

# **Risks of Maritime Entanglement between India and Pakistan in the Indian Ocean Region: A Need for Maritime Confidence Building Measures**

Rizwana Abbasi \* and Maryyum Masood\*\*

## **Abstract**

*The Indian Ocean Region (IOR) has emerged as a central point of strategic competition between India and Pakistan in the backdrop of evolving geopolitical dynamics. This study investigates the unique maritime challenges posed by both states' modernising naval military capabilities, with India asserting its control over Sea Lines of Communication (SLOCs) and securing vital trade routes and Pakistan seeking to protect its core strategic interests in the IOR. Although both states have historically engaged in various Confidence-Building Measures (CBMs), the maritime domain remains largely unaddressed in their bilateral security frameworks. This paper aims to identify the specific triggers of potential maritime entanglement and Pakistan's security dilemma that may arise from India's expanding naval capabilities. Against this backdrop, the study proposes four maritime CBMs that may likely address emerging security challenges in contested areas of the IOR.*

**Keywords:** Indian Ocean Region (IOR), Sea-based Deterrence, India-Pakistan Entanglement, SLOCs, Maritime CBMs.

## **Introduction**

The rapid economic growth of the Asia-Pacific region has considerably increased the geopolitical significance of the Indian Ocean Region (IOR),

---

\* The author is Associate Professor of Security Studies at the National University of Modern Languages, Islamabad, a Non-Resident Fellow of the Center for International Strategic Studies (CISS), Islamabad, and a visiting fellow at the Central European University of Austria. Email: rabbasi11@yahoo.com

\*\* The author is Research Officer at Center for International Strategic Studies (CISS) CISS, Islamabad. Email: maryyum@ciss.org.pk

placing India and Pakistan at a crossroads in maritime security. The IOR spans the Indian Ocean and its adjoining seas, connecting critical maritime routes from the Arabian Sea and the Bay of Bengal to the Pacific via the Malacca Strait, making it a vital hub for global trade and security. This expanded maritime common spaces the shores of South and East Africa, South and Southeast Asia, and the Middle East which overall constitute the IOR.<sup>1</sup> This substantial maritime zone borders the shorelines of South and East Africa, South and Southeast Asia, and the Middle East. This zone includes six sovereign island states — Sri Lanka, Maldives, Seychelles, Mauritius, Madagascar, and Comoros — and encompasses several territories belonging to France, Britain, and Australia scattered across the southern and eastern Indian Ocean.<sup>2</sup> In present times, the power projection of regional and extra-regional powers such as the United States (U.S.), China and India is more pronounced in the IOR. Asia's economic rise, China's growing wealth and power and its maritime disputes, especially in the South and East China Seas, and the U.S.' influential presence and mobility in the Asian waters have upgraded the geopolitical significance of the IOR, thereby providing India with an opportunity of force modernisation in the naval domain. India, while being a part of the Western-led alliance system, has strengthened its strategic partnership with the U.S.<sup>3</sup> in the broader IOR and manoeuvres more confidently. These developments are undermining Pakistan's security interests in the Indian Ocean.

India uses China's threat in the blue seas as an excuse and bargaining chip to modernise its sea-based deterrence. New Delhi's force modernisation in turn becomes a driving factor for Pakistan to safeguard its trade routes and core national security interests in the maritime domain. India's strengthened alliances, particularly with the U.S., have allowed it to assert control over SLOCs, secure energy transportation routes and protect access to critical resources. This strategic posture not only serves as a counterbalance to China's expanding presence but also directly

---

<sup>1</sup> Isaac B. Kardon, "Geostrategic Competition for Military Basing in the Indian Ocean Region," *Brookings Policy Brief*, February 01, 2023, [https://www.brookings.edu/wp-content/uploads/2023/02/FP\\_20230207\\_indian\\_ocean\\_basing\\_kardon.pdf](https://www.brookings.edu/wp-content/uploads/2023/02/FP_20230207_indian_ocean_basing_kardon.pdf)

<sup>2</sup> Baruah, Nitya Labh, and Jessica Greely, "Mapping the Indian Ocean Region." *Carnegie Endowment for International Peace*, June 15, 2023, <https://carnegieendowment.org/2023/06/15/mapping-indian-ocean-region-pub-89971>.

<sup>3</sup> Manjari Chatterjee Miller and Clare Harris, "India's Efforts to Strengthen Indian Ocean Security," *Council on Foreign Relations*, July 18, 2023, <https://www.cfr.org/blog/indias-efforts-strengthen-indian-ocean-security>

impacts Pakistan's mobility in the maritime domain thereby creating a maritime security dilemma for Pakistan. A security dilemma refers to a situation in which one state's actions to increase its security are perceived as increased insecurity by the other state, compelling the other state to react the same way.<sup>4</sup>

Given the increased asymmetry between Indian and Pakistani navies, Pakistan seeks to create balance by reinforcing its conventional deterrence at sea. India's navy, with two operational aircraft carriers, nuclear-powered submarines, and advanced surveillance systems,<sup>5</sup> significantly outpaces Pakistan's relatively smaller, conventionally equipped navy, which includes a limited fleet of submarines and surface ships. This disparity amplifies Pakistan's security concerns and prompts it to pursue enhanced maritime deterrence measures, such as sea-launched cruise missiles (SLCM), to maintain a credible defensive posture. As both countries engage in a naval build-up (discussed in the subsequent sections) to secure their broader commercial and security interests within the IOR, the lack of established maritime Confidence Building Measures (CBMs) increases the likelihood of misinterpretation and potential confrontations, especially in shared or contested waters.

Unlike previous engagements focused largely on land and aerial domains, maritime concerns — particularly the security of SLOCs, advancements in nuclear and autonomous naval capabilities, and cyber-security — are increasingly central to both states' strategic calculations. Maritime entanglement which refers to unintended or accidental confrontations between naval forces, is particularly probable in the IOR, since interests of both the states intersect. The need for CBMs that specifically address the challenges of modern naval operations and emerging technologies is evident.

To address these issues, this study examines several critical questions: Why are India and Pakistan increasingly prone to confrontation in the maritime

---

<sup>4</sup> Kenneth N. Waltz, "Structural Realism after the Cold War," *International Security* 25, no. 1 (2000): 5-41. <https://doi.org/10.1162/016228800560372>

<sup>5</sup> Shishir Upadhyaya, "Indian Navy Carrier Operations in the Arabian Sea — A Show of Strength and Expertise," Trends Research and Advisory, August 6, 2023, <https://trendsresearch.org/insight/indian-navy-carrier-operations-in-the-arabian-sea-a-show-of-strength-and-expertise/?srsltid=AfmBOopRUBapbMzmW4LPDLM2XN4AFngWvIKcDtNT8mPtfAIZ7D4RVvmQ>

domain? What are the contributing factors that may lead to the emergence of a security dilemma, risks, and accidents at sea? Why is there an urgent need for bilateral maritime CBMs and how can these be institutionalised to enhance regional stability and cooperation? In response to these questions, the study proposes four feasible CBMs to reduce the probability of maritime accidents and unintended escalation. These include mechanisms for mutual notification and data sharing on cyber-security threats in maritime infrastructure, agreements on the non-deployment of Autonomous Underwater Vehicles (AUVs) in sensitive areas, protocols for Ballistic Missile Submarine (SSBN) operational notifications and a jointly developed code of conduct for the Arabian Sea. By establishing these CBMs, India and Pakistan can promote maritime transparency, enhance communication and trust, setting a foundation for long-term stability in the IOR while mitigating the risks posed by technological advancements in naval warfare. The broader geo-political settings and the role of extra-regional powers in the IOR go beyond this paper's scope as it narrowly discusses the case study of India and Pakistan.

## Naval Deterrence between India and Pakistan

India's desire to acquire strategic dominance in the IOR has further exacerbated its competition with China militarily. India considers 'the arc from the Persian Gulf to the Strait of Malacca as its primary sphere of influence while the Red Sea, South China Sea, and Southern Indian Ocean as secondary spheres of influence.<sup>6</sup> A major apprehension for India is the need to obstruct China's growing influence in the IOR. Notably, China heavily relies on the Arabian Sea, the Indian Ocean,<sup>7</sup> and the Indonesian archipelago<sup>8</sup>

---

<sup>6</sup> Harsh V. Pant, and Yogesh Joshi, *The US Pivot and Indian Foreign Policy: Asia's Evolving Balance of Power* (London: Palgrave Macmillan, 2016).

<sup>7</sup> Stephan Reiner, "China on the Arabian Peninsula," in *China's Footprint in Strategic Spaces of the European Union*, eds. Frank and Vogl (Vienna: Landesverteidigungsakademie, 2021), 203-218,

[https://www.bmlv.gv.at/pdf\\_pool/publikationen/book\\_chinas\\_footprint\\_11\\_china\\_on\\_the\\_arabian\\_peninsula.pdf](https://www.bmlv.gv.at/pdf_pool/publikationen/book_chinas_footprint_11_china_on_the_arabian_peninsula.pdf); and Darshana M. Baruah, Nitya Labh, and Jessica Greely, "Mapping the Indian Ocean Region," *Carnegie China*, June 15, 2023, <https://carnegieendowment.org/research/2023/06/mapping-the-indian-ocean-region?center=china&lang=en>.

<sup>8</sup> Qian Zhou, "China-Indonesia Closer Economic Ties: Trade and Investment Opportunities," *China Briefing*, November 11, 2024, <https://www.china-briefing.com/news/china-indonesia-trade-and-investment-profile-opportunities/>.

for its transportation and trade routes. In this context, both the U.S. and India share strategic interests in the broader IOR as the Indian Ocean is shielded under the U.S. Indo-Pacific strategy which means ‘rebalancing’<sup>9</sup> to Asia by reasserting economic, political, and security commitments to counter China’s growing influence in the broader Asian waters.<sup>10</sup> India is acting as an anchor for the U.S. in the region, thereby cultivating strong strategic partnerships with the U.S., Japan, and many other regional countries.<sup>11</sup> Against this backdrop, the U.S. is one of the largest arms suppliers to India and the latter conducts more military exercises with the U.S. than any other country.<sup>12</sup> The U.S. and India share interests in maritime security, freedom of navigation, and overflight in the Asia-Pacific.<sup>13</sup> The section below discusses how India modernises its naval capabilities, which in turn puts pressure on Pakistan’s maritime security and regional balance in the maritime domain.

## **India’s Sea-based Capabilities to Project Power in the Maritime Domain**

India has a robust naval capability and continues modernising its naval deterrence to project power beyond its waters. New Delhi has, successfully, achieved its trial-led survivable nuclear capability by operationalising nuclear-powered submarines. India’s first nuclear-powered SSBN known as *INS Arihant*, quite identical to the Russian-built *Kilo*-class attack submarines, was commissioned in 2016, and accomplished in 2018<sup>14</sup> while becoming the status symbol of India’s survivable triad capability. The second SSBN known as the *INS Arighat*, was launched in 2017 and accomplished in 2024.<sup>15</sup> The

---

<sup>9</sup> Oliver Turner, “China, India, and the US Rebalance to the Asia Pacific: The Geopolitics of Rising Identities,” *Geopolitics*, vol. 21, issue no. 4 (2016).

<sup>10</sup> Phillip C. Saunders, “The Rebalance to Asia: U.S.-China Relations and Regional Security,” *National Defence University, INSS*, August 2013, 15.

<sup>11</sup> Rizwana Abbasi and Zafar Khan, *Nuclear Deterrence in South Asia: New Technologies and Challenge to Sustainable Peace* (Oxford: Routledge 2019).

<sup>12</sup> Abbasi and Khan, *Nuclear Deterrence in South Asia: New Technologies and Challenge to Sustainable Peace*.

<sup>13</sup> Abbasi and Khan, *Nuclear Deterrence in South Asia: New Technologies and Challenge to Sustainable Peace*.

<sup>14</sup> “India Submarine Capabilities,” *Nuclear Threat Initiative*, September 4, 2024, <https://www.nti.org/analysis/articles/india-submarine-capabilities/>.

<sup>15</sup> Dev Patel, “India’s Sea-Based Deterrent: Evaluating the Effectiveness of India’s Submarine Nuclear Deterrent,” *On the Horizon: A Collection of the Papers from the*

assessments suggest that both the *Arihant* and the *Arighat* are capable of carrying four missiles.<sup>16</sup> India is developing additional SSBNs of the same *Arighat* class, tentatively known as S4<sup>17</sup> which were to enter service in 2024 but are delayed due to unknown reasons. The *Arighat class*, S4 was launched in 2021 and seems an upgraded version of the previous SSBNs with double capacity and better accuracy.<sup>18</sup> India is also working on the next generation of SSBNs known as the S5 class seems to bring a better sophistication than the *Arihant class* with an improved capacity to carry 12 or more missiles.<sup>19</sup> So far India has built a Submarine-Launched Ballistic Missile (SLBM), K-15 with a range of 700 kilometers (km) and further developed the K-4 SLBM with an improved range of 3,500 km to engage desired targets in China and Pakistan.<sup>20</sup> It is believed that the K-4 version is an upgraded and accurate version with a ‘near zero circular error probability.’<sup>21</sup> The K-4 SLBM is also believed to carrying more than one warhead but that seems highly unlikely given the missile’s limited capability.<sup>22</sup> India is further building a K-5 class SLBM with a 5,000-km range that ties the design of the land-based Agni-V with increased capacity to engage targets in all of Asia, some parts of Africa, and Europe.<sup>23</sup>

India is also working on acquiring sea-based cruise missiles. India’s first cruise missile known as *Nirbhay*, a long-range subsonic cruise missile having a 1,000-km range and capable of carrying up to 300-kilogram warheads has

---

*Next Generation* (Washington, DC: Stimson Center, 2019), 77-88,  
<https://www.jstor.org/stable/resrep24234>.<sup>10</sup>

<sup>16</sup> “India Submarine Capabilities,” *Nuclear Threat Initiative*, September 4, 2024,  
<https://www.nti.org/analysis/articles/india-submarine-capabilities/>.

<sup>17</sup> “India Submarine Capabilities.”

<sup>18</sup> “India Commissions INS Arighat: Know All about Navy’s 2nd Nuclear-Powered Submