos* I LPD, with M/s L&T.[63] Although the project has been on hold pending the securing of funds for the proposed Indigenous Aircraft Carrier II (IAC II),[64] the Indian Navy could issue a Request for Proposal (RFP) for the LPDs in 2025. This RFP is expected to incorporate capabilities for Unmanned Aerial Vehicles (UAVs) and Unmanned Combat Aerial Vehicles (UCAVs), aligning with Navy's strategy to adopt cutting-edge technologies.[65] Additionally, under India's Double Taxation Avoidance Agreement (DTAA) with Spain, defence procurement and manufacturing industries would benefit as these are capital-intensive activities. Since the tax rates on royalties and fees of technical services are not more than 10 *per cent*, any agreement between Spanish and Indian companies will be lucrative for both parties.[66]

Overall, there is a huge potential for Spain and India to collaborate within the defence sector. The establishment of a 'Joint Working Group on Defence'[67] could well facilitate the creation of a dynamic and robust ecosystem for Spanish-Indian industrial and defence cooperation. This would allow for greater and deeper engagement in maritime technologies such as Underwater Unmanned Vehicles (UUVs), LPDs, high-tech conventional submarines, ammunitions, and missiles, amongst other things.

India-Spain collaboration in maritime security and the blue economy is, once again, assessed to be significant, with substantial mutual benefits to be gained. Enhanced collaboration in these areas would foster innovation, sustainable development, and enhance regional stability. To realise this potential, it is crucial to intensify engagement by both, Track 1 (official government-level) initiatives and Track 1.5 (informal dialogues or workshops including government and non-governmental stakeholders) ones. Such comprehensive engagement would facilitate the exchange of expertise, joint initiatives, and the development of robust frameworks for cooperation, ultimately strengthening the maritime capabilities and economic prosperity of both nations.

Conclusion

The vulnerability of Spain's maritime spaces has driven it to undertake major legislative, technological, and operational initiatives aimed at gaining greater control over its maritime domain. Arguably, Spain's revision of its NSMS seeks to better address the current state of affairs by formulating policies to safeguard vital trade routes, sovereign and neighbouring coastal areas, critical undersea infrastructure, maritime cultural heritage, ocean resources, and marine biodiversity. The NSMS aims to bring Spanish public authorities and the private sector under a common umbrella to bolster Spain's maritime capabilities and, thereby, to protect its maritime interests. Through international partnerships in the Indo-Pacific region, particularly with India, Spain may yet reclaim its erstwhile status as a prominent maritime power.

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“Seabed Warfare” Strategy of France: Lessons For India

Mr Soham Agarwal

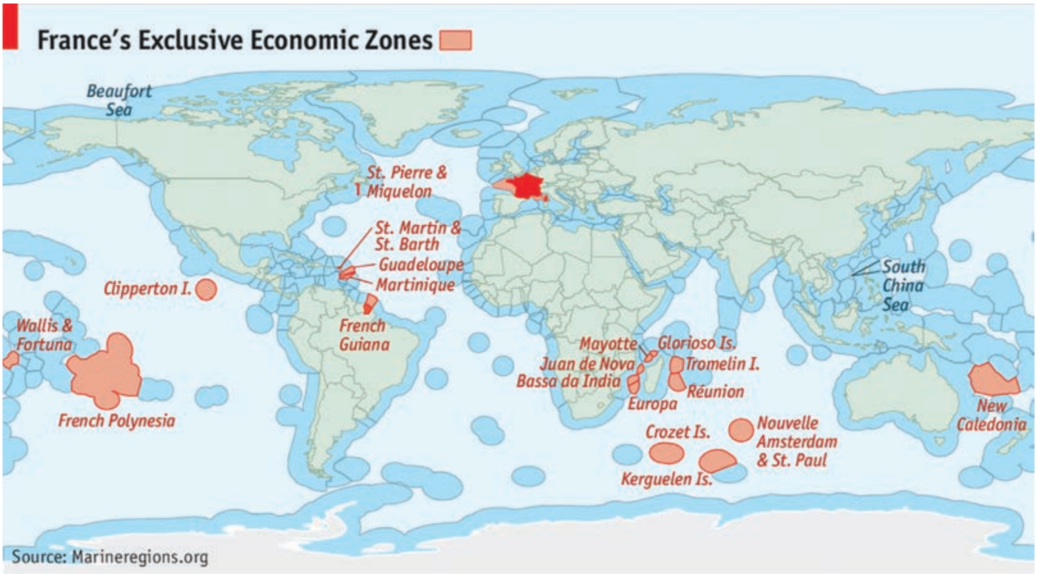
Seeking to achieve initial operational capacity for seabed warfare by 2026, France is a nation putting in concerted effort to achieving competence in this domain. Beginning with a formalised public strategy, which lays out the ability that the French seek to achieve and the manner in which they seek to achieve it, to conducting seabed warfare deployments (Operation CALLIOP)[1] the French seem to be leading the way in acquiring advanced seabed warfare capacities and capabilities. In fact, the French Navy has recently included a “seabed control serial” in their bilateral exercise with the Italian Navy where they utilised an Autonomous Underwater Vehicle and a Remotely Operated Vehicle to “counter malicious action on underwater infrastructure”.[2] Therefore, the French strategy offers a useful blueprint for India to formulate its own seabed warfare strategy or refine it if one already exists in the classified domain. This paper is the second instalment in the series on seabed warfare. It analyses the French seabed warfare strategy and extracts from it aspects that may inform India’s own strategy for the seabed.

France and Seabed Warfare

The Ministère des Armées (French Ministry of Armed Forces) in February 2022, released a Working Group Report entitled “Seabed Warfare Strategy” (hereinafter referred-to as the “*Strategy*”) to offer an ambition and a roadmap to meet the challenges in this “*increasingly disputed area*” as conflicts have “*now effectively extended to the seabed*”.[3] During a press conference, the ex-French Minister of Defence put the end-state of the new strategy as being to “*equip the French military with the ability to reach* *depths of 6,000 meters, or nearly 20,000 feet…as this makes it possible to cover 97 per cent of the seabed and effectively protect our interests, including submarine cables.*"[4]

Seabed Warfare Operations, according to the "*Strategy*", include "*implementing, deploying and utilising fixed, semi-fixed or mobile underwater capabilities able to operate towards, from, and on the seabed, either independently or in a network*".[5] The geographical area on which the "*Strategy*" is primarily focused is divided into two subpoints: (i) the territorial sea and French EEZ, and (ii) any area of operational interest for the freedom of action of French armed forces and the protection of the country's national interests.[6] Therefore, it is evident that the scope of the "*Strategy*" is not limited to areas within French jurisdiction and encompasses even those areas which lie beyond national jurisdiction as long as they are of operational and national interest. This is of significance as the total area of the French maritime zones, with the continental shelf extensions in force, is 10,911,921 sq km.[7] Of this, the French EEZ in the Indian Ocean—which is 20 per cent of its total EEZ (roughly 2,182,384 sq km)—is 10 per cent of the total surface of the Indian Ocean.[8] The graphic details in the Fig.1 has been taken from the data team of the Economist. Since the Indian

Figure 1. France's Exclusive Economic Zones


France's Exclusive Economic Zones
Beaufort Sea
St. Pierre & Miquelon
St. Martin & St. Barth
Guadeloupe
Martinique
Clipperton I.
Wallis & Fortuna
French Polynesia
French Guiana
Mayotte
Glorioso Is.
Juan de Nova
Bassa da India
Tromelin I.
Réunion
Europa
Crozet Is.
Nouvelle Amsterdam & St. Paul
Kerguelen Is.
South China Sea
New Caledonia
Source: Marineregions.org

Source: Data Team, The Economist

Ocean is of particular interest to India, a strategy that aims to "control" 10 per cent of it certainly needs careful study. Moreover, the inclusion of a catch-all geographic area with reference to "operational and national interests" makes the scope of the "*Strategy*" extraordinarily wide.

A Coordinated Effort

The "*Strategy*" follows the "France 2030 Investment Plan" (unveiled by then-President Macron in 2021), which includes "*explore the seabed*" as an express objective of the plan.[9] In fact, the "*Strategy*" explicitly identifies itself to be "*fully integrated*" into an interagency dynamic, focusing upon the seabed, and leading from the "2015 National Strategy for The Security of Maritime Areas", the "National Strategy on the Exploration and Exploitation of Deep Seabed Mineral Resources", and the "France 2030 Investment Plan".[10] Therefore, it is evident that there is significant attention being paid by France towards the seabed as a strategic domain. The "*Strategy*", in fact, specifies that the "*seabed is not a compartment or a field in its own right*"[11] but is, nonetheless, a "*new area of conflict*". Therefore, it needs to be read within the broader themes of 'undersea warfare' and 'maritime security'. In fact, Rear Admiral Cédric Chetaille—the French Navy's deputy chief for operations, and director of seabed capability development—has stated that such capability is to "*multiply effects in naval warfare, better co-ordinate with anti-submarine warfare to ensure success in multi-domain and joint operations, recognising the specific nature of seabed warfare domain assets and command and control*".[12]

It is also pertinent to note the while an inter-agency dynamic certainly exists, given the vastly varying nature of activities related to the seabed, there is a difference in approach that the strategies of individual agencies have to the same domain. There may be complementarities as well as conflicts in these approaches, which may affect the implementation of these strategies. A key example is the "lead agency in-charge" of achieving these objectives. The "*Strategy*" which is one that has been promulgated and led by the Ministry of the Armed Forces, contextualises the seabed in terms of conflict and defence, while the "France 2030…"—which is a whole-of-government policy focused upon investment facilitation—entrusts the lead for the seabed objective to the Ministry for Marine Affairs, the Ministry of Higher Education and Research, and the Ministry for Industry.[13] 350 million euros have been allocated to develop scientific research programs to explore the deep sea and promote French manufacturers to provide the equipment required for such research. This, as will be dilated upon subsequently, overlaps with the stipulated aim of the "*Strategy*", namely, to develop a 'Defence Technological and Industrial Base' for equipment necessary for seabed warfare. Therefore, coordination between these ministries to ensure directed, focussed, and consolidated effort acquires importance.

The "*Strategy*"

The "*Strategy*" represents an ambition. France has identified the ever-increasing strategic and economic importance of the seabed and seeks to prepare itself to capitalise upon the opportunities that arise once technological advances make the seabed more accessible. The "Strategic Update" of 2021 had stated that the seabed is increasingly becoming the setting for power struggles.[14] Therefore, while protection of submarine installations, such as communication cables and pipelines, is an important aspect of the seabed effort, the broader ambition of the Strategy is to "control" the seabed.[15] This comes from a reading of the seabed as an "*Undersea Far West*" subject to "*strategic piracy*" due to the increasing competition for resources, heightened military activity, the territorialisation of the seabed, increasing sensitive seabed installations, and the adoption of aggressive *fait accompli* policies by States.[16] The disputed international status of the seabed, weak international institutions (which the "*Strategy*" calls the "*lost gamble of global governance*"), the hybrid nature of submarine activity, and the use of the law as a tool to secure claims, all taken in aggregate, have prompted France to assert "*strong national policies*" vis-à-vis the seabed.[17]

The key end-objectives of the Strategy have been outlined as:

a) *Guarantee freedom of action for our armed forces in the* ***air-maritime environment***

b) *Contribute to the protection of our underwater installations (including submarine communication cables)*

c) Guarantee French interests in the exploration and exploitation of mineral and energy resources, in particular in areas under national jurisdiction.

d) While being capable of posing a credible threat to the interests or forces of a potential enemy tempted to attack the interests of France or its strategic partners[18]

Interestingly, the *"Strategy"* does not focus on protecting the seabed but rather on controlling it. The control of the seabed is to ensure both offensive and defensive action not only on the seabed but also in the broader *"air-maritime environment"*. This includes protecting underwater infrastructure and the economic interests of France underwater.

The strategic lines of effort to achieve the end objectives are two-fold: (1) "*extend control of maritime areas to the seabed to guarantee our freedom of action*" and (2) "*strengthening our strategic autonomy*".[19] The "*Strategy*" seeks to preserve and bolster capacity for anticipation and freedom of action in underwater areas to contribute to national resilience.[20]

Each strategic line of effort is, in turn, supported by one or more operational lines of effort. The first strategic line of effort, i.e., the extension of control is sought in four ways:[21]

1. Develop knowledge of the seabed. This step acquires significance due to the current lack of knowledge of the undersea environment. Such knowledge not only supports France's nuclear posture of deterrence at sea (conducted by the ballistic missile submarines of the French Strategic Ocean Forces) but also assists in assessing threats, establishing modes of action, and optimising the performance of sensors.[22] This involves a deep understanding of bathymetry and gravimetry to allow for the use of inertial navigation systems to ensure safer and more precise navigation. Additionally, it provides for greater autonomy as it reduces reliance on external positioning systems such as GPS, Galileo, etc.[23] Further, understanding sediment properties is important for underwater detection using ultra-low frequencies as they affect acoustic propagation. This requires innovation in acoustic, optical,

and magnetic or electromagnetic technologies. The focus is on innovation and the development of mobile underwater systems equipped with onboard sensors with operating capacity at a depth of 6,000 metres in synergy with the current "Hydrographic and Oceanographic Capacity of the Future Program" (CHOF) of the French Hydrographic and Oceanographic Office (SHOM).[24]

2. Monitor the seabed and submarine area. This objective is to be achieved by monitoring the seabed, as also monitoring 'from' the seabed. Described as an activity to be undertaken during peacetime, it seeks to ensure the ability to autonomously monitor, detect, classify, and even search for objects or any potential threats that could impede freedom of action for the French armed forces and the integrity of French submarine installations. It is recognised that such threats could exist both on the seabed and the water column above it.

   With regard to monitoring the water column 'from' the seabed, the objective is the protection of approaches, supporting a force projection operation, or discouraging a potential enemy.[25] Ensuring the security of approaches is essential to "*deploy air-maritime forces far from their bases*" and has been explicitly linked to nuclear deterrence operations at sea, and ballistic missile submarines operating from the Ile Longue base and the French aircraft carrier, the *Charles de Gaulle*, from Toulon.[26] While both these bases are in 'Metropolitan France', it is foreseeable that surveillance systems may be placed in the Indian Ocean to ensure safe passage of these French assets, and eventually, such vessels may well be bases in French Overseas Territories within the Indian Ocean.

   The *"Strategy"* stresses the role of underwater vehicles (AUVs, ROVs) equipped with complementary sensors that are compatible with naval or possibly even civilian platforms to carry out search missions discreetly and in semi-permissive or non-permissive environments.[27] Underwater vehicles, in combination with other fixed, semi-fixed or mobile platforms, are envisaged to be networked with one another so as to allow for sensor-complementarity, rationalisation, and comprehensive coverage 'of' and 'from' the seabed.[28]

3. Take action 'on', 'from' and 'towards' the seabed. Characterising the seabed as "*an extended field of action*", the ambition relates to being able to conduct operations such as targeted investigations, neutralisation, destruction, and recovery of sensitive objects, and the restoration of an underwater asset in deep waters.[29] Towards these ends, France seeks to acquire the capability to operate in deep water conditions of depths up to 6000 m which makes 97 per cent of the seabed accessible. It is felt that French undersea warfare actions and capabilities need to extend deeper as there is going to be greater recourse to subaquatic courses of action. As such, they aspire to acquire the ability to "horizontally" enter complex and disputed areas where the operation can be launched and executed in the deep sea/seabed domain. Here, the French seek to develop a tactical advantage in depth through which they could access environments which otherwise may be difficult to access. French assets could go deeper to avoid any obstacles and more effectively either attack or defend infrastructure at depths.

   The "*Strategy*" identifies that current French ability is limited to 2000 m by the 'Human Diving and Underwater Intervention Unit' (CEPHISMER).[30] Deeper access up to 6000 m can be achieved in very limited numbers by IFREMER which is the French National Institute for Ocean Science, i.e., in a civilian capacity for deep-sea resource exploration. Therefore, the ambition to move from 2000 m to 6000 m is steep or requires a repurposing of IFREMER assets for military purposes.

4. Make further use of opportunities arising in the current legal framework. The French seek to use the law – both national and international – to consolidate their *"Strategy"*. Interestingly, the "*Strategy*" seeks to adopt a legal posture that *"integrate[s] compliance with international law by **maritime powers**"* (emphasis added).[31] On the international law front, the French position UNCLOS as the "*relevant and coherent framework*" for meeting the challenges inherent in seabed warfare.[32] By way of corollary, they seek to prevent the use of UNCLOS by States to control maritime areas of French interest and have expressly indicated their intention to continue their activities in disputed areas such as South China Sea to maintain "freedom of navigation".[33] "Freedom of

navigation" is held to be integral to "freedom of manoeuvre" and "free access to resources". Activities highlighted include strategic guidance and sharing positions at forums such as UN-DOALOS.

On the national front, the French seek to develop less permissive regulations, improve knowledge of maritime activities, and ensure that the law keeps pace with the technology. These laws seek to address the laying and protection of submarine cables (Decree 2013-611), AUV navigation and maritime drones (Ordinance No. 2021-1330), and marine scientific research in areas of French maritime jurisdiction, including creating *"areas within the protection of national defence interests"* requiring authorisation and rules relating to publication of data.[34]

With respect to the second strategic objective, viz., strengthening strategic autonomy, emphasis has been placed on capitalising technological advancements, developing a 'Defence Technological and Industrial Base' (DTIB), and partnerships.[35]

The advancements currently in focus relate to vehicle endurance, autonomous decision-making, sensor miniaturisation, data processing, submarine communications, and robotics.[36] Further, since autonomous underwater vehicles and remotely operated vehicles form the crux of the French endeavour to achieve their strategic ambition, specific lines of effort have been identified with respect to each vehicle:

AUVs: Advancements need to be achieved in:[37]

i) Energy, including battery technology, and induction charging for seabed charging stations (power storage and distribution).

ii) Navigation, including component miniaturisation, and improved gravimetry and processing capability.

iii) Detection, including AI-enabled detection systems for search, classification, and monitoring of objects on the seabed including submarine cables.

iv) Communications, including improvement of data rate, range, and security for underwater communications.

ROVs: Advancements primarily relate to the field of robotics to enhance precision, endurance, and mission diversity. These include joystick control, diversity of information collection, battery storage, and better effector manoeuvrability.[38]

As may be seen, the ability that the French seek to acquire for seabed warfare is reflected in the capacities that they seek to develop in the AUVs/ROVs. It is pertinent to highlight that the emphasis is not only on AUVs/ROVs but also upon those which can operate at depth. Hence, the endeavour is technology driven. This as per the *"Strategy"* needs to be given effect through the DTIB, i.e., the defence manufacturing-industry within France. Since expertise beyond 3000 m is limited to civilian operators engaged in scientific and oceanographic research, the *"Strategy"* envisages partnerships with civilian operators for development for technologies that are inherently dual use in nature.[39] It has been identified that as per current capacities off-the-shelf vehicles cannot be produced and, of the range of technical capacities required — lighting, electro-optical imaging in high pressure environments, positioning, propulsion, robotics, and electric optic carrier cables — the French industry can address only a limited number of areas for ROV production (which those that has not been developed by the *"Strategy"*).[40] Current capacities and capabilities with reference to AUV production have not been identified. Hence, keeping in mind the sensitivities of sovereign capabilities, strategic, and economic interests of France, synergy is sought between the "France 2030 Investment Plan", civil operators, and international partners.[41]

In fact, the French Navy is leasing deep-sea assets from the private sector and testing them in their first seabed warfare operation, Op CALLIOPE, to evaluate their capabilities, and how and where they can be utilised.[42] Therefore, there is integration between not only the civil branches of government but also the private sector to accelerate the acquisition of capacities and capabilities to engage in seabed warfare operations.

Potential international collaborations are sought in areas that France *"will not be able to cover entirely"*.[43] The *"Strategy"* highlights protection of submarine installations and resources including through intelligence sharing on submarine activity.[44] Every such partnership needs to be balanced against the strategic and economic advantages that France has, especially in defence manufacturing.[45] India has been identified as a "competitor" in the domain of seabed warfare and is acknowledged as a major hub of submarine cable routes in the Indian Ocean. The *"Strategy"* notes that India is developing unmanned high-endurance platforms designed for mine warfare and undersea operations or seabed mapping.[46] India has also been identified as an existing "partner" in both mine warfare and in hydrography, oceanography, and meteorology.[47] Therefore, the broad nature of seabed warfare and the convergences in interests between India and France in developing seabed capabilities presents an opportunity for enhanced collaboration.

As outlined in the *"Strategy"*, the capability-building process has an accelerated, short-term phase, seeking to access seabed surveillance and intervention capabilities up to 6,000 m, using AUVs and ROCs already tested by the oil and gas, and/or the scientific research industry. It then seeks to build long-term capabilities through further "deep sea" AUV/ROV production, DTIB maturity, and generating research and skilled personnel for seabed warfare.[48] All three strands could potentially offer scope for collaboration between India and France.

India and the Deep Sea: Recommendations

India, too, has identified the importance of possessing the capacity and capability to harness the potential of the deep sea in making India's economy "bluer". The "Deep Ocean Mission" launched in 2021 seeks to develop technologies for deep sea mining, particularly a manned submersible capable of reaching depths of 6,000 m.[49] While the focus of this initiative is to support the growth of India's blue economy, a critical component is the attempt to indigenise technology by collaborating with academia and private industry.[50] Attempts are on to bolster Indian industry to cater to the technological needs of this initiative. On the defence front, the Indian Navy has a roadmap to enhance R&D in military technology, called *"Swavalamban 2.0"*, which formulates requirements that may be taken-up for indigenisation by Public Sector Undertakings (PSUs), the Defence Research and Development Organisation (DRDO), and the private industry.[51] Uncrewed underwater vehicles (UUVs) form a part of this indigenisation plan with a need being highlighted to pursue these capacities *"with vigour"* especially for underwater weapons and sensors.[52] This is clearly an area that is gaining policy attention in India. It must be noted that this represents the information and policy formulations that are available in the open domain. A further and deeper analysis on Indian developments will, indeed, be conducted later in this ongoing series of research articles. It is possible that India has or is developing a strategy or concept of operations for seabed warfare that has not been made public. This notwithstanding, quite a few aspects can be incorporated from the French approach to seabed warfare:

Whole-of-Government Approach. It is important that the seabed as a domain receives *holistic* policy engagement. For the French, their policy on the seabed has progressed on three prongs, i.e., resources, investment, and defence. The *"Strategy"* explicitly identifies synergy between these three prongs (which represent independent policies) for effectiveness and efficiency. Even though synergy is sought between the three, the lack of an identified inter-agency coordination mechanism is likely to impede effective collaboration and coordination. Therefore, India must, in its own seabed strategy identify an inter-agency coordination mechanism, a role which the National Security Council Secretariat would be well-placed to perform. Given that the "Deep Ocean Mission" and the *Swavalamban* initiative are led by different government agencies, with the seabed being only one of their several objectives, a coordination mechanism for the seabed is important. This will also lead to better civil-military collaboration to acquire capacities more efficiently. Deep sea technologies that are used for scientific or commercial purposes can certainly be adapted for military use, making such technologies inherently dual use in nature. Therefore, it is important that there is better coordination between the civil, private, and military actors to focus efforts towards a common goal.

Focus on Innovation in Deep-sea Technologies. A crucial and central feature of the French seabed warfare strategy and that country's general policy focus on the seabed is the emphasis laid on investing and innovating in deep-sea technologies. The environmental conditions of the deep sea render the entire endeavour technologically intensive. Further, much of this technology is still developing and is quite sensitive due to its potential strategic and dual-use nature. It is precisely because of this that India's "Deep Ocean Mission" emphasises indigenous development. Such development should progress on the defence front as well. The "Naval Innovation and Indigenisation Organisation" (NIIO) and the "Technology Development Acceleration Cell" (TDAC) operating under it should actively seek out and promote deep sea technologies.[53] Similarly, deep-sea technologies must form part of the problem-statements under the "Innovations for Defence Excellence" (iDEX) initiative, which partners with academia for defence innovation.[54]

Development of a Domestic Industrial Base. This forms the next step after innovation and design. France has placed significant emphasis upon developing a domestic defence technological and industrial base in order to achieve strategic autonomy in this space. This has, indeed, also been a critical component of the Indian Navy's *"Swavalamban 2.0"* plan. Hardware for deep sea technologies need to receive requisite attention under this programme, too.

Identification of Comparative Advantages and Partnerships. Given the urgency of the issue, the nascency of the technology, and considerations of cost and scale, developing strategic partnerships with friendly countries is important to provide a boost to India's efforts to prepare for seabed warfare. This was echoed by Hon'ble Defence Minister, Shri Rajnath Singh when he stated that it was important to ensure that we are not *"re-inventing the wheel"*.[55] While these remarks were made in the context of ensuring that the technology being developed is not already available in the market, it could well be applied in the context of availability with partner countries with whom India has strategic partnerships and who may be willing to collaborate with India in this space. For this purpose, it is important to identify the areas in which India possesses comparative advantages vis-à-vis other nations and can hence enter into mutually beneficial partnerships. The French Navy for instance is focussing on a) "*building its overall capacity for operating maritime uncrewed systems; improving capability to use complex underwater acoustics; and improving capability to process underwater data*".[56] These areas have potential for collaboration between the two navies.

Personnel Training Programmes. It is important, within this domain, to focus not only upon 'capacity building' but also upon 'capability enhancement'. As highlighted above, the focus area of the French Navy is not just in acquiring new technology but also acquiring the capability to use and operate them effectively. The need for research and establishing programs for skilling personnel also forms part of the formal strategy. Since investments in personnel have long gestation periods, it is important to start creating the structures and making such investments as soon as feasible.

Conclusion

The French Seabed Warfare Strategy offers a useful blueprint to inform India's own approach to the seabed as a domain of warfare or conflict. It also offers potential areas in which the France and India may collaborate to include the seabed as part of their strategic relationship.

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Violence and Maritime Crime by Non-State Actors

Decoding the Drug Economy and Rising Maritime Terrorism in Mozambique: India's Interests and Challenges

Dr Raghvendra Kumar

Mozambique Channel an (*In*)Security Hotspot

The escalating insecurity fuelled by the insurgent group Al-Shabab or Ahlu Sunna Wa-Jama'a (ASWJ) in northern Mozambique adds to the growing concerns of violence "at", "from" and "through" the seas in the Mozambique Channel, a critical transit route for global and regional trade and energy flow. Spanning between Madagascar and East Africa, the 1600 km long Mozambique Channel encompasses the Exclusive Economic Zones (EEZ) of several countries like Tanzania, Mozambique, Madagascar, Comoros, and France (Mayotte).[1] Situated on the "arc of energy",[2] the Mozambique Channel has some of the world's largest natural gas reserves. This has attracted massive investment from international companies such as Anadarko, Eni, TotalEnergies, ExxonMobil, BP, Shell, China National Petroleum Corporation (CNPC), Oil and Natural Gas Corporation (ONGC Videsh Ltd., among others, for exploration and exploitation of the natural gas reserves.[3,4] However, the terror group ASWJ operating in the region has not only led to the disruption[5] of exploration activities but has also made the maritime space vulnerable to the illicit flow of drugs and weapons. Although linkages between terrorism and the illicit drug trade are widely recognised by international agencies like the United Nations Security Council (UNSC)[6], a direct link between the illicit drug economy and ASWJ in Mozambique is missing due to the lack of empirical evidence. "While it is difficult to establish how widely terrorist groups are involved in the illicit drug trade, or the breadth and nature of cooperation between these two criminal groups, the magnitude of the numbers involved make the relationship worrisome."[7]

The insurgency has reshaped the course of the flow of drugs, using the island states bordering the Mozambique Channel as a transhipment hub in the trafficking network.[8] Therefore, the illicit financial flows become the 'grey areas' that fund the operations of terror outfits such as the ASWJ, which has reportedly pledged allegiance to the Islamic State (IS, also known as ISIS) since 2019[9] , enhancing their tactical capacity to attack installations both ashore and offshore. The attack on the coastal town of Palma in the northern province of Cabo Delgado on March 24, 2021, demonstrated their capability to exploit seas for operational purposes.

According to a report released by the Global Initiative Against Transnational Organised Crime, "it appears that ASWJ has carved out an area of influence in Cabo Delgado that includes key landing sites for illicit trafficking on the coast and an important section of the main north-south tar road"[10] allowing them to benefit out of the narco-trade. Against this backdrop, this paper has tried to examine the plausible link between narco-trade and maritime terrorism in the region. It has also looked at the ramifications of ASWJ's capability to use the sea for operational purposes exploiting the limited maritime enforcement capacity and capabilities of the nearby island and coastal states bordering the Mozambique Channel. Lastly, the paper has examined India's interest in the region and concludes with possible responses to meet the challenge.

The Mozambique Channel: An Arc of "Energy, Instability and Conflict"

The Mozambique Channel is located on what can be termed the "arc of energy" (with the discovery of a vast reserve of extractive energy resources along the east African coast), "instability and conflict" (as the region hosts several weak and fragile States). The discovery of a substantial amount of natural gas reserves in Area 1 and Area 4 of Mozambique's deep-water Rovuma Basin in the northern part of the Mozambique Channel[11] has placed the region on the *arc of energy* — which extends from West Asia to the Eastern Coast of Africa. Mozambique currently holds 100 trillion cubic feet (Tcf) of proven natural gas reserves and is the third-largest holder of proven natural gas reserves in Africa after Nigeria and Algeria. Mozambique produced 212 billion cubic feet (Bcf) and exported 148 Bcf of natural gas in 2018.[12] The offshore and deep-water recoverable natural gas reserves have led to a massive inflow of investments from the major actors in the field. Italy-based Eni is constructing an ultra-deep-water floating liquefied natural gas (FLNG) facility to process the natural gas produced in the Carol field, located in Area 4, with a capacity to process up to 447 million cubic feet of natural gas per day (MMcf/d). The waters of the Mozambique channel are becoming a major security hotspot. The development of major offshore energy projects and gas fields close to the Cabo Delgado in the northern province of Mozambique, which is at the centre of violent extremism spilling into the maritime domain of the western Indian ocean. France-based TotalEnergies, which has hugely invested in Mozambique's liquefied natural gas (LNG) project, declared "*force majeure*" owing to the evolving security situation and repeated militant attacks by ASWJ terror group on Mocimboa da Praia, a port town not far from Total Energies's LNG project, since March 2020 that has led to the withdrawal of Total Energies from all Mozambique LNG projects.[13] The instability caused by the violent insurgency and conflict in Northern Mozambique is having ripple effects in the region far beyond Mozambique's continental borders.

The Mozambique Channel is a strategic shipping route and a critical chokepoint that accounts for 30 per cent of the global tanker traffic and is also home to some of the world's richest fishing grounds, where tuna fishing alone accounts for 2 billion USD in revenue annually.[14] In addition, the discovery of vast reserves of natural gas has brought the region to the forefront of global security thought due to the severe non-traditional security threats it faces. Therefore, the Mozambique channel on the arc of energy, instability and conflict has created a favourable environment for non-state actors and transnational crime networks to exploit the region's fragility for their operations.[15] Furthermore, the region with historical fault lines spilling into territorial and other disputes plays out in the construction of this hypothetical geographical curve called the arc of instability and conflict. The level of political stability, governance, ethnic and sectarian tensions, demographic stresses and differing pace of economic growth creates a mix of opportunities and risks in the region. A closer assessment of the evolving geopolitical environment indicates that most countries present in the region are affected by several security challenges, which have the potential to create an existential crisis in these states. The ongoing conflict in Yemen and Syria, in the West Asian region, located at the crossroads of three continents; Africa, Asia and Europe, presents severe consequences to the neighbours and beyond, disrupting lives and livelihoods. Pakistan is facing internal economic stress that can create shockwaves that will impact its political stability giving its army – which remains an extra-constitutional authority that aids non-state actors and provides them safe passage into the maritime domain – political control that will have severe ramifications on the peace and security in the region.[16] The return of the Taliban regime in Afghanistan, unstable Iraq, the ongoing conflict in Somalia and the current ASWJ insurgency in northern Mozambique are adding to the multiple and complex layers of vulnerability the region faces. The Al-Shabaab militant group remains focused on recapturing power in Somalia and continues to plot attacks in Kenya and Tanzania,[17] Comoros (trying to consolidate political stability achieved after prolonged years of coup and conflict[18]), and Madagascar are facing extreme internal pressures and instability, which has a spillover effect in the entire region.

The region resting on the arc of energy and instabilities gives rise to various geostrategic concerns. The politically fragile region breeds hostility and violent conflict, which is a direct threat to human security and regional stability. This hostile environment, coupled with extreme poverty, compounds the threat of piracy and terrorism, which have a direct impact on the region. Therefore, the presence of weak and fragile states coupled with violent non-state actors has a severe bearing on the manifestation of non-traditional threats that the region is facing.

Maritime Terrorism: Mozambique's Growing Insurgency in the Maritime Domain

Extremists and terrorist groups across the world are exploiting the gaps and weaknesses in maritime security architecture to expand their operational outreach and forward their vested interests. These extremist groups exploit the sea blindness and limited maritime capacities and capabilities of the East African littoral and island states to smuggle fighters and weapons. They plan attacks on marine targets and fund their activities through illegal trafficking and taxation schemes. The launch of Global War on Terror campaign in the aftermath of the 9/11 terror attack unveiled a new form of terrorism to the world—maritime terrorism, which has emerged as a major security challenge throughout the Western Indian Ocean region in the 21st century. Terrorist groups operating on the high seas are not a new threat; various terrorist organisations have—or have had—well-developed capabilities to attack targets at sea. In addition to November 2008, Mumbai terror attack; the attack on the USS Cole (on October 12, 2000, by Al Qaeda suicide bombers who rammed their explosives-laden dingy into the naval ship, killing 17 US service members)[19]; *M/V Limburg* (on October 2002 when terrorists attacked the French oil tanker, *killing* 16 people and injuring many others, which also led to an environmental disaster in the Gulf of Aden due to the massive oil spill caused by the attack)[20]; and the recent ASWJ attack in the Mozambique Channel has reinvigorated the need for ending the sea-blindness of governments in the region.

However, the difficulties of defending the marine sector are widely acknowledged in academic and policy circles, and establishing robust and effective capabilities to counter maritime threats remains a complex task. In order to have a better understanding of the specifics behind how these violent non-state actors use the maritime domain requires a clear understanding of the term maritime terrorism. The Council for Security Cooperation in the Asia Pacific (CSCAP) defines maritime terrorism as "the undertaking of terrorist acts and activities within the maritime environment, using or against vessels or fixed platforms at sea, or in port; or against any one of their passengers or personnel, against coastal facilities or settlements, including tourist resorts, port areas and port towns or cities".[21] From the operational point of view, maritime terrorism can be understood based on the utilisation of maritime space and the selection of targets. The maritime space has often been used as a medium for terror groups to wage attacks on land-based targets (sic Mumbai attacks on November 26, 2008).[22] The maritime space also serves as an end where they target maritime installations and infrastructure to expand their interests and operations and exploit the ungoverned spaces. The 2017 attack of ASWJ extremist groups on coastal facilities and towns, violence at sea, attacking vessels, hijacking and taking hostages fits into the latter category.[23]

Situating the Actor: Ahlu Sunna Wa-Jama'a (ASWJ)

The Islamist insurgency in Mozambique by Islamist jihadists group apparently seeking to establish a breakaway regime has escalated violent conflict in Cabo Delgado, a Muslim-majority province bordering Tanzania. The conflict has affected the lives and livelihood of people and destabilised the region, which otherwise would have prospered by the influx of massive investment in the exploration and extraction of natural gas reserves discovered in 2011. The jihadist group is known by several names, including Alu Sunna Wa-Jama'a (ASWJ), Ansar al-Sunnah, ISIS– Mozambique and al-Shabaab (though it has no connection to al-Shabaab in East Africa).[24] The ASWJ comprises of native and foreign fighters attempting to seize the coastal town of Cabo Delgado. Since 2017, the group has waged several attacks that led to the loss of 3100 lives and displaced at least 800,000 people.[25] Since 2019, the ASWJ has reportedly pledged allegiance to the Islamic State (IS, also known as ISIS) Central Africa Province (ISCAP)[26], which is advancing its political goals. This association can translate ASWJ into a more structured terror outfit with improved assistance and training from ISIS. But, as of now, ISIS seems to be using ASWJ's narrative to promote its expansion further deep into the region having huge extractive energy resources.

ASWJ has shown strong capability and intent to utilise the sea for operational activities since March 2020. The terror outfit is constantly using boats and vessels to carry out amphibious assaults and transport fighters and supplies, as indicated by the August 2020 raid in Mocimboa da Praia, in which ASWJ fighters purportedly sunk an HSI-32 Interceptor patrol vessel with a rocket-propelled grenade (RPG).[27] The ASWJ is now growing in strength to expand its area of operations. The attack on the Quirimbas Archipelago's neighbouring islands has formed a core part of its broader maritime expansion strategy. This, many analysts argue, has allowed the outfit to obtain control over the drug trafficking routes that have become one of the important sources of finance and import of foreign fighters to them.[28,29]

Geographical proximity plays a significant role in ASWJ's maritime expansion. It provides them with island-hopping tactics that play out well in avoiding retaliatory actions from the security forces. A case in point is the distance between Mocimboa da Praia and Ilha Metundo island is 20 nautical miles (nm), while the island of Ilha Vamize is just 8 nm away from Ilha Metundo, which allows the ASWJ insurgents to carry out multiple strikes and return to the safety of these ungoverned and uninhabited island territories.[30] An alarming development is that ASWJ members are taking to hijacking and armed robbery at sea, which was the first of its kind incident concerning the ASWJ insurgency in the region. For example, between November 23-26, 2020, the ASWJ members attacked sailboats in the Mozambique Channel off Palma and Mocimboa da Praia, capturing at least seven sailboats and taking 20 passengers hostage.[31] Incidents of this nature do not necessarily mean that the insurgent has the capacity to attack targets larger than sailboats. However, it shows the intent and poses a serious concern for security agencies to take note of such cases. Therefore, the geographical expansion of ASWJ towards the maritime zones of the Mozambique Channel showcases that the insurgent groups are augmenting their control over the key transit routes used by the trafficking network. These coastal towns would allow them to control the primary passageway of the drug trafficking network from Afghanistan to East Africa, Europe and the USA.

Decoding the Linkage between Drug Economy and Maritime Terrorism

Terrorists and insurgent groups are steadily turning to transnational organised crime (TOC) networks, particularly drug trafficking, to generate funding and acquire logistical support to carry out their violent acts. The ASWJ insurgent group operating in the region is no exception to such a trend. It is not only expanding its operations in the maritime domain but is also diversifying its activities to take control of the drug trafficking network resulting in the convergence of interest of these non-state actors. The illicit drug production, trafficking and consumption are linked to the growth of transnational organised crime networks that aid and promote illegal financial flows and terror financing to insurgent groups all over the globe. The United Nations Office on Drug Control's (UNODC) representative in Mozambique, Mr Cesar Guedes has clearly pointed out the main reason for conflict in Cabo Delgado province is the heroin trafficking that enters Mozambique via what is referred to as the maritime routes or the "southern route" where the Island states in the Western Indian Ocean have become the primary passageway and transhipment hub for Afghanistan (mainly but at times Pakistan and Iran) produced heroin en-route to the markets of Africa, Europe and the United States. The UNODC official argues that the drug trafficking network "prefer a situation of instability" in the region, which is caused by the ASWJ insurgent groups.[32] While defence and security forces are actively engaged in suppressing terror operations, this leads to the need for more funds by the jihadist organisations, which in turn is being sourced through increased drug trafficking.

Heroin is trafficked from the southern coasts, especially from the Makran coast of Pakistan and Iran, by a Jelbut dhow (medium-sized fishing vessels). These boats are the primary delivery mechanism for heroin from Afghanistan to the east coast of Africa and to the island states of Comoros and Madagascar, which have become the primary passageways for the "smack track".

> "The motorised wooden dhows, in which much of the heroin is initially shipped along the coast, are between 15 m and 23 m in length, which allows them to travel at sea but makes them small enough to evade detection by satellite technology or patrol vessels. The dhows used for smuggling have concealed compartments, which can hold 100 kg to 1 000 kg of heroin. After anchoring 20 km to 100 km off the African coast in international waters, flotillas of small boats collect the drug consignments from the dhows and ferry them to various beaches, coves or islands, or offload them into small commercial harbours. Our information is that there are dozens of such landing sites all along the eastern seaboard, from just north of Kismayo to Angoche, Mozambique."[33]

The dhows are met out to sea by small fishing boats, where the product can be offloaded. They then unload the heroin consignments at local fishing harbours along the coast of Mozambique, sometimes in the island states. Further, the consignment is repackaged for onward shipment to markets, often via South Africa or countries in West Africa. While some of it supplies an increasing local market in Africa, most of the heroin makes its way to Europe and North America.

Drug trafficking organisations (DTOs) and militant groups like the ASWJ operating in the region systematically integrate their operations and activities in and around the Mozambique channel. This was evident from the incident of May 5, 2020, when 10-12 sailors and fishermen of Pakistani origin were arrested off the coast of Mozambique in the Beira harbour. "The police suspected that the Pakistanis were involved, either in supplying the terrorist groups fighting against the Mozambican government in the northern province of Cabo Delgado or in drug trafficking."[34] The Mozambique police suspect them of collaborating with the insurgent groups trying to destabilise the Cabo Delgado province, as their boat was primarily not meant for fishing purposes. Similarly, in December 2019, two dhows were intercepted off the coast of Pemba in northern Mozambique, which was carrying heroin. The first dhow was set on fire by the crew members of the boat, destroying 1.5 metric tons of heroin suspected to be on board in the process, three sailors also lost their lives, and 12 Iranian nationals were arrested.[35] The second dhow was intercepted in the same month and led to the arrest of 13 Pakistani nationals and 450 kgs of drugs.[36]

Mozambique has been one of the primary transhipment hubs for heroin trafficking via the northern Mozambique coast, and Islamic terrorism in Cabo Delgado is a recent development. Thus, many argue that maritime terrorism and the drug economy have no linkages, which is not true. In reality, there exists a connection which can be corroborated by the fact that the production of heroin in Afghanistan (which is the major supplier of drugs to the region and beyond) has tripled in the period from 1994-2021, as detailed by the United Nation's Office on Drugs and Crime (UNODC) data in the figure. 1. In its World Drug Report of 2021, the UNODC said that "83 per cent of all opiates (opium, morphine, and heroin) produced globally are sourced out of Afghanistan".[37] In recent years this surge in production has also led to a massive increase in cross-continent shipment of heroin. The heroin shipped through the maritime routes to eastern and southern Africa has increased manifold during the last decade. Mozambique has been the central hub for this trafficking network. Since the end of the civil war in Mozambique, the heroin trade has made deep inroads through the tightly regulated transnational organised crime networks having the patronage of the political and ruling elites. The European Union funded ENACT Project published report "The Heroin Coast: A political economy along the Eastern African seaboard", details the linkage which suggests that:

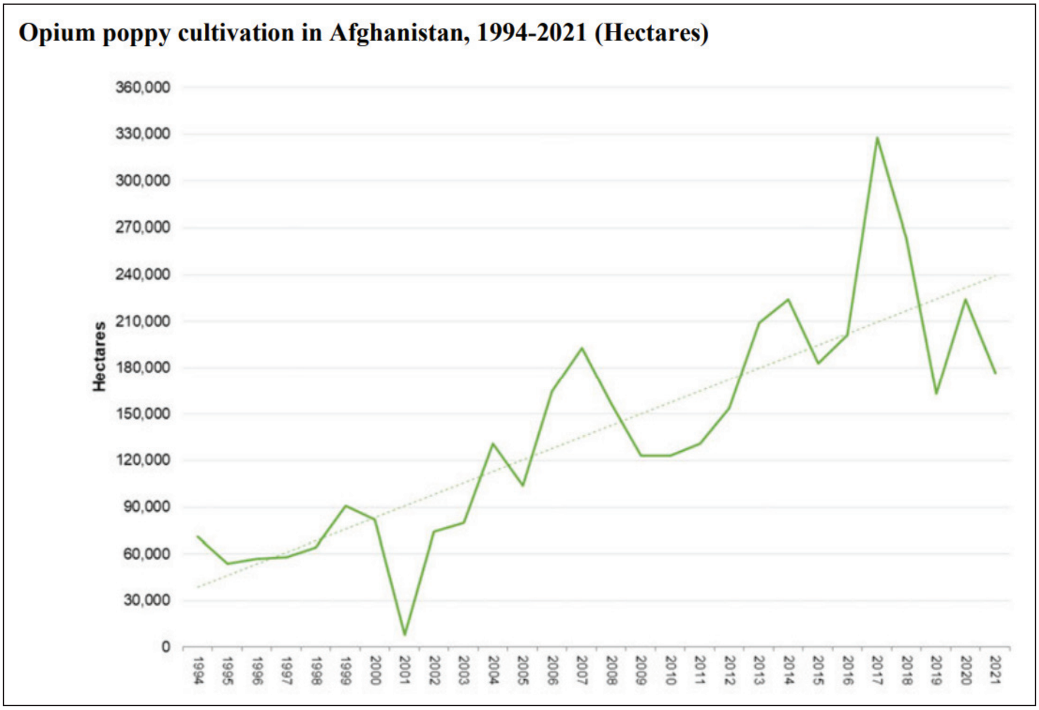
> "A small network, composed of a number of Mozambican families of Asian origin and with close ties to the ruling party, has controlled the transit heroin trade in the country for almost three decades. At the top of this network, allegedly, is Mohamed Bachir Suleman (known as MBS), who is accused by the US government of being an international drugs trafficker."[38]

The US government's USAID report of 2006 argues that the drug trafficking network in Mozambique has deep connections with South Asia and the ruling FRELIMO (Frente de Libertação Moçambique) party of the Government of the Republic of Mozambique (GRM). The report notes that:[39]

> "commerce in Maputo depends on the financial acumen of a small number of Muslims of South Asian-descent who contribute generously to the FRELIMO party. A major contributor to former President Chissano and President Guebuza from this community, who resides less than a hundred meters from the Presidential Compound, Mohamed Bashir Suleman (MBS), is the owner of the MBS Group. Contacts at all levels have advised Emboffs that MBS is a known large-scale narco-trafficker. They indicate that MBS uses his FRELIMO party connections, as well as his shopping mall, supermarkets, and hotels to import narcotics and launder money without official scrutiny. Other South Asian businessmen with ties to FRELIMO also operate a vast network of loosely-regulated money changing houses, which reportedly maintain financial ties with more radical organisations in Pakistan and elsewhere."

This MBS-linked cartel is alleged to control the coast from the Tanzanian border south to Angoche. This 700-kilometre region includes the large deep container ports of Pemba and Nacala and a string of small islands close to the beach, which highlights the fact that they facilitate drug trafficking along these routes. These scattered islands along the coast of Mozambique and Tanzania are shaped by their remoteness or insularity. They often tend to be ignored by security agencies rendering them highly prone to becoming a haven for illicit activities of TOC networks who use them as transhipment points. The present government, under Nyusi's Presidentship since January 2015, have endeavoured to inverse some of this monopolisation and restraint some of the more rapacious illegal trading in the country. However, this is also the period when Mozambique's coastal region has seen a spike in violent attacks, leaving no doubt that there exists a deep connection between the ASWJ group and the drug cartels. The proceeds from the heroin trade may have contributed to the funding of terror activities to destabilise the region. At the same time, the drug-terror is mainly opportunistic, providing a mutually favourable environment to function and operate. The nexus is critical as it involves not only the transfer of drugs but also weapons and militant fighters and serves as a means for their tactical command over the region. The transnational nature of this nexus is a grave threat to the region witnessing a massive inflow of foreign investment in the recently discovered gas fields. It poses

Figure 1



Source: World Drug Report 2021. United Nations Office on Drugs and Crime 2021

a distinct destabilising effect on the region's peace, security, economic growth and stability.

India's Interests and Challenges

The Republic of Mozambique has been one of the fastest growing least developed countries since the early 1990s when it emerged out from the clutches of a lengthy civil war. It has gradually reduced poverty and attracted foreign direct investment (FDI) thanks to the discovery of massive natural gas reserves and some degree of political stability and solid macroeconomic management in recent years. Mozambique, in particular, was able to attract large-scale industrial foreign investments, or "mega-projects," which have boosted economic growth and improved the country's image as an FDI destination.[40] A sharp increase in militant attacks in the Cabo Delgado province of Northern Mozambique has drawn increased international attention.

The insurrection that erupted in 2017 has now put Africa's largest gas project in jeopardy. After taking control of the port town of Mocmboa da Praia in August 2020, the Islamic State-affiliated insurgent group ASWJ carried out its most brutal and sophisticated attack in March 2021. It took control of the coastal town of Palma, which is close to the TotalEnergies-operated liquefied natural-gas project.[41] This has severely affected Mozambique's growth and development, undermining its economic potential and associated benefits such massive investment in "mega projects" would have brought in the lives of the local communities.

India and Mozambique share deep historical, cultural and trading linkages that predate the colonial period. The ancient people-to-people connection between India and Mozambique has been the backbone of the current bilateral relationship based on regular political contacts, ever-deepening economic engagement, and a well-integrated Indian community in Mozambique. Economic interests have been the most important driver of India-Mozambique ties in the 21st century, especially after the thrust provided by Prime Minister Modi's visit to the country in July 2016. Indian corporations have substantially invested in Mozambique's energy resources, accounting for about 37 per cent of India's total Foreign direct investment (FDI) in Africa.[42] The natural gas and coal industries have seen the most significant investments. India is the biggest stakeholder in Area-1 of the Rovuma gas field. It has a 30 per cent stake in Area-1 of the Rovuma gas field with a commitment to invest USD 20 billion, out of which USD 7.2 billion has already been executed. Two Indian public sector undertaking (PSU) companies, ONGC Videsh Ltd. and Oil India Ltd., finalised the acquisition of a 20 per cent share in Area 1 of Mozambique's massive Rovuma gas block in 2014. This was in addition to another Indian PSU, Bharat Petro Resources Ltd, owning a 10 per cent share in the same block.[43] Besides Indian investment in Area 1, TotalEnergies, the French petroleum giant, has a 26.6 per cent stake, Japan's Mitsui has a 20 per cent stake, PTT Exploration and Production Public Company Limited of Thailand has an 8.5 per cent stake and Mozambiqcan company Empresa Nacional de Hidrocarbonetos (ENH) has a 15 per cent stake.[44]

In the coal mining business, International Coal Ventures Private Ltd, a consortium of five Indian public sector enterprises (Steel Authority of India Limited (SAIL), National Mineral Development Corporation (NMDC), Rashtriya Ispat Nigam

Ltd (RINL), Coal India Limited (CIL), and National Thermal Power Corporation (NTPC), bought a 65 per cent share in Rio Tinto's coal holdings in July 2014. Jindal Steel and Power Limited (JSPL), Jindal South West (JSW), Coal India Ltd, Tata Steel, Essar, Midwest Africa, and Sunflag Group are some other notable Indian firms having a presence in the coal mining sector in Mozambique. Other important Indian interests include the Essar group's involvement in establishing a coal terminal at Beira port, as well as Pure Diets, Rajarambapu Group, HK Jalan Group, and Asian Tea Company's stakes in commercial agriculture. Indian corporations are increasingly interested in investing in innovative industries in Mozambique, such as healthcare, education, information technology, pharmaceuticals, etc. In addition to the investment, bilateral commerce has grown rapidly in recent years. Between 2010 and 2015, the value of commerce between the two nations increased fivefold, reaching a high of USD 2.4 billion in 2014-15. The downturn in the global commodities market prompted a drop in trade values to around USD 1.5 billion in 2015-16 and 2016-17. However, overall commerce between the two nations was 1.83 billion dollars in 2017-18 and 2.17 billion dollars in 2018-19. Refined petroleum products and medicines are the most significant Indian export commodities, whereas coal and cashew are the most important Mozambican exports to India.[45]

But with an acceleration in the intensities and complexity of Islamist armed violence in Mozambique's Cabo Delgado province, India's vital interests and investments are at risk. The state-run oil major ONGC Videsh Ltd. Along with has put the LNG project in Mozambique on hold due to force majeure. The ONGC said in a statement that:

> "Considering the evolution of the security situation in the north of the Cabo Delgado province in Mozambique, the Area 1 Operator, Total E&P Mozambique Area 1 Limitada informed the withdrawal of all Mozambique LNG project personnel from the Afungi site. This situation leads Total E&P Mozambique Area 1 Limitada, as operator of Mozambique LNG project, to declare force majeure,"[46]

BPRL Ventures Mozambique, which is a wholly-owned subsidiary of the Indian company Bharat Petroleum Corporation Ltd. (BPCL), which holds a 10 per cent stake in the Mozambique LNG Project, led by the French multinational TotalEnergies, has announced that its liquefied natural gas project may restart in the first half of 2023.

Speaking at the Annual General Body Meeting of the company on August 29, 2022, its Managing Director Mr Arun Singh said:

> "Now, with the efforts of the Mozambican Government, supported by a regional coalition, progress is being made in improving the security situation in the region, and the project will resume as soon as the security situation is stabilised sustainably". The director, also announced that "BPCL is expected to invest a further USD 1.8 billion over the next three or four years in Mozambique".[47]

The Mozambican President Filipe Nyusi, speaking at two-day gas and energy conference in Maputo on September 14, 2022, requested the major stakeholders in the energy projects to resume work as he claimed that "the security situation is 'now better' than before the attack, with 'greater stability,' in the surrounding region".[48] However, the chief executive, Patrick Pouyanne, of TotalEnergies, which is the major operator of the Mozambique LNG Project, speaking at the Energy Intelligence Forum in October 2022, said that the company "hopes to make a decision early next year on lifting a *force majeure*, once it completes an audit on the security situation in the northeast region of Cabo Delgado".[49]

Therefore, the deteriorating security in the wake of rising acts of terrorism has severe implications for India's energy and mining interests in Mozambique. However, India and Mozambique have resolved to speed up efforts to combat terrorism and implement deradicalization measures to ease the situation in the region. China's significant presence in Mozambique makes it even more critical for India to engage with Mozambique more frequently than before. Therefore, when India's defence minister, Shri Rajnath Singh, visited Mozambique in 2019, the Mozambique government requested India's assistance in combating the rising threat of terrorism and radicalisation. During that visit, the Indian defence minister Shri Rajnath Singh announced communication equipment support and signed two memorandums of understanding (MoU) on exchanging white shipping information and hydrographic cooperation. These concerns topped the agenda of Mr Vikram Misri, Deputy National Security Adviser (NSA) of India, when he paid an official visit to Mozambique from 3-5 May 2022 and held bilateral discussions on wide-ranging issues related to defence and security.[50] It was decided to convene a meeting of the Joint Working Group on Defence that will further strengthen the effort to bring peace and stability to the region. During this visit of the Deputy NSA of India to Mozambique, it was decided that strategic cooperation in counter-terrorism operations, combating illegal narco-trafficking, deradicalisation of the youth and ensuring maritime security. Mr. Misri met with key Mozambican officials, including presidential advisers, and formally launched two Fast Interceptor Crafts that India has gifted to the Mozambique security forces to patrol the Mozambique channel, which the Indian Navy has classified as one of its core areas of maritime interest.[51] India is aware that future attempts to attack Indian critical infrastructure (offshore/onshore) would be from terror outfits having their roots in the East African seaboard. Therefore, India should scale up its engagement with the East African littoral and Island states and forge deeper ties in the defence and security sector.

Conclusion and Way Forward

The spread of transnational organised crime, drug and human trafficking, corruption and money laundering dominate the littoral and island states of East Africa. The financial proceeds of these illicit activities are often used to finance terrorist activities. Terrorism and transnational organised crime, in turn, destabilise governments and undermine peace, security, and economic and social development. The linkages between the non-state actors operating in the region and beyond require greater appreciation. Dr Anneli Botha, a terrorism prevention expert, says, "with the local groups deriving a number of benefits from association with, or allegiance to the established terrorist groups where, allegiance means training, intensified movement of fighters, and finances – threats that cannot be taken on by any single country alone and which require initiative-taking preventive action, intensified cooperation, and strengthening of the border management measures."[52]

Therefore, weak maritime enforcement capability and underdevelopment are two significant reasons that have led the ASWJ terror group to use the seas to expand their operations. The Mozambican government's capacity to respond in real-time to assaults at sea is hampered by a lack of operable equipment and long-standing coastal neglect. At the same time, the years of economic underdevelopment allow fringe groups to create an anti-government narrative to recruit youth in their extremist operations. To fill this shortfall in enforcement capability, private air assistance is being deployed, and it has already been used to destroy several of the terrorist boats. However, due to worries of crossfire and the possibility of mistaken identity, this operation has limited access to parts of the waterways that fishermen may utilise, making it an unviable long-term approach. The weak maritime capabilities of the regional states have aided in developing a symbiotic relationship between these insurgent groups and other transnational organised crime networks dealing in the smuggling of weapons and narcotics. The former exploits the maritime enforcement gaps, and the latter aids and finances the operations of the former in targeting the maritime installations. This helps the latter have an ungoverned space to freely traffic illicit goods in the region.

The drug economy and maritime terrorism nexus indicate that narco-terrorists operating in the Mozambique channel are increasingly involved in the transportation, and distribution of banned narcotics, either directly or indirectly. The ASWJ terrorist organisations seem to offer protection for drug traffickers carrying their wares across areas controlled by them or their sympathisers. Several major criminal and terror groups, including ASWJ, are said to rely on drug money as one of several important financing sources, regardless of the shape, it takes or the extent of involvement in drug trafficking. The drug trafficking network is also a means to create cohesion between foreign militant groups and the ASWJ. The foreign recruits provide ASWJ with a potent force to enhance their operational and combat capabilities.

These trends necessitate regional and extra-regional powers to work with the GRM toward the region's stability. Enhancing the capacity and capability of Mozambique's security agencies to police and govern its land and maritime frontiers in a better and more efficient way is an important objective to be achieved. To weed out the menace of the Islamic insurgency in the region requires a proactive and pragmatic approach informed by the deeper intricacies of the social constructs, economic development, and political structures—the key lie in a collaborative approach that can leverage as well as strengthen the existing institutions. The counter-terror operations must be complimented on both land and sea. Forging partnerships and building more robust local and regional institutional mechanisms will go a long way in achieving the desired goals for the region. The counter-efforts should not be limited to security but should be a long-term plan for peace, stability, and prosperity through sustainable development. The lack of actionable data remains a challenge for managing terror risk within the region. In order to develop scientific information to be useful for evidence-based risk management and adaptation, more efforts are needed to systematically collect, manage and make relevant data and information available for security agencies to take action. This can be done through the strengthening of the "information network" within the region under the structural ambit of the Regional Maritime Information Fusion Centre (RMIFC) based in Madagascar; Regional Centre for Operational Coordination (RCOC), Seychelles; Information Fusion Centre-Indian Ocean Region (IFC-IOR), India. Further, the existing mini- and multi-lateral organisations such as the Indian Ocean Commission (IOC), Indian Ocean Naval Symposium (IONS), Indian Ocean Rim Association (IORA), and Southern African Development Community (SADC) must be leveraged in order to create a maritime governance architecture that bridges the existing loopholes and end the sea blindness of many countries on the East African coast.

These institutions could serve as a platform to provide assessment, education, and action at the local, national, sub-regional and regional levels, which are required to capture the spatial variability of risk better and inform the targeted response in anti-piracy operations. Therefore, India, being one of the major stakeholders in the region, a 'preferred security partner' and 'first responder' to any crisis in the many littoral and island states of East Africa, has a significant role in maintaining peace security and stability in the region and beyond. India should strengthen and give a concrete shape to its "Look West Policy" to "Link and Act West". It should work to create conditions of sectoral partnerships in areas of defence and security like intelligence sharing, counterinsurgency, development cooperation, etc. Inviting the east African littoral and island state representations in multilateral naval exercises to share best practices and information sharing would help bridge the capability deficit. Also, the need for in-depth research on Africa in matters related to security must be promoted at institutions in Africa and India. It should collaborate with like-minded partners to replicate the success achieved in counter-piracy operations in the Gulf of Aden region to weed out the germinating menace of terrorism in the Mozambique channel. This can be done by setting up measures to enhance the capacity and capabilities, creating a more holistic approach focusing on multi-sectoral development and engagements, creating information-sharing institutions to support information management, and increasing coordination among various agencies dealing with disaster response. The legal finish is a critical aspect of sustaining peace and security. Therefore, the criminal justice and law enforcement capabilities must be strengthened, which will help to create rule-based order in the region. As a result, the counter-response will be efficient and effective and might play a critical role in addressing future security threats and fostering secure settings conducive to long-term development.

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Data as a Facilitator in Maritime Risk Profiling of the Western Indian Ocean (WIO)

Ms Anum Khan

In the 21st century, the fabric of maritime insecurity seems to be woven with the threads of unconventional, intricate, and overlapping sets of threats. The maritime threat spectrum encompasses traditional and non-traditional challenges, including calamities resulting from both natural and manmade factors. A combination of these threats, such as climate change and challenges in areas beyond national jurisdiction (ABNJ), further complicates the maritime security scenario.[1] A host of maritime crimes falling under the category of non-traditional threats, including maritime terrorism, piracy, and arms robbery, and illegal, unreported, and unregulated (IUU) fishing, to name a few, stem from factors originating on land. To effectively study insecurity at sea, it is imperative to study land-oriented drivers, such as unstable States, onshore political violence, weak coastal management, a lack of rule of law, and weak maritime enforcement capacity.[2]

It is true that at sea, threats come from all directions. The land-based facets of maritime insecurity are a crucial pre-requisite in understanding the *holistic maritime security* picture. Scholars delving into the study of land-sea nexus of maritime transnational organised crime emphasise the need to explore intermediary agents involved in sustaining the link between land-centric drivers and actions of violent non-State actors (VNSAs) and their sea operations. These 'intermediate agents' include factors such as societal incoherence, socio-economic breakdowns, and the presence of ungoverned spaces (parts of territory where formal governments have little or no influence). For example, Somali piracy, in principle is understood as a *"desperate act of (in)security by nomadic non-State actors,"*[3] whose fishing grounds were damaged by hazardous waste and whose food and economic security have been threatened due to unlawful fishing. Such ruptures within the socio-economic fabric are a feature of a fragile State. As per the International Monetary Fund (IMF), fragile States exhibit qualities that significantly hinder their economic and social outcome — which includes ineffective governance, lack of administrative capability, ongoing humanitarian crises, enduring social tensions, and frequent instances of violence in the aftermath of armed conflict and civil war.[4]

Some of the world's most volatile and fragile states are situated along coastlines, and due to their proximity to the sea, rebel factions, transnational criminal networks, and terrorist organisations exploit maritime spaces to pursue their interests. State fragility leads to a lack of governance, ultimately resulting in poor law-enforcement mechanisms. Consequently, instability spills into the maritime domain. While oceans serve as conduits of prosperity and are central to the modern global economy, they also hold significance for VNSAs. As once demonstrated by Liberation Tigers of Tamil Eelam (LTTE) cadres, who at the peak of the Sri Lankan civil war had developed a sophisticated maritime network of assets, logistic channels, and operational tactics, coastal and island-based VNSAs have increasingly been turning to the sea to exploit the maritime domain for operations, manoeuvring, financing, and sustaining their campaigns of brutality.[5]

The focal maritime region for this article is the Western Indian Ocean, which comprises the littoral and island states of eastern and southern Africa. This region stretches from Somalia in the north to South Africa in the south, encompassing the southwestern Indian Ocean Island States. It is essential to examine this area comprehensively by assessing the regional States and the factors causing instability in them.

The Western Indian Ocean Region (WIOR), which spans the Arabian Sea, the Red Sea, and the Indian ocean, hosts at least 19 active VNSAs.[6] Three of these, namely, the *Houthis* in Yemen, *Al Shabaab* (*Al Qaeda* and ISIS factions) in Somalia, and *Ahlu Sunna Wa Jamaa* in Mozambique, particularly worrying to the safety, security, and stability of the eastern Africa littoral. Between November and March of 2023, a review of recent events reveals that the *Houthis* attacked more than 60 vessels in the Red Sea, causing direct hits from missiles and drones on 16 vessels.[7] On the other hand, *Al-Shabaab* in Somalia and *Ahlu Sunna Wa Jamaa* (ASWJ) in Mozambique, too have been increasingly exploiting the maritime space for tactical support, targeting and seizing assets and resources at sea, engaging in the trafficking of goods and trade, and resorting to taxation and extortion.[8]

Maritime security concerns gained significant traction and considerably sharpened focus following the attack on the *USS Cole* in October of 2000,[9] while the domain of the air was brought into even sharper relief in the terrorist attacks on the USA in September of 2001, popularly known as "9/11". An important outcome of "9/11" was the reshaping of the entire world of surveillance into one in which all domains — land, sea, air, space, and cyber — were recognised as being relevant to both terrorism as well as State-based endeavours in terms of counterterrorism. The subsequent "global war on terror" (GWOT) necessitated a transition in surveillance focus, away from a concentration solely or even principally upon conventional military threats emanating from State ambitions, and towards far less structured terrorist international networks.[10]

If surveillance entails collecting actionable information to comprehend things better, then data is the means to form that information. As a result, data gathered for enhancing maritime security needs to be diversified by factoring not just security-incidents occurring at sea but also their onshore instigators and the motivations of the latter. This article seeks to address a prevalent data gap by proposing a methodological pre-step to maritime domain awareness (MDA) and maritime situational awareness (MSA), namely, the creation of a risk profile of volatile maritime entities — both State and non-State. In many such nations, it is onshore insecurity that translates into challenges within their respective maritime domains. The Western Indian Ocean is one such sub-region that requires analysis. Here, a complex web of maritime crimes results from or is exacerbated by violence brewing within State boundaries.

Incidences of organised violence that have occurred in the world between the years 1989 and 2022, have more than doubled. In the year 1989, there were some 86 incidences of major violence[11] — encompassing "one-sided"; "extra systemic"; "non-State"; "intrastate', and "interstate" forms. By 2022, this number had risen to 182.[12] According to the conflict database and datasets created by the Uppsala Conflict Data Program, 54 of these 182 were State-based conflicts. More pertinent is the fact that nearly 25 of these involved are coastal or island countries.[13] It is critical to study global conflict indices and indicators such as the Uppsala Conflict Dataset, the ACLED Project, the Global Terrorism Index, etc., as these serve as early warning and forecasting tools.

Developing a risk profile involves a qualitative analysis of the threats faced by a country and its maritime-oriented stakeholders. The process delves into a detailed examination of the factors that generate and then sustain specific threats. This often leads to the perpetuation of the vicious cycle of State-actor asymmetry. The approach requires a nuanced understanding of the reasons underpinning the emergence of threat. Furthermore, a thoroughly developed risk profile offers an opportunity to adopt a field-based approach, enabling the continual adjustment of research tracks until a desired end state is achieved – namely, the establishment of good order at sea. The primary objective of the Maritime Risk Profile (MRP) is, accordingly, to bring clarity to the nature of risks and their causal relationships within the impacted area, thereby providing a precise understanding of the risks at play.

At the stage of primary assessment, the MRP process requires the creation of a data "ecosystem" that encompasses a study of protracted conflicts that have either broken out or are simmering across the world, and which have pushed the status of the States from 'stable' to 'fragile' or 'weak', to 'collapsed' or 'failed' States.[14] Due to the fragmentation of institutional and administrative structures responsible for law and order or political deterioration, some of these States function as lawless units. In such a context, violence tends to follow the path of least resistance for survival, and the sea often becomes that 'path'. Yet, direct access to the sea is not always a decisive factor in a volatile State being transformed into a source of violence. For example, illicit opium, opiates, and opioids from Afghanistan — clearly a landlocked State — are trafficked overland to points along the coast within and in the proximity of the Persian Gulf and farther west and enter eastern Africa through multiple gateways on the Swahili coast.[15] It is evident that lawlessness finds its way to the sea in multiple ways. Therefore, it is imperative to globally track conflicts on or more of whose outflow paths lead to the sea.

Developing a Maritime Risk Profile (MRP) for the Western Indian Ocean (WIO)

The dynamic nature of risks is evident in the Red Sea and its chokepoints (the Suez Canal and the Strait of Bab-el-Mandeb), as also in the Gulf of Aden (GoA), where the maritime risks have proliferated from just piracy to now encompass the spillover effects of traditional wars.[16]

Table 1 lists countries of the WIO, including Yemen and those on the Horn of Africa, based on various evaluators utilised to generate country-wise rankings:

Table 1: Collation of the Country-wise Score & Categories

Country	Evaluator			
	ACLED Conflict Index[17]	UPPSALA Conflict Data Programme[18] (Number of conflict-related deaths)	Global Terrorism Index Score[19]	Fund for Peace: "Fragile State Index"[20]
Yemen	Extreme	65,616	4.951	High Alert
Somalia	High	57,846	7.814	Very High Alert
Djibouti	-	516	2.035	High Warning
Eritrea	-	19,940	0	Alert
Ethiopia	High	300,058	1.272	High Alert
Kenya	High	6,302	5.616	High Warning
Tanzania	-	149	2.267	Elevated Warning
Mozambique	Turbulent	10,822	6.627	Alert
South Africa	Turbulent	5,660	Not Included	Elevated Warning
Madagascar	Turbulent	234	Not Included	High Warning
Mauritius	-	-	Not Included	Very Stable
Comoros	-	-	Not Included	High Warning

Source: Author's compilation from various sources

These indicators provide a comprehensive view of each country's current situation in terms of conflicts, terrorism, and state fragility. As may be observed from Table 1, while low intensity disturbances are recorded in a number of States, three—Yemen, Somalia, and Mozambique—are currently high on every conflict indicator, thereby becoming the most volatile States in the WIO. The "Armed Conflict Location & Event Data Project" (ACLED) clearly reveals Yemen as having been classified as "extremely volatile". The Horn of Africa along with Kenya, falls into the "high-risk" category, while countries like South Africa, Mozambique, and Madagascar are characterised as "turbulent".[21]

Since the inception of the Yemen crisis in 2014, this country has become a primary source of geopolitical risk, with several of these risks having cascading effects. The country's complex conflict landscape has expanded manifold and at the present juncture, a majority of the violent activities are concentrated along the west coast (the Red Sea coast), along the western Yemen-Saudi border, and in areas covering south-central Yemen. Maritime attacks by the *Houthis* began in 2015-2016 when the HSV-2, the *Swift*, was targeted off the coast of Yemen by a missile.[22] In this phase, after securing control of the western Red Sea coast, the *Houthis* turned to shoreline shelling. Then, in 2017, the group expanded its tactics to include waterborne improvised explosive devices (WBIEDs). Following the collapse of the UN-brokered truce in 2022, the group escalated its activities, conducting long-range drone and missile attacks on vessels traversing the Red Sea.[23] Since 19 November 2023, in the aftermath of the Israeli-Hamas conflict, the *Houthis* have conducted more than 60 attacks on commercial and military ships in the Red Sea and the Gulf of Aden, singling out those with connections to the State of Israel.[24]

The second source of maritime insecurity stems from Somalia, where an absence of credible political governance has given rise to virulent non-State actors such as the *Al-Shabaab*. Somalia, though often perceived as a homogenous state, is actually a deeply fractured entity, with two autonomous regions, namely, Somaliland — which declared independence in 1991 — and Puntland — which declared autonomous status in 1998. (Eyl and Bandar Bayla are some of the more well-known pirate dens in Puntland). Consequently, counter-piracy measures may be expected to encounter legal constraints due to jurisdictional issues. Criminal groups control large parts of central and southern Somalia, with a very substantial proportion of their income being derived from extortion and protection racketeering activities. Somalia is also a source of human trafficking, drugs and arms smuggling and fauna crime.[25] In addition to *Houthi* attacks, Somali piracy has re-emerged in the region, marking the onset of a fresh phase of pirate attacks in the Gulf of Aden (GoA). According to data from the EUNAVFOR-Op ATALANTA 2024-report entitled "Maritime Piracy Sitrep - GoA/Somali Basin,", between end-November 2023 and end-January 2024, there have been four confirmed and fourteen attempted cases of piracy in the area.[26] Moreover, *Al-Shabaab* is not the only VNSA operating in Somalia; the Islamic State in Somalia Province (ISSP) is another faction that is active in Puntland.[27] This group's early establishment of control over the strategic seaport of Qandala in 2016 provided it with access to significant resources, including weapons, supplies, and trainers, often through its affiliates in Yemen.[28]

There are numerous studies that have traced the causes of piracy and the rise of VNSAs in Somalia. One argues that when a country falls in a "poverty trap", it looks for sustainable economic alternatives. [29] Before falling into anarchy, Somalis traditionally used to practice agriculture and pastoralism. However, as has been pointed out by the Somaliland NGO, "Candlelight for Health, Education & Environment", *"The civil war (1988–1990) and the subsequent civil strife (1994-1997) had a serious effect on both terrestrial and marine resources of Somaliland and an impoverishing effect — in fact to the point of destitution…."*[30]

With a comparatively long coastline (3,333 km) Somalia has an abundance of marine resources. The annual maximum sustainable yield (MSY) of the fish stocks available in the waters off Somaliland alone is estimated to be between 90,000 and 120,000 metric tons a year, but less than 5 per cent of that quantity was being harvested by the Somalis themselves who seemed to prefer livestock meat.
The popularity of fishing as a dietary source has long been constrained by a lack of infrastructure required to support a fisheries industry (such as cold storage, ice making machines, etc.), a general lack of awareness of the protein-benefits of fish consumption, and outdated artesian skills. On the one hand, these factors kept the country's focus away from its otherwise fertile fishing waters. On the other, as civil strife gripped the land, the ability of Somalia to police its waters dwindled. The situation was greedily and callously exploited by distant-water fishing fleets from Europe, the Americas, and East Asia, all of whom took full advantage of the lack of governance in the country by extensively fishing in the Somali waters without any licences. Thus, *"the fishing industry has deteriorated into a 'free for all' equally accessible*

to the world's fishing fleets. Vessels from various countries have continuously fished in the Somali waters in an unreported and unregulated manner. This has had far reaching consequences… on the sustainable management of the marine environment… Reports on toxic waste dumping in the territorial waters of Somalia/land have been recurring over the past decade or so…"[31] All this has worsened the country's food security and has driven it inexorably into a never-ending cycle of resource-conflict. The extensive IUU fishing has had cascading effects where either conflict at sea between foreign and domestic fishing communities was becoming increasingly frequent, eventually resulting in the nature of the society being altered altogether, with manifestations such as the proliferation of pirates and local admiration for them since they were visibly abele to generate prosperity for their families and their clans. *Al Shabaab*, at various stages of its operations is believed to have replicated these trends of piracy being not merely accepted but admired by the local populace along the coast. For instance, in 2012, a recognised pirate leader, Ciise Yulux, reportedly supplied funds and equipment to fighters associated with both *Al-Shabaab* and *Al-Qaeda*. Furthermore, through an arrangement in Xarardheere, a port town north of Mogadishu, pirates paid a 'development tax' of 20 per cent to *Al-Shabaab* to retain their boats in port.[32]

Insecurity at sea, as exemplified by maritime crime in the Gulf of Aden (GoA), has prompted the international community to opt for intensified securitisation of the region. During the peak of piracy from 2005 to 2012, local fishers in Yemen as well as those in Somalia felt beleaguered as a cascade of stringent security measures were enforced in the region effectively preventing them from deriving mutual gains from each other's marine resources.[33] In the more recent context, the international strategic security community has engaged in extensive deliberations on the reasons behind the sudden surge in pirate attacks amidst the *Houthi* attacks. While this is presumed to be an 'opportunistic gambit' aimed at capitalising upon the shift of security focus to the southern Red Sea, this may well be a simplistic explanation, masking more structural causes. The latter are important, given that Eritrea and Sudan are two other zones of near perpetual conflict wherein the law-and-order vacuum is exacerbating the crisis in and off the Horn of Africa.

A third source of insecurity emerges from the activities of the Islamic State (Mozambique), an armed group identified as *Ahlu Sunna Wa Jamaah* (ASWJ) or

Al Sunnah. Since 2017, this group has actively carried out coordinated attacks in Cabo Delgado, the northernmost province of Mozambique, transforming it into a perilous battleground marked by an enduring insurrection. Since the inception of its violent activities, ASWJ has exploited the sea due to the region's weak maritime enforcement capacity and a lack of adherence to the rule of law. In October 2017, ASWJ initiated its violent campaign with an attack on a police station in Mocímboa da Praia. There is adequate evidence to state that at least since March of 2020, the group has consistently exhibited a high capability and intent to utilise maritime routes for operational purposes. ASWJ insurgents are known employ ships such as front-loading ferries for amphibious operations by means of which they facilitate the movement of fighters and supplies to target port-infrastructure. This is exemplified by the August 2020 attack in Mocímboa da Praia, where an HIS-32 Interceptor patrol vessel was reportedly sunk through the use of a Rocket-propelled Grenade (RPG).[34] In March of 2021, the coastal town of Palma fell victim to an ASWJ attack.

The presence of maritime-capable insurgents in Mozambique is of particular concern given that Mozambique abuts the Mozambique Channel, which is one of the four critical chokepoints in the Western Indian Ocean (WIO). Following the discovery of Africa's largest natural gas deposits in and off northern Mozambique, the importance of the Mozambique Channel has surged, making it a lynchpin for the energy security of a number of including India, Japan, South Korea, and the People's Republic of China (PRC). 'Total Energies', a leading French energy giant, had to cease its $20 billion-worth of exploration and production (E&P) activities at its Afungi site near Palma due to repeated attacks by insurgents.[35] The Mozambique LNG Project, part of the company's portfolio, has been suspended under a *force majeure* clause, since April 2021 and, despite occasional announcements to the contrary, is yet to resume operations. Consequently, although the Mozambique Channel has emerged as a promising energy security zone, thanks to the massive potential in the ten natural-gas fields in Mozambique, this potential remains unrealised due to the persistent presence of ASWJ since 2017. Ensuring absolute security in the channel is imperative, especially given the expanding insecurity in the Red Sea and the consequential rerouting of global trade around the Cape of Good Hope.

Data Trends in the Maritime Security of WIOR

Information derived from land-centric patterns of maritime insecurity provides a valuable tool for creating a potential risk-map of a volatile maritime region having asymmetric actors. In its 2020 report entitled, "What We Know About Piracy", published by the Safe Seas Programme and Stable Seas Network, the following crucial questions were raised[36]:

- Are we analysing the right piracy data?
- Who collects data on maritime piracy and armed robbery against ships?
- Which maritime stakeholders benefit from this data?

Quantifiable data regarding the number of piracy incidents at sea is systematically recorded by various information fusion and data collection centres. Numerous international and regional organisations, including the "International Maritime Bureau" (IMB) of the International Chamber of Commerce (ICC) and the "Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia-Information Sharing Centre" (ReCAAP-ISC), provide essential baseline data on maritime piracy. These organisations, in collaboration with entities such as the International Criminal Police Organisation (INTERPOL), the United Nations Office on Drugs and Crime (UNODC), the US Office of Naval Intelligence (UNI), and the Maritime Information Cooperation and Awareness Centre (MICA), have been actively collecting data at the international level. Similarly, regionally-focused centres, such as ReCAAP, the Information Fusion Centre (IFC) in Singapore, the Regional Maritime Information Fusion Centre (RFIMC) in Madagascar, the European Union Naval Force Operation Atalanta, the United Kingdom Maritime Trade Operations (UKMTO), the Maritime Security Centre – Horn of Africa (MSCHOA), the Information Fusion Centre-Indian Ocean Region (IFC-IOR), and the Marine Domain Awareness for Trade – Gulf of Guinea (MDAT-GoG), contribute significantly to the comprehensive data collection efforts.

It is evident that numerous organisations are actively collecting data, and since the advent of the current century, the number of such entities has increased significantly.

In the realm of maritime security, the formulation of effective policies and responses relies heavily upon raw data. However, there are a series of questions that come to mind: to what extent can this amassed data be harmonised? Does it truly meet the diverse needs of all stakeholders, including law enforcement agencies, the shipping industry, security analysts, and coastal communities? Is there a comprehensive and overarching understanding provided to these entities?[37] The inherent deficiency in this gathered data lies in its reliance upon the quantitative analysis of figures, rather than trying to present a profound comprehension of the underlying implications of these figures. The compiled reports channel their analysis with a focus on the needs of commercial companies, while largely ignoring sea-land linkages and networks. Not just maritime piracy but the wider spectrum of the maritime crime needs data diversification by factoring terrorists, extremists, and State-sponsored non-State actors, and the violence perpetrated by them within the maritime domain.

Maritime domain awareness (MDA) is defined by the IMO as *"the effective understanding of anything associated with the maritime domain that could impact security, safety, the economy or the marine environment"*.[38] This concept is categorised into three types of awareness, namely, 'military', 'non-military', and 'information-sharing mechanisms', based on the actors involved and the nature of the information. Within the category of information-sharing, data is typically collected to meet the requirements of navies, countries, regional entities, and other stakeholders. This data collection follows a systematic process involving observation, collection, fusion, display, analysis, dissemination, and action. Maritime threats are monitored by recording the number and type of incidents at sea. The comprehensive fusion of data to enhance understanding of a specific area or situation within the maritime domain is termed "maritime situational awareness" (MSA). Data for both, MDA and MSA is collected from a variety of sensors such as ground-based and seaborne radar; shipborne-, floating-, ground-based, and satellite- and pseudo-satellite-based Automatic Identification Systems (AIS), remote-sensing satellites, electronic intelligence satellites, etc. Regionally, data on threats is processed by security frameworks and information fusion centres. In the Western Indian Ocean, several collaborative frameworks are actively monitoring various types of maritime crime. For instance, the Djibouti Code of Conduct - Jeddah Amendment (DCoC-

JA) has significantly contributed to enhancing maritime situational awareness by encouraging its member-States to utilise technologies such as terrestrial AIS, long-range identification and tracking (LRIT), coastal radars, and other relevant sensors. Data generated by these efforts is disseminated through three Information Sharing Centres (ISCs) located in Dar-es-Salaam (Tanzania), Mombasa (Kenya), and Aden (Yemen).[39]

As part of the planned implementation of the maritime security framework in the Western Indian Ocean (WIO), the Regional Maritime Information Fusion Centre (RMIFC) in Madagascar and the Regional Coordination Operations Centre (RCOC) in Seychelles have been established. The primary aim of the RMIFC is to operate an automated real-time system for collecting, processing, displaying, analysing, and sharing maritime data, thereby providing continuous oversight of regional maritime activities for monitoring and surveillance purposes. To achieve this, the RMIFC utilises as its principal software application, the "Platform for Fusion for Maritime Information System" (PFMIS), also known as the "Maritime Awareness System" (MAS), capable of automatically handling large volumes of data and processing, correlating, visualising, and analysing information that is superimposed upon high-resolution digital ocean maps. The analysed data is then transmitted to the RCOC in Seychelles for decision-making on further actions. The core objective of constructing and regularly updating the Combined Regional Maritime Picture (CRMP) and thus the Maritime Security Architecture (MSA) is to facilitate evidence-based decision-making for precise and targeted actions at sea by the RCOC and its stakeholders.[40] While both centres acknowledge the evolving nature of sea-based threats, their current approach focuses on tracking the incidence of sea-based incidents, without yet incorporating any meaningful analysis of land-based factors driving these crimes.

Conclusion

Creating a risk profile for any given country aids in the development of a comprehensive picture of potential or real insecurity within a region. This process emphasises land-based, airborne, space-based, and sea-based factors, which taken in aggregate, cause or contribute to the emergence of maritime threats. The Western Indian Ocean holds a pivotal position in maritime geography, serving as a strategic gateway to the western segments of not only the Indian Ocean (IO) but also the broader Indo-Pacific. This heterogeneous and predominantly maritime expanse is located between Asia and Africa. Its western extremity encompasses critical chokepoints such as the Strait of Hormuz, the Strait of Bab-al-Mandeb, the Suez Canal, and the Mozambique Channel. This strategic maritime space reflects the geopolitical and geoeconomics aspirations not only of the States along the Indian Ocean rim and the island-States located within it, but also those of the international community at large, given that international shipping traverses this region. To safeguard this universally important maritime space, unconventional means of maritime security, which can leverage the game-changing potential of technology driven application, need to be employed.

Data, in and of itself, provides countries with the capacity to enhance their security efforts. However, data synthesis requires a capability that is not uniformly distributed across the world. Moreover, not all countries face identical maritime security threats. The data generated by the tools employed must cater to the needs of specific stakeholder communities, even while it must remain relevant to all stakeholders. Eastern African States and the WIO collective grapple with several maritime non-traditional threats that often originate on land. Is there a mechanism in place to bridge the data gap by integrating land-based information with that generated by maritime domain or situational awareness digital tools? Is it possible for maritime risk profiling to become a reality? These are questions that must be asked and answered by members of the security community of the WIO or those of the broader Indian Ocean.

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The Red Sea Conundrum

Captain KS Vikramaditya

There has been substantial commentary on the Suez Canal and the Red Sea since 19 November 2023, the day the Houthi rebels seized[1] the MV Galaxy Leader, a British-owned, Japanese-operated ship in the southern Red Sea, which was carrying Israeli cargo. This seizure, as per the Houthis, was a reaction to the continuing Israeli aggression in Gaza. The Houthis had at that juncture, conveyed their intent to continue such actions, till such time Israel reigned in its military campaign. True to their word, the Houthis have, as per the US, undertaken 27 attacks[2] on merchant shipping till 11 January 2024.

Whilst the geography under discussion needs no elaboration from a strategic viewpoint, some important statistics, and figures merit reiteration. The Suez Canal links the Red Sea with the Mediterranean Sea, in essence bridging Asia and East Africa with Europe and even North America. This makes it one of the most important arteries of commerce, one that carries 12% of global trade,[3] including an estimated 30% of the world's traded consumer goods. Further, the Red Sea chokepoints, the Suez Canal to the north and the Bab-el-Mandeb strait to the south, are critical for international oil and natural gas flows; accounting for about 12% of total seaborne traded oil and 8% of worldwide LNG trade,[4] in the first half of 2023. It bears mention that in this period, oil exports from Russia accounted for 74% of Suez southbound oil traffic,[5] most of which were headed for India and China. This, along with the fact that more than 20% of India's exports pass through the Red Sea and the Suez, highlights the criticality of this route to India's economy and wellbeing.

What, then, has been the implication of this ongoing crisis to trade and the global economy? These Houthi attacks have affected the interests of almost 50 nations, endangered the lives of crew,[6] and have forced a large number of ships – 314 vessels between December 19 and 22 alone,[7] to divert thousands of miles to avoid the Red Sea: resulting in extended transit times and increased costs. The alternative route, around the Cape of Good Hope, the one also taken by Vasco-Da-Gama, adds almost 4,000 nautical miles[8] and an additional 10 to 14 days to the journey. Egypt has reported a loss of 40% in Suez Canal revenues and a drop in ship-transit traffic by almost 30%.[9] Oil prices saw a rise of 2% on 12 January 2024. Spot container rates have risen almost 16%, and war risk premiums have increased form 0.1% in early December 2023 to the current range of 0.5% to 0.7%,[10] significantly increasing freight costs. In India too, premiums have risen, with some companies stopping issuance of marine cover altogether. Most assessments indicate that India may see almost a US$ 30 Billion[11] reduction off its total exports in the current fiscal year due to the Red Sea Crisis. It is assessed that in addition to increased costs, shipping schedules have also become erratic, adversely affecting supply chains. Ultimately, the ongoing crisis may push shipping costs by up to 60% and insurance premiums by 20%, severely impacting trade.[12] All these would potentially filter through to the already stressed global economy, further boosting inflation, resulting in a negative impact on consumer markets worldwide.

The US, in consonance with multiple countries including the UK, Italy, France, Canada, Netherlands, Bahrain, Norway, Spain and Seychelles launched Operation PROSPERITY GUARDIAN[13] in the Red Sea, under the umbrella of the larger Combined Maritime Forces (CMF) and its Task Force 153, which focuses on security in the Red Sea; towards ensuring freedom of navigation and safeguarding marine trade. Warships of these countries have since then, shot down a substantial number of Houthi missiles and drones targeted at merchant ships traversing the area.

A Liberian-flagged vessel, the MV *Chem Pluto*, carrying 21 Indian crew members, was attacked by drones[14] on 23 December 2023, off the west coast of India, triggering security concerns. Another oil tanker, the MV *Sai Baba*, carrying 25 Indian crew members, which was on its way to India, also came under a suspected drone-strike in the southern Red Sea on the same day. While both these vessels were not India-flagged, these attacks, in essence, demonstrated the ripple effect of the ongoing crisis on India too. In addition to direct attacks, the Red Sea crisis is also leading to fears regarding a revival of piracy off Somalia and in the Gulf of Aden. The Malta-flagged vessel, the MV *Ruen*[15] was hijacked off the coast of Somalia on 14 December 2023. The Liberian-flagged MV *Lila Norfolk*[16] came under attack by pirates on the night of 04-05 January 2024. On both occasions, the Indian Navy immediately pressed into action it's surveillance drones, maritime patrol aircraft and ships that were on mission-based deployment in the area. While an injured crew member was evacuated for medical treatment from the MV *Ruen* before the ship entered the territorial sea of Somalia, all the 20 crew members of the *Lila Norfolk* were rescued by Marine Commandos (MARCOS) of the Indian Navy.

In view of the fast-escalating situation, the Indian Navy, in keeping with its mandate of protecting and securing India's maritime interests, has deployed a combination of assets comprising surveillance drones, Maritime Patrol Aircraft, and ships[17], including state-of-the-art guided-missile destroyers and frigates. This — possibly the largest Indian Navy deployment in the western Arabian Sea for maritime security operations, in recent times — demonstrates not only India's concerns and interests related to the ongoing crisis, but also its resolve.

A question that immediately becomes germane to military/ naval protection of merchant shipping relates to the costs involved. The Houthis are, for the most part, using drones that have been described by the British forces in the area, as being of Iranian design. The US military's Central Command has also said that in addition, the Houthis are also using anti-ship cruise- and ballistic missiles, both again being of Iranian design and origin. Some of the one-way attack drones being used cost as little as US$ 2000 apiece. The more sophisticated Iranian made Shahed-type drones cost about US$ 20,000 each.[18] The anti-ship missiles being used by the Houthis are understood to be in the price range of US$ 80,000 to about US$ 100,000 per unit.[19] On the other hand, the weapons being used to counter these on the US side are the SM-2 missile at US$ 2.1 million per unit, the Evolved Sea Sparrow Missile (ESSM) at US$ 1.7 million per unit, the Rolling Airframe Missile at US$ 905,000 per unit,[20] and the 5-inch Air Burst shell at US$ 2500 per unit. The British and the French are using versions of the Principal Anti Air Missile System (PAAMS; called the *Sea Viper* by the British) comprising Aster 15 and Aster 30 missiles, each costing upwards of US$ 1.2 million per unit. According to a US Central Command Report, whilst repulsing one of the many Houthi attacks, 18 drones, two anti-ship cruise missiles and one anti-ship ballistic missile were shot down by a combination of two US guided-missile destroyers of the Arleigh Burke Class and one British Type-45 destroyer. Presuming that the sole British ship would have shot down one-third of these, the US price-tag for taking down the remainder of the targets amounts to about US$ 17 million.[21] The inordinately high cost, along with the severe depletion of missile interceptors, is clearly unsustainable, even in the short-term.

It is clear that involvement in a drawn-out conflict such as the current one in the Red Sea, would be prohibitive from both a cost as also a sustenance point of view. This further highlights the criticality of developing and fielding low-cost anti-air and anti-missile defence systems at the earliest.

The US and Britain have, on the 12th and 13th of January 2024, carried out strikes[22] against Houthi military targets, both from the air and the sea. In addition to the over-riding requirement of securing their trade and maritime security interests, these strikes have, quite probably, also been guided by the asymmetric differential in the cost of conflict for the two sides. The Houthis, supported by Iran, have the capacity to mass produce, and continue producing, low-cost and relatively unsophisticated drones and missiles. Clearly, the West had very little option other than to target Houthi ammunition dumps, weapon manufacturing sites and radar stations.

West Asia is already embroiled in a serious conflict — the Israel-Hamas war, which is likely to continue for some time to come. The world at large, and countries within West Asia in particular, are, at this juncture, extremely wary of the Israel-Hamas conflict spilling over and setting-off a larger, regional conflagration. This is obvious from the strident opposition to the US-led strikes from countries such as Oman[23] and Turkey,[24] as also lack of enthusiasm from others such as Saudi Arabia[25] and the UAE, which have, in the past, faced the brunt of Houthi ire. Support from other partners of Op PROSPERITY GUARDIAN is also conspicuous by its absence.

Recent US statements have clearly identified and mentioned the Houthis being a proxy of Iran. Rather than taking a step back, Houthi statements after the US led strikes indicate a further hardening of their position and resolve to not only continue their current line of action, but to also bring the US-led coalition combatants in the

Red Sea, under the ambit of their attacks.[26] The question that arises, therefore, is whether the US, in extrapolation of its decision to conduct strikes on the Houthis, will also extend operations into Iran.

There is a very real probability that the ongoing crisis in the Red Sea could snowball into not only a larger regional conflict, but also one that has severe extra-regional connotations. Whether diplomacy alone can defuse the situation remains to be seen. India's position as a preferred and trusted partner of both the West as also countries of the Middle East, including Iran, therefore assumes significance. In this context, the visit of the External Affairs Minister, Mr S Jaishankar, to Iran,[27] is being viewed with both hope, and expectation.

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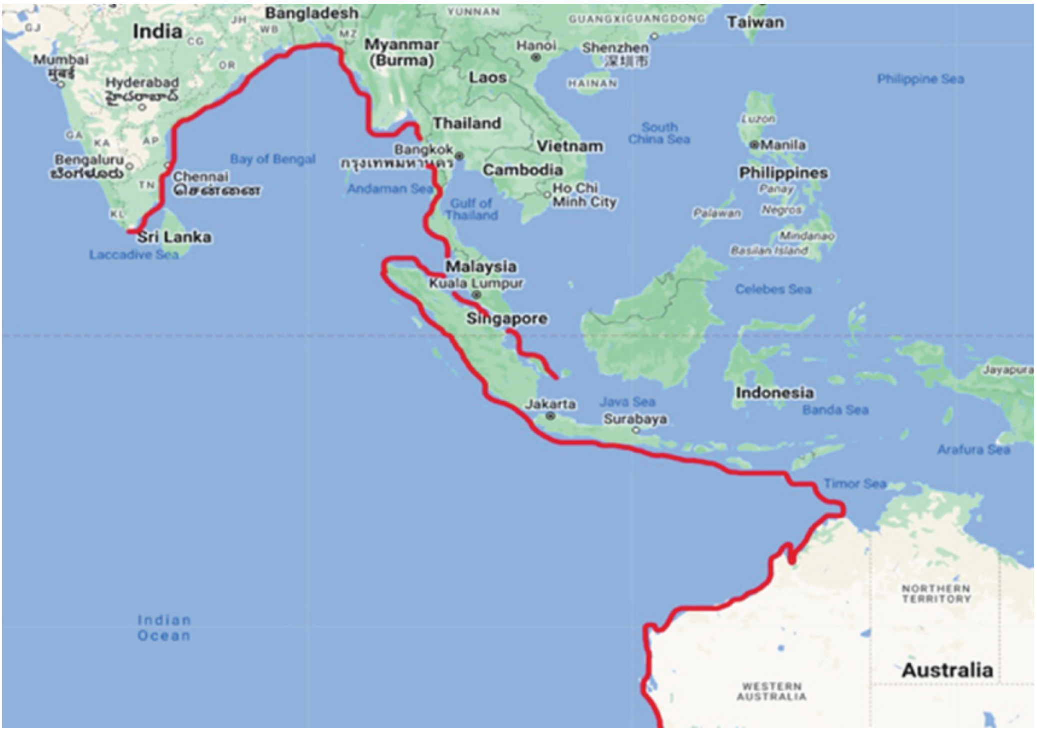
Irregular Human Migration in the Eastern Indian Ocean: Security Implications and the Need for Regional Cooperation

Ms Meher Fatima

The Indian Ocean, covering approximately 73.6 million square kilometres (21.46 million square nautical miles), constitutes about 20% of the world's ocean surface. For the purpose of this article, the Eastern Indian Ocean (EIO), as shown in Figure 1,[1] is defined by waters north of 55° South latitude and east of 80° East longitude. It encompasses coastal States surrounding the Bay of Bengal and the Andaman Sea. This region is home to diverse countries with significant populations and faces various security challenges. This article explores the complex nature of one such security challenge, namely, "Irregular Human Migration" (IHM), and examines its drivers, consequences, and the necessity for regional cooperation. By analysing the intersection of security, humanitarian, and environmental factors, this research aims to provide a comprehensive understanding of IHM in the region and advocates the development of effective policies and strategies.

The International Organization for Migration (IOM) defines a migrant as "*an umbrella term, not defined under international law, reflecting the common understanding of a person who moves away from his or her usual place of residence, whether within a country or across international borders, temporarily or permanently, and for various reasons*".[2] This term encompasses well-defined legal categories such as "migrant workers" and "smuggled migrants", as well as those whose status is less clearly defined, such as international students. The IOM defines Irregular Human Migration (IHM) as "*the movement of people to a new place of residence or transit that*

Figure 1. Illustrates the Eastern Indian Ocean, and its coastal States (marked with red)


India
Bangladesh
Myanmar (Burma)
Laos
Thailand
Vietnam
Cambodia
Taiwan
Mumbai
Hyderabad
Bengaluru
Chennai
Sri Lanka
Bay of Bengal
Andaman Sea
Laccadive Sea
Bangkok
Hanoi
Shenzhen
Hainan
Yunnan
Guangxi
Guangdong
Ho Chi Minh City
Gulf of Thailand
South China Sea
Philippine Sea
Luzon
Manila
Philippines
Panay
Negros
Palawan
Mindanao
Basilan Island
Malaysia
Kuala Lumpur
Singapore
Celebes Sea
Indonesia
Jakarta
Java Sea
Surabaya
Banda Sea
Jayapura
Arafura Sea
Timor Sea
Indian Ocean
Northern Territory
Western Australia
Australia

Source: Lecture Series, 'Map Familiarisation,' National Maritime Foundation

takes place outside the regulatory norms of the sending, transit, and receiving countries."[3] The key issue with these definitions is the lack of legal specificity, covering a broad spectrum from students and workers to trafficked individuals. A detailed analysis of the theme of migration is beyond the scope of this article. Primarily, the focus remains on trafficked and smuggled persons, as well as other illegal migrants who utilise sea routes to clandestinely enter another country. The article's focus on seaborne illegal migration is germane largely because people, wishing to escape stricter control and surveillance normally experienced at land borders, often embark on perilous sea journeys, facilitated by human traffickers and smugglers who exploit their desperation and vulnerability. The clandestine nature of these voyages not only poses significant risks to the lives of the migrants but also presents considerable challenges to coastal States in terms of law enforcement and border security. As the sea routes become increasingly utilised for illegal access to foreign lands, the need for comprehensive strategies to address the root causes and mitigate the adverse impacts of irregular human migration becomes ever more critical. Consequently, understanding the patterns of such migration is essential for formulating effective policies and cooperative measures among affected countries. It is important to examine the vulnerabilities of the EIO to understand the complexities involved in securing maritime borders and protecting human lives.

Irregular Movement of People and Vulnerability of the EIO

The Western Indian Ocean (WIO)[4] faces severe IHM crises driven by regional instability and resource scarcity, pushing migrants mainly towards Europe.[5] The situation is not much different in the EIO but the intensity varies. In the WIO, the prevalence of weak states and perennial conflicts significantly influence migration trends.[6] In contrast, the littoral States of the EIO are characterised by relatively stronger governance structures and established civil-political institutions. However, despite these institutional strengths, the EIO has a long history of political instability. The region's history is characterised by separatist movements, sub-nationalist movements, and political upheavals. This historical context underscores the complex and nuanced nature of governance and stability in the region. Moreover, the marine domain's potential for misuse—ranging from terrorism to piracy—requires a comprehensive security response. This understanding leads to increased scrutiny of human mobility by sea and highlights why it presents a complicated issue for maritime security agencies. The intertwining economic, political, and environmental factors that drive IHM in the region necessitate a nuanced approach. In other words, it is crucial to understand the complexities of IHM as a maritime security threat.

'Securitising' Human Mobility: Addressing the Complexities of IHM as a Maritime Security Threat

The sea has served as a conduit for global trade and a cradle of civilisations for centuries. Throughout history, people have navigated these sea routes for a multitude of purposes, whether in times of peace or conflict. The evolution of seas from *mare clausum* and *mare nostrum* to *mare liberum* and from *res nullis* to *res communis* may be seen through a historical review of various laws and treaties.[7] As more countries attained naval ascendancy, challenges in the marine space grew, along with the risk profile of these spaces. With globalisation, not only did goods gain access to broader areas, but threats did so, too. Within this context, the increased securitisation of routine activities,[8] such as human mobility, needs to be understood. Securitisation, as developed by Barry Buzan, and Ole Waever, focuses primarily on how security issues influence five sectors: military, environmental, societal, political, and economic.[9] With a 'widening' of the use of the term "security", the number and variety of sectors that can be incorporated within security analysis increase significantly. An issue is said to be securitised when a political audience collectively agrees on the nature of the threat and supports the taking of extraordinary measures, shifting an area of low priority to one of high priority. In other words, the issue becomes a 'risk' or 'threat' depending upon the ascribed scale of danger. Irregular Human Migration (IHM) is classified as a significant maritime Non-Traditional Security (NTS) threat.

Non-Traditional Security (NTS) refers to security-related issues, and threats, that go beyond conventional state-centric military issues, focusing on trans-national challenges like environmental degradation, human trafficking, global health emergencies like epidemics, and illicit drug trade. Such concerns stem not only from inter-State conflicts (which can amplify the impact) but also from transnational issues affecting human security. These issues undermine human security by affecting livelihoods, health, and stability, thereby necessitating a holistic approach to security that integrates humanitarian and development aspects. Just as the term 'warfare' is nowadays associated with a range of non-military issues, 'security-framing' is deemed an effective way to bring attention to NTS challenges, convey urgency, and command governmental resources to address them. Within the marine domain, the scope of non-traditional security threats addressed by the authorities includes illicit drug trade, IUU (Illegal, Unreported and Unregulated) fishing, armed robbery, piracy, and smuggling, alongside IHM. Irregular migration via sea is particularly significant due to the increasing use of maritime routes for intra- and trans-regional movements, particularly in Asia.[10] Coastal security agencies must handle several vulnerable groups, including victims of trafficking, asylum seekers, stateless persons,[11] and workers on poorly regulated vessels, all facing heightened risks at sea. International Humanitarian

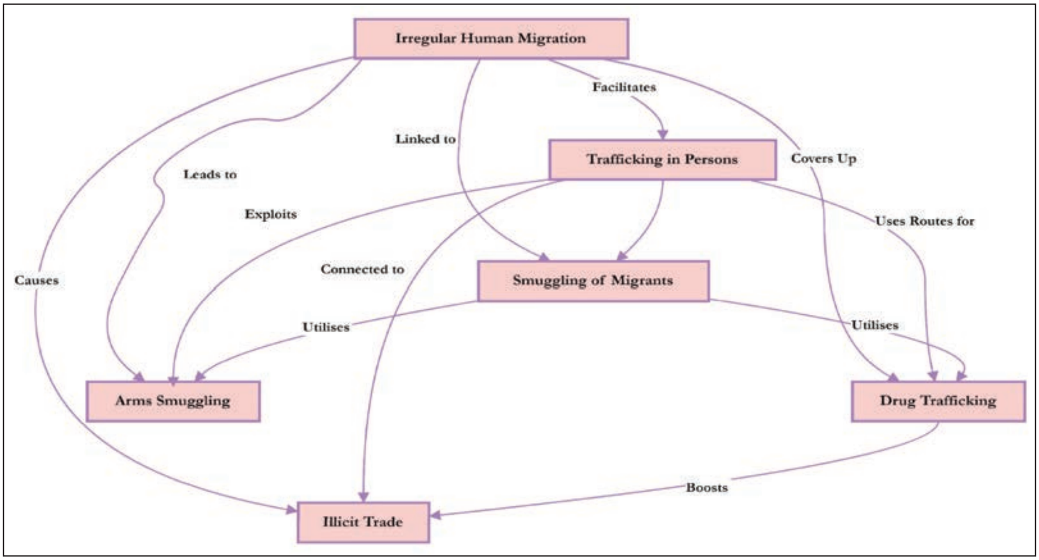
Law (IHL), and the relevant provisions of the United Nations Convention on the Law of the Sea (UNCLOS) address both humanitarian needs and border protection. The intertwining humanitarian and security concerns create a complex dynamic for navies and Maritime Law Enforcement Agencies (MLEAs).

Implications of IHM on Coastal Security

The displacement of minorities, State-on-State conflicts, civil unrest, extreme weather, and economic instability drive mass movements throughout the region. The sea lacks physical barriers, and numerous intermediary spaces exist where government jurisdiction is limited. Overcrowded and unsafe vessels pose risks to maritime safety, potentially causing collisions, engine failures, and fires, and can disrupt legitimate maritime trade. Migrants may stow away on commercial vessels, endangering crew safety and trade. Trafficking networks can connect with organised crime and terrorist groups. After a spate of terror attacks across Europe that mainly involved migrants, there was a vociferous demand to regulate the IHM in the Mediterranean.[12] Security concerns regarding radicalisation have prompted countries like India Indonesia, Malaysia and Thailand to pursue 'push-back' efforts against the Rohingyas.[13] The concerns of States are not limited to "Violent Non-state Actors" (VNSAs) alone; nefarious elements using vessels carrying migrants to facilitate illegal transport of drugs and contraband apart from the smuggling of arms and commercial goods, are only some of many challenges associated with IHM. Thus, addressing these challenges requires vigilant efforts from states to ensure security. Figure 2 depicts how IHM facilitates several maritime crimes, highlighting the interconnected nature of these issues.

While the security implications of IHM are significant, it is equally important to consider the humanitarian dimensions. The securitisation of human mobility often overshadows the plight of individuals who undertake perilous journeys in search of safety and better opportunities. Addressing these challenges requires an approach that goes beyond material security concerns. The complexity arises not only from the sheer scale of human migration but also from the varied and often precarious conditions faced by migrants. In multiple instances, people fleeing violence and

Figure 2. Illustrates the interconnectedness of IHM with other maritime crimes


Irregular Human Migration
Facilitates
Linked to
Trafficking in Persons
Covers Up
Leads to
Exploits
Uses Routes for
Connected to
Causes
Smuggling of Migrants
Utilises
Utilises
Arms Smuggling
Drug Trafficking
Boosts
Illicit Trade

Source: Author

persecution have undertaken sea journeys, where they are vulnerable to traffickers and inadequate rescue systems. In 2023, the *Adriana* shipwreck resulted in the loss of more than 600 lives off the coast of Libya.[14] Following this incident, a UNHRC (United Nations Human Rights Commission) ombudsman remarked that there was a failure to ensure that Frontex's[15] fundamental-rights monitors were sufficiently involved in decision-making. Additionally, there have been reports of migrant vessels in distress encountering difficulties when attempting to contact Frontex. In the Andaman Sea and the Bay of Bengal, it is estimated that one Rohingya has died or gone missing for every eight persons who attempted the journey in 2023.[16] In May of 2015, at least 6,000 migrants from Myanmar and Bangladesh found themselves stranded at sea when smugglers who had promised to take them to Malaysia abandoned them near the Thailand-Malaysia border.[17] The differences regarding jurisdiction and a lack of willingness to accept responsibility for such a politically sensitive issue actively contribute to increased risks and failures of prevention and protection at sea.[18] Moreover, the 'apprehended' migrants end up in long-term detention which is a significant humanitarian concern.[19] The proportion of people returning to their countries of origin, or some rehabilitation centre in the recipient country, is far smaller than those who 'go missing' afterwards.[20] In essence, the constant need to balance security and humanitarian concerns showcases the depth of challenges the coastal security authorities face in tackling IHM. It requires a nuanced understanding and response, blending humanitarian aid with strict security measures to ensure both the safety and dignity of those affected. India's experience with IHM offers valuable insights in this direction.

Coastal Security and the IHM: An Indian Experience. India's maritime history spans centuries, with trade routes fostering cultural exchange but also serving as entry points for colonial powers.[21] India's *holistic* maritime security involves freedom from threats arising in, from or through sea. India's location along key maritime routes fuels its trade yet exposes it to maritime threats. This vulnerability was starkly evident in the case of the 1993 Blasts and the 2008 Mumbai attacks, where sea routes were exploited by the perpetrators.[22] India's maritime security is complicated by unsettled territorial issues with Pakistan and China. India's proximity to the illegal drug trade bastions of the Golden Triangle and Golden Crescent adds to its security concerns.[23] The smuggling of goods, contraband, and natural resources from coastal states, as also increasing IUU fishing, all pose significant economic security challenges.[24] The Indian Navy is the principal maritime force of the Republic of India.[25] The multitude of roles the Indian Navy plays can be categorised broadly as the military role (which is the basic one), the diplomatic role, the constabulary (policing) role, and the benign (humanitarian) role.[26] The Indian Coast Guard (ICG) complements these efforts by enforcing maritime law, safeguarding India's coastline, and performing essential duties such as search and rescue operations, pollution control, and protecting marine resources. Together with the coastal police, these forces ensure a robust maritime security framework for the region. In the context of IHM, the Indian Navy and the ICG face the challenge of countering violent non-State actors in vessels carrying undocumented people. It is not easy to separate inimical elements from benign ones. The Sri Lankan Tamil crisis highlighted this. In 1990, the Indian Navy, along with the Indian Coast Guard and the Coastal Police launched Operation TASHA to tackle illegal activities and unauthorised immigration between India and Sri Lanka. This operation was aimed to counter the LTTE's growth in the Gulf of Mannar and Palk Bay, and to provide humanitarian aid to those fleeing violence.[27] Locally, Tamil fishermen were also involved, aiding Sri Lankans in crossing illegally. It highlighted the intersection of humanitarian and security issues. There were also accusations that Tamil refugees fleeing Sri Lanka were charged hefty fees to reach India, similar to situations observed in Libya and Syria. The Indian Navy and the ICG rescued hundreds of people and relocated them in makeshift rehabilitation centres supported by the Tamil Nadu government and the UNHCR (United Nations High Commissioner for Refugees), India. [28] India has not faced irregular migration on the same scale as have countries such as Bangladesh, but even episodic occurrences, such as the influx of Tamils during the Sri Lankan crisis, have presented significant challenges. While India's experience provides valuable insights into managing irregular human migration (IHM), it is crucial to recognise that addressing this issue requires concerted efforts from all stakeholders. The interconnected nature of the problem underscores the need for collaboration among coastal States to address the root causes of irregular migration and to devise effective strategies.

Need for Regional Cooperation

Enhancing regional cooperation is crucial for addressing issues that could become 'inflection points' for much larger crises. In the EIO, certain factors have the potential to exacerbate the problem of IHM beyond manageable levels. According to the IOM, these 'new' displacement trends refer to the displacement caused by conflicts and/or disasters.[29] Effective regional collaboration is necessary to manage these challenges and prevent them from escalating into larger crises.

Changing Contours of Political Conflicts. Asia and Africa account for 75% of active conflicts.[30] Bangladesh and Myanmar rank amongst the top ten countries in Asia in terms of population displaced by conflict, as shown in Figure 3. Myanmar experienced its most significant internal displacement in 2022, with over a million people, primarily Rohingyas, being displaced.[31] This marks the highest number ever recorded for the country, and was driven by intensified clashes between the military and non-State armed groups. Myanmar ranks second in terms of conflict-induced displacement relative to its population, after Kyrgyzstan.[32] Moreover, neighbouring countries such as Indonesia, India, and Thailand, emerged as key destinations for people fleeing violence in Myanmar. Indonesia occupies a pivotal position due to its strategic location and archipelagic geography, serving as a preferred transit point for migrants seeking access to countries like Canada and the US. It sits astride key maritime chokepoints such as the Malacca Strait, the Lombok Strait, the Sunda Strait, and the Ombai-Wetar Strait, making the country vulnerable to the smuggling of arms, contraband, and other illicit materials alongside migrant flows.[33] However, the resultant situation is not unique to Indonesia. From a regional perspective, the problem is compounded by the fact that many countries have not signed the 1951 Refugee Convention, resulting in legal ambiguities.[34] Additionally, inter-ethnic and cross-communitarian ties between illegal migrants and residents complicate the issue. State responses to illegal migrants are influenced by domestic constraints and factors. The broadening horizon of increased geopolitical competition has led to the emergence of new political equations. The repercussions are felt across borders, as seen in overcrowded coastal districts in Bangladesh such as Cox's Bazar,[35] and in political unrest in Indonesia, with both countries grappling with the impact of the illegal movement of the Rohingyas.[36] Myanmar's strategic position between India and China affords it significant political leverage. As a result, addressing the country's crisis management at the regional level results in a more measured approach rather than direct accountability. The strategic significance of the EIO has led to increased military presence by major powers, which in turn affects regional stability. This heightened security-focus results in stricter measures of surveillance, and more restrictions on human mobility. As maritime areas become more securitised, it presents humanitarian challenges for those fleeing violence or caught in conflicts. The interplay between security measures and humanitarian needs requires careful management to ensure that efforts to maintain stability do not adversely impact vulnerable communities.

Climate Change and Vulnerability of the EIO

In addition to the changing contours of conflict, climate change, too, is emerging as a significant driver of irregular human migration in the Eastern Indian Ocean. The increasing frequency and intensity of natural disasters are exacerbating existing vulnerabilities and creating new challenges for coastal States.

The Indian Ocean is experiencing accelerating sea-level rise as compared to the global average.[37] Moreover, the frequency of extreme weather events has risen from once-in-a-decade to once-in-a-year.[38] The *cumulative* effect of these threats worsens the vulnerability of coastal areas.[39] The Sundarbans delta and the Sumatra region are prone to extreme weather events such as cyclones and, indeed, the Bay of Bengal accounts for over 80% of cyclone fatalities.[40] It is also important to note that the region is very prone to natural disasters. For example, because of the weather-prone geography of the east coast of India, most trade and transit remained oriented to the west coast of India.[41] From a historical perspective, floods and sea surges have been part of the history of the states lying on the east coast of India.[42]

Table 1. Represents the vulnerability of differences from climate change

Country	Rank (2008)	Rank (2050)	Vulnerable Population (Millions) (2008)	Vulnerable Population (Millions) (2050)
India	1	1	20.6	37.2
Bangladesh	3	2	13.2	27
China	2	3	16.2	22.3
Indonesia	4	4	13	20.9
Philippines	6	5	6.5	13.6
Nigeria	9	6	4.3	9.7
Vietnam	7	7	5.7	9.5
Japan	5	8	9.8	9.1
USA	10	9	3.8	8.3
Egypt	17	10	2.1	6.3
UK	11	11	3.3	5.6
South Korea	8	12	4.8	5.3
Myanmar	12	13	2.8	4.6
Brazil	14	14	2.6	4.5
Turkey	13	15	2.6	3.9
Malaysia	18	16	1.9	3.5
Germany	15	17	2.3	3.3
Italy	16	18	2.1	2.9
Mozambique	25	19	1.2	2.8
Thailand	19	20	1.8	2.6

Source: David Wheeler, Centre for Global Development

Similarly, as per Table 1[43] above, most of the countries at high risk of climate change-related vulnerability belong to the EIO. The important point, however, is that these trends will remain unchanged in the future. This clearly indicates that measures implemented thus far are not enough; more is required from the stakeholders.

Table 2. Shows the 'new' displacement Trends

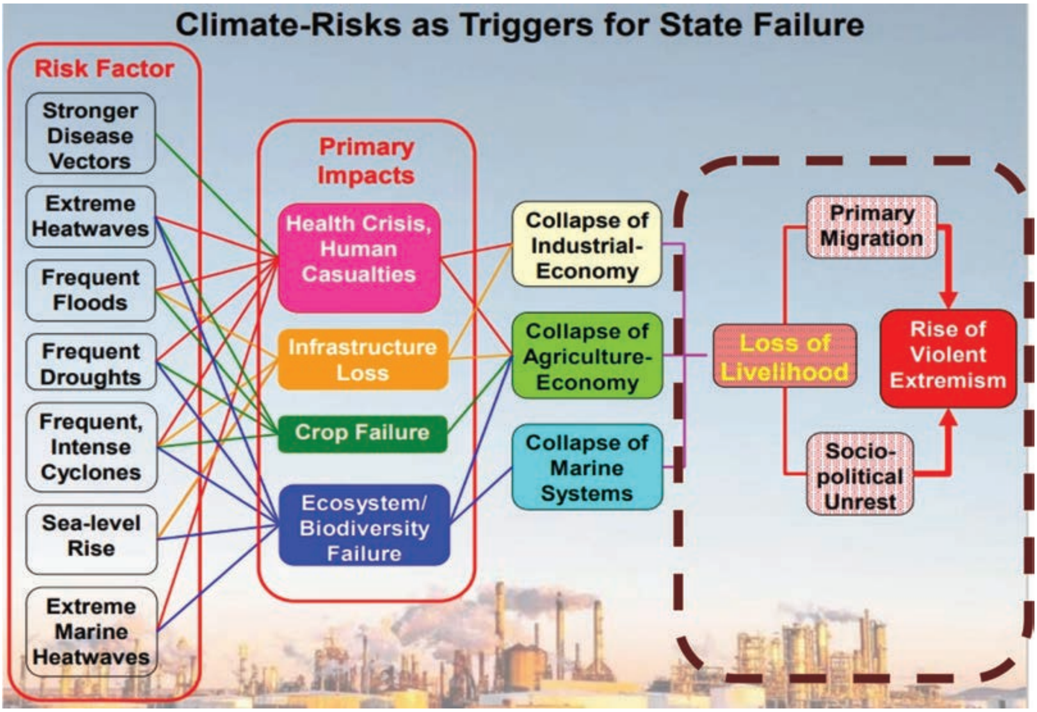
Country	Displacement (in millions)
Pakistan	8
Philippines	6
China	4
India	4
Bangladesh	3
Myanmar	2
Yemen	1
Viet Nam	1
Indonesia	0.5
Afghanistan	0.5
Syria	0.5
Kyrgyzstan	0.2
Malaysia	0.2
Nepal	0.2
Iraq	0.2
Japan	0.1
Iran	0.1
Republic of Korea	0.1
Cambodia	0.1
Thailand	0.1

Source: 2024 World Migration Report, IOM

As per Table 2, coastal States of the Indian Ocean are notably impacted by disaster-caused human displacement.[44] The scattered nature of the data raises validity concerns, but its frequency suggests that displacement may evolve into established migratory patterns. These evolving patterns highlight two things: the scale of displacement is expanding in an unassailable way, despite its 'internal' character, and the vulnerability of coastal areas remains critical, despite the measures implemented. The challenges faced during recent natural disasters further underscore these issues. For instance, in the immediate aftermath of the 2004 earthquake and resultant *tsunami*, Coast Guard officials had to intensify search and rescue efforts in the Andaman and Nicobar Islands despite facing challenges such as limited manpower, restricted accessibility, and inadequate infrastructure.[45] In other words, "*when erratic precipitation and extreme events are added, areas that are barely holding on might find themselves slipping over the brink.*"[46] The spillover effects of these environmental issues are distinctly evident in the coastal areas of the region.[47] The persistent risk of widespread displacement creates complex challenges for coastal authorities, highlighting the need for better preparedness.

In Figure 4,[48] various risk factors associated with climate change outline the broad-ranging impacts on livelihoods and food security.[49] Such trends fuel unrest,

Figure 4. Depicts the Climate-Risks resulting into various issues.


Climate-Risks as Triggers for State Failure
Risk Factor
Stronger Disease Vectors
Extreme Heatwaves
Frequent Floods
Frequent Droughts
Frequent, Intense Cyclones
Sea-level Rise
Extreme Marine Heatwaves
Primary Impacts
Health Crisis, Human Casualties
Infrastructure Loss
Crop Failure
Ecosystem/ Biodiversity Failure
Collapse of Industrial-Economy
Collapse of Agriculture-Economy
Collapse of Marine Systems
Loss of Livelihood
Primary Migration
Rise of Violent Extremism
Socio-political Unrest

Source: Lecture Series, 'Climate Change,' National Maritime Foundation and result in forced migration from the affected areas (marked as the dashed portion of the picture). For instance, the 1971 war saw large-scale illegal migration to India's east coast, particularly Assam and West Bengal where the incursion of Bangladeshi migrants created widespread problems.[50] Similarly, from a security perspective, climate change is a threat multiplier.[51]

At the global level, the COVID-19 (Coronavirus Disease, 2019) pandemic underscores the risks associated with the intersection of multiple disasters. Previous outbreaks like the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS) were significant, but COVID-19's unprecedented scale triggered a global cascade of crises. Existing geopolitical tensions, financial market turmoil, and protectionist policies had already disrupted trade sectors, straining public goods systems and prompting navies to ensure the continued flow of essential goods.[52] Climate change presents a more disruptive challenge. Moreover, the lack of consensus regarding *definitive* aspects is an area of concern.[53] For example, Bangladesh's NCAP (National Climate Adaptation Plan) mentions climate refugees (one of the few countries in the region to use that term), but it does not fully encompass those affected by statelessness, conflict, and disaster, such as the Rohingyas in Cox's Bazar.[54] What provisions are in place for managing multifaceted migration scenarios? How will law enforcement and border security agencies address these complex cases? Which laws are applicable, and which are not? These are critical questions that must be addressed. Despite high vulnerability, most countries have not come up with any effective mechanism to deal with the problem at the regional level. The growing humanitarian crisis, exacerbated by climate change, highlights the urgent need for effective regional cooperation. While various regional arrangements exist to address irregular migration, their implementation and effectiveness vary significantly.

UNCLOS Provisions. The United Nations Convention on the Law of the Sea (UNCLOS) includes several provisions relevant to humanitarian assistance, although its primary focus is to promote a rules-based maritime order. Therefore, the convention attempts to strike a balance between the States' need to guard the sea and keep it accessible. Article 98 obliges states to assist vessels in distress, including rescuing migrants at sea.[55] Article 99 prohibits trafficking in persons and requires measures to suppress such activities.[56] However, coastal States have sovereignty over their territorial seas under Article 2 and can enforce immigration laws within their contiguous zones as specified in Article 24.[57] In the Exclusive Economic Zone (EEZ), while primarily for economic purposes, states can enforce immigration laws consistent with international law.[58] On the high seas, Article 87 allows states to control their ships and prevent illegal activities, such as trafficking.[59] Article 197 calls for international cooperation to protect the marine environment, which can indirectly impact migration issues, such as environmental impacts from overcrowded boats.[60] Although UNCLOS provides crucial maritime safety and security frameworks, it is not sufficient to fully address the issue.

Global Frameworks

(a) The United Nations High Commissioner for Refugees (UNHCR) operates globally, including in the Indian Ocean Region (IOR), to address refugee movement, provide humanitarian aid, and support refugees and migrants.[61]

(b) The UN Office on Drugs and Crime (UNODC) is another key global organisation that works with Indian Ocean countries to combat trafficking in persons and irregular migration through various projects and initiatives.[62]

(c) The Global Compact for Refugees (GCR),[63] adopted by the UN General Assembly in 2018, aims to enhance international cooperation and responsibility-sharing for refugee protection. It offers a framework for predictable and equitable support to host countries and communities, fostering resilience and self-reliance for refugees.

Current Regional Arrangements Addressing IHM

It is important to note that although there are a few regional arrangements that address the challenge of IHM in varying ways, it is disturbing to find that despite the scale of the problem, regional mechanisms have not been well focused, and rather, tend to address the problem indirectly and quite broadly. Some of current arrangements are:

(a) **ASEAN.** ASEAN (Association of Southeast Asian Nations) Member States are affected either as a source, transit, or destination for migrants.[64] The Emergency ASEAN Ministerial Meeting on Transnational Crimes (EAMMTC) recommended the establishment of Heads of Specialist Unit (HSU) on People Smuggling to work in tandem with the HSU on Trafficking in Persons (TIP), which was established in April 2004 under the Senior Officials Meeting on Transnational Crime (SOMTC), held in July 2015.[65] ASEAN spearheads several relevant instruments, including the ASEAN Declaration Against Trafficking in Persons, Particularly Women and Children (ACTIP) and the ASEAN Convention on the Protection and Promotion of the Rights of Migrant Workers (ACPW) to address the problem.

(b) **Regional Arrangements in the Indian Ocean.** The IORA (Indian Ocean Rim Association) recognises IHM as a key maritime security threat in its charter. The IONS (Indian Ocean Naval Symposium), an India-led regional initiative, promotes naval cooperation and enhances maritime security in the IOR, including addressing the challenges associated with irregular movement of people. However, owing to the diverse constitution, and wide-ranging functions, these mechanisms often lack the requisite element of specificity.

(c) **Other Regional Arrangements.** As part of security considerations, SAARC (South Asian Association for Regional Cooperation) enacted a few directives aimed at enhancing security against terrorism, drug trafficking, child and women trafficking, and other transnational crimes, which are common social challenges in the region.[66] BIMSTEC (Bay of Bengal Multi-sector Technical and Economic Cooperation) also recognises trafficking in persons (TIP) as a grave transnational organised crime.[67] The development of regional and inter-regional consultative processes such as the Bali Process (against trafficking),[68] the Colombo Process, and the Abu Dhabi Dialogue (for regulating labour migrant movement) also consider IHM as a transnational crime.[69] Despite their potential, these mechanisms often encounter obstacles and limitations in addressing the issue because they lack 'enforceability'.

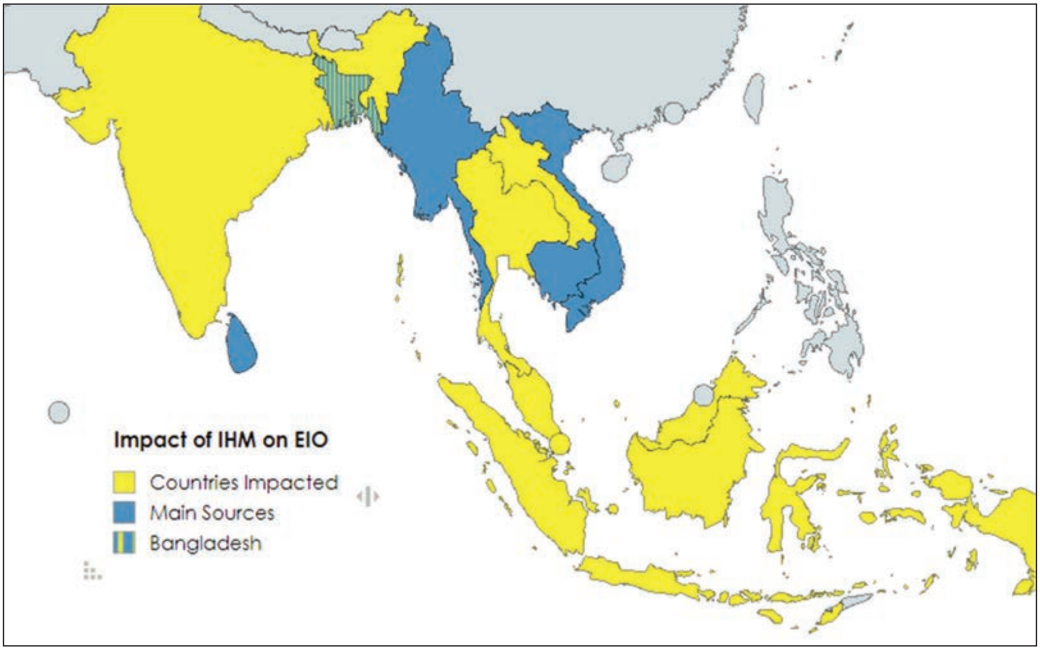
Challenges and Limitations

Despite their potential, most of these mechanisms often encounter obstacles and limitations in addressing the issue. The absence of a unified definition of IHM hampers data-collection and analysis, making it challenging to understand migration patterns and develop effective policies. National laws and policies vary significantly across the region, with some countries having robust anti-trafficking frameworks while others lack the necessary legal infrastructure. This 'patchwork' approach creates inconsistencies in addressing IHM and impedes regional cooperation. For instance, the "Principles of Bangkok on the Status and Treatment of Refugees", adopted in 1966 and finalised in 2011, are non-binding and aimed at inspiring national legislation. A draft of the "Convention Against Trafficking in Persons" has been prepared by BIMSTEC but it is yet to take tangible shape.[70] Existing frameworks, such as the "Bohol Plan" (2017-2020),[71] often struggle with implementation and enforcement due to resource-constraints and a lack of monitoring mechanisms. ASEAN proposed a "Joint Task Force" to address trafficking and illegal migration but this, too, has not yet materialised.[72] Within large regional groupings such as IONS, as well as IORA, many member States are developing nations and lack sufficient resources for building requisite maritime capability for themselves, lack a 'unifying' political framework, and are faced with the absence of a cohesive organisational structure.[73] Therefore, such limitations undermine the efforts to contain the issue.

Converging Crisis and the Road Ahead

Figure 5 shows the main sources of IHM, and the countries most significantly impacted. Bangladesh has been a significant recipient-of and has substantially contributed-to IHM in the region. Moreover, the country's coastal areas are highly vulnerable to the impact of climate change. Therefore, Bangladesh serves as a good example with which to understand the potential impact on a country of multiple disasters. Other countries in the region also face similar problems. In other words, the region does not face a single set of problems, it faces a 'convergence' of multiple serious challenges. Hence the need to develop response mechanisms at the regional level, and not rest content with national, reactive ones. Facing this multiplicity of crises requires multiple approaches from all stakeholders.

Figure 5. Impact of IHM on various countries in the EIO.



Source: Author

Need for Collective Responsibility over Single-point Responsibility. Strengthening the current regimes is one way in which to reach a consensus. For instance, the role of BIMSTEC could and should be expanded to serve as a forum for focused informal discussions or formal mediation on IHM (i.e., an issue-specific approach). There are other options as well that need to be explored. Perhaps instead of centralised multilateral arrangements that work on the premise of single-point responsibility, it might be better to have decentralised yet interdependent arrangements.[74] These may well be particularly important in an environment of high uncertainty, such as in the case of climate change, where the most demanding international commitments are interdependent yet governments vary widely in their interest and ability to implement such commitments.[75] Comprehensive international regulatory institutions that are focused on a single integrated legal instrument, lie at one end of the spectrum, while highly fragmented arrangements lie at the other.[76] Between these two extremes are nested regimes and regime complexes, which are loosely coupled sets of specific regimes. These intermediate structures offer a more flexible approach to governance, allowing for tailored responses to complex issues. For instance, plurilateral arrangements, with security federalism as a framework, could enhance responses to specific challenges like IHM: "*In a 'pluralistic security community', federalism is achieved before functionalism, and pluralistic security is, therefore, a particularly useful framework for integration in the face of domain-specific security challenges.*"[77] Moving from single-point responsibility to collective responsibility, where multiple entities collaborate in a decentralised yet interdependent way, is essential. Recent years have also seen a rise in "soft law" instruments — non-binding declarations and resolutions — which, while not legally enforceable, can pave the way for binding laws. For example, despite the lack of legally binding provisions, the "Bali Process" facilitates consensus on complex issues like trafficking and fosters shared understanding among States. Another way of addressing the problem is to adopt "small-group reciprocity" in which a small number of identifiable players can monitor one another's behaviour and can sanction, through reciprocity, agents who refuse to accept jointly agreed rules or who fail to comply with rules. This could be an effective way of dealing with issue-specific challenges. The Colombo Security Conclave (CSC) can be taken as an example of this. In 2011, the CSC started out as a trilateral initiative involving Sri Lanka, Maldives and India. Later, Bangladesh and Seychelles joined as observers. Initially oriented towards "white shipping" agreements (particularly to address the issue of smuggling), the construct has evolved to become an operational framework whose scope encompasses enhancing cooperation, sharing best practices and procedures to counter maritime crimes, providing mutual assistance for SAR States, and sharing/exchanging intelligence and information among states.[78] Similarly, the Quad (Quadrilateral Security Dialogue involving India, Japan, Australia, and the US)[79] can provide much-needed gravitas to the issue, given that the forum includes regional and extra-regional powers. The Quad's focus on holistic maritime security could be utilised to ensure focused discussions on IHM, strengthening joint efforts and strategies. Inter-regional arrangements, such as the signing of the ASEAN-IORA MoU (Memorandum of Understanding), could be leveraged to address the multi-faceted character of IHM.[80] A blend of plurilateral arrangements, soft law instruments, and collaborative frameworks, offers a comprehensive approach to tackling IHM, underscoring the importance of both formal and informal mechanisms in addressing migration challenges.

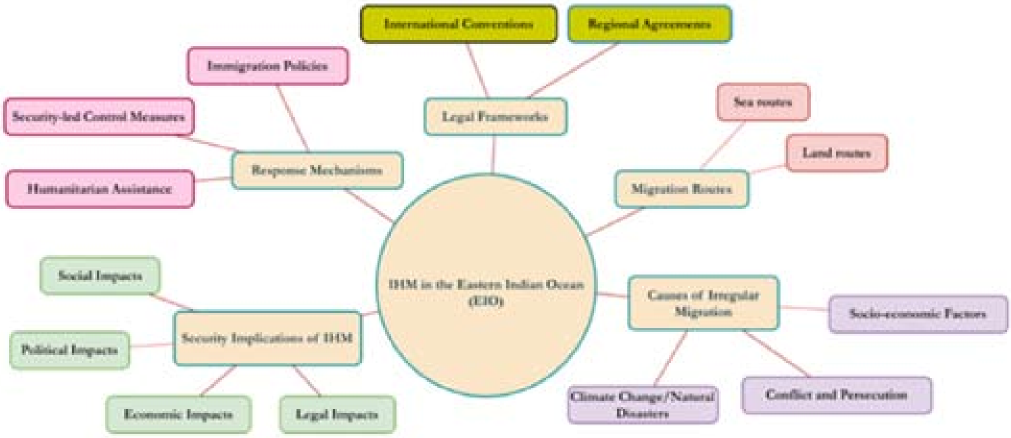
Protecting Human Rights and Engaging with Civil Society. Despite not being parties to key legal instruments on migration, countries in the region are committed to upholding human rights through agreements such as the "Universal Declaration of Human "Rights (UDHR), the "UN Convention against Transnational Organised Crime" and its "Trafficking in Persons Protocol",[81] the "Convention on the Rights of the Child" (CRC),[82] and the "Convention on the Elimination of All Forms of Discrimination Against Women" (CEDAW).[83] Their participation in mechanisms such as the "UN Global Plan of Action to Combat Trafficking in Persons",[84] and the "Global Compact on Migration" also calls for immediate needs and root causes of irregular migration.[85] Regional mechanisms such as the "ASEAN Declaration on the Rights of Children in the Context of Migration",[86] and the "ASEAN Gender Sensitive Guideline for Handling Women Victims of Trafficking in Persons" provide valuable tools.[87] In one way or another, these instruments require States to address the humanitarian aspects of the problem. One way to go about this is to engage community organisations, which can, thereafter, offer insights into local contexts and foster support for regional strategies. Humanitarian Diplomacy, focusing on trust-building between internal and external actors, can enhance communication and collaboration despite political differences, ensuring security and dignity for migrants.[88]

Leveraging Technology and Strengthening Regional Coordination

The misuse of technology, especially through social media and online platforms, has complicated efforts to combat trafficking in persons (TIP). The "ASEAN Leaders' Declaration on Combating Trafficking in Persons Caused by the Abuse of Technology" (2023) marks a significant step in addressing this issue.[89] Harmonising definitions of IHM and standardising data collection processes are crucial for understanding migration patterns. Regional data-sharing platforms and Information Fusion Centres (IFCs) like the IFC-IOR (Indian Ocean Region) enhance maritime domain awareness and coordination.[90] The Quad-led IPMDA (Indo-Pacific Maritime Domain Awareness)[91] initiative should be utilised to enhance the gathering, collation, and utilisation of data on undocumented migration. Coordinated patrols and search and rescue (SAR) mechanisms, along with trans-regional agreements like the ASEAN-Australia Counter-Trafficking (ASEAN-ACT) partnership, too, are vital for disrupting smuggling networks and improving maritime security.[92] Enhancing vessel-tracking systems and addressing gaps in national legal frameworks through regional mechanisms such as ASEAN's "Mutual Legal Assistance Agreements" (MLATs) are essential for supporting cross-border investigations.[93] A cohesive, technology-driven, and regionally coordinated approach is crucial for managing and mitigating the impacts of IHM effectively.

Capacity Building, Capability Enhancement, and Resource Sharing. Effective management requires capacity building, capability enhancement, and resource sharing. Countries with expertise can share best practices and provide training to bridge gaps in manpower and infrastructure. Functional approaches to resource-sharing can improve regional capabilities in border management, search and rescue operations, and victim protection. However, planned relocation and rehabilitation often face challenges in a trans-regional context, due to differing national priorities and capacities. Figure 6 depicts a variety socio-political, socio-legal, and socio-economic facets of IHM. The 'interconnectedness' of various elements visually underlines the intricacy of the problem at hand. More effective steps are needed to enhance coordination, while collaboration is necessary to overcome these limitations and ensure a cohesive regional response to IHM.

Figure 6. Illustrates various facets of IHM in the Eastern Indian Ocean


International Conventions
Regional Agreements
Immigration Policies
Legal Frameworks
Security-led Control Measures
Sea routes
Land routes
Response Mechanisms
Humanitarian Assistance
Migration Routes
IHM in the Eastern Indian Ocean (EIO)
Social Impacts
Causes of Irregular Migration
Socio-economic Factors
Security Implications of IHM
Political Impacts
Economic Impacts
Legal Impacts
Climate Change/Natural Disasters
Conflict and Persecution

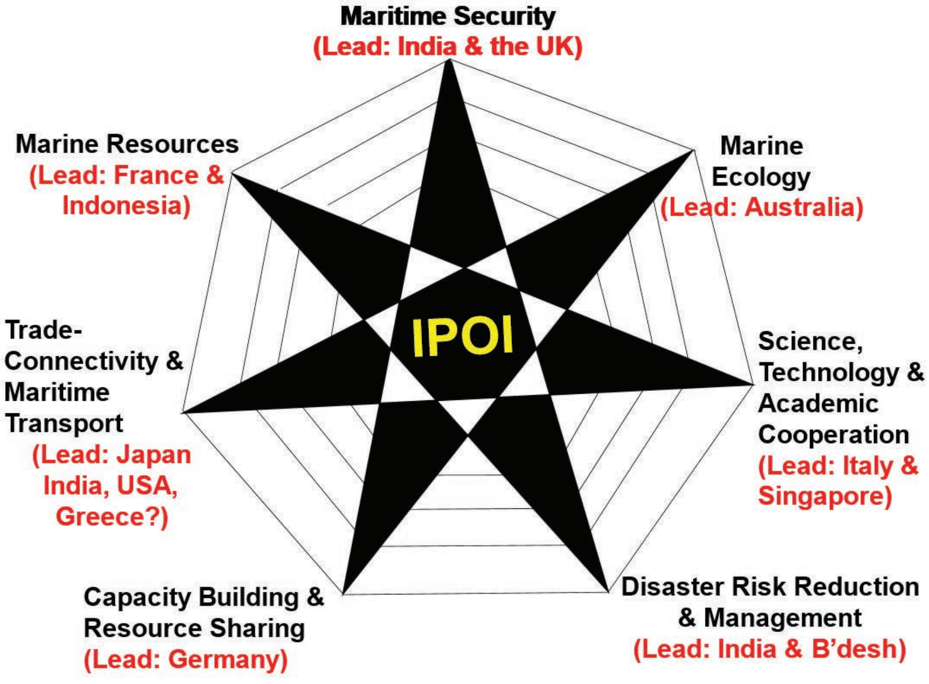
Source: Author

India's Role

As a key naval power in the Indian Ocean, India relies upon the region for commercial shipping, energy importation, trade, tourism, and fishing. Under the Indian Navy, India prioritises the entire Indian Ocean, from the eastern coast of Africa to the Andaman Sea, as its area of primary focus. India's approach to maritime security is exemplified by initiatives such as multi-agency manoeuvres like Operation AJHE-CHAKRAVAT, which is one of the joint manoeuvres undertaken to address HADR (Humanitarian Assistance and Disaster Relief (HADR) in the region.[94]

At the regional level, India's potential is exemplified by policies such as SAGAR (Security and Growth for All in the Region), for which first-order-specificity is provided by the Indo-Pacific Oceans Initiative (IPOI). As shown in Figure 7,[95] the IPOI, with its seven thrust areas or 'spokes,' promotes a 'rules-based order'

Figure 7. The Indo-Pacific Oceans Initiative and its seven deeply interconnected thrust areas.


Maritime Security
(Lead: India & the UK)
Marine Resources
(Lead: France & Indonesia)
Marine Ecology
(Lead: Australia)
IPOI
Trade-Connectivity & Maritime Transport
(Lead: Japan India, USA, Greece?)
Science, Technology & Academic Cooperation
(Lead: Italy & Singapore)
Capacity Building & Resource Sharing
(Lead: Germany)
Disaster Risk Reduction & Management
(Lead: India & B'desh)

Source: Lecture Series, 'Geopolitics,' National Maritime Foundation in the Indo-Pacific; India and the UK collaboratively lead the Maritime Security thrust area. Additionally, India leads the initiative in Disaster Risk Reduction and Management. In both these areas, more focus can be given to devising practical solutions for IHM.

India can utilise its influence at both bilateral and multilateral levels. More effective steps like the MoU between Myanmar and India (to enhance relief efforts for those affected by violence in Rakhine)[96] and/or between the Indian Coast Guard and the Bangladeshi Coast Guard, can be taken.[97] Other bilateral measures — such as the Coordinated Patrols (CORPAT) between India and Indonesia — can be leveraged as well.[98] The imperative of regional cooperation is building bridges, not walls. India has the potential to be that bridge. The limitations of existing frameworks underscore the critical need for enhanced regional cooperation on IHM in the EIO. By fostering partnerships and leading regional efforts, India can bridge gaps, and enhance regional responses to irregular migration.

Conclusion: Need for a Collaborative Approach

IHM in the EIO presents a multifaceted challenge that demands urgent, and decisive action. To effectively address this issue, it is not enough to merely strengthen existing frameworks or adopt a piecemeal approach. Instead, a concerted, regional effort is imperative — one that integrates human rights considerations, tackles political instability, and addresses the adverse effects of climate change. The complexity of IHM in the EIO, albeit perhaps less immediate than conflict-driven migration in the Western Indian Ocean (WIO), is nonetheless significant. Migration through the Bay of Bengal and the Andaman Sea, exacerbated by environmental disasters and political upheaval, underscores the urgency of a comprehensive strategy. The strategy must be more than a series of reactive measures; it requires proactive and collaborative engagement among regional stakeholders. A collective regional approach must prioritise human rights, ensuring the dignity and safety of those fleeing violence and persecution. It should address the root causes of migration rather than merely responding to the symptoms. This requires developing mechanisms for information sharing, coordinating responses, mutual enhancement of capabilities and building capacity to handle the complexities of IHM effectively. India, as a regional leader, has a crucial role to play in spearheading these efforts. By leveraging its influence and resources, India can drive a regional strategy that not only enhances security but also fosters stability and resilience. Through a unified approach that embraces collaboration and comprehensive planning, the Indian Ocean region can secure a safer and more sustainable future for migrants and the entire region. This should encompass strengthened regional collaboration, including enhanced platforms for sharing information and building capacity amongst member states. Prioritising humanitarian assistance, particularly search and rescue operations, is essential. Aligning national laws and policies to combat human trafficking and smuggling at the regional level is vital. Moreover, integrating climate change adaptation measures into migration policies is necessary. Finally, addressing IHM in the Indian Ocean requires more than just strengthening rhetoric; it demands a collective, regional effort that integrates human rights, political stability, and climate resilience. Only through an inclusive approach, we can hope to navigate the complex landscape of irregular migration and ensure a secure and humane future for all.

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About the Author

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ENDNOTES

1 Captain Ranendra Sawan, "Map Familiarisation." *Lecture Series,* National Maritime Foundation. 26-27 February, 2024 *Marking (as depicted by the red line) is done by the author on the source image to depict the Eastern Indian Ocean as relevant to this research article*

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14 *An overcrowded fishing trawler, named Adriana overturned on the morning of June 14, 2023, near Greece. It resulted in the deaths of over 600 individuals. The vessel had set off from Libya five days earlier, carrying approximately 750 migrants and asylum seekers, including children, primarily from Syria, Pakistan, and Egypt. Only 104 people survived, and 82 bodies were recovered*

See Also: Nicholas Niarcos, "*Why Hundreds Drowned Off the Coast of Greece?*," The New Yorker, June 26, 2023, https://www.newyorker.com/news/daily-comment/why-hundreds-drowned-off-the-coast-of-greece

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16 Mullaly,[13] "*Trafficking in Persons,*" 4

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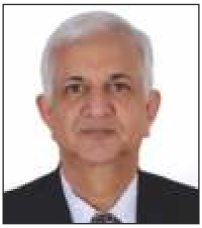

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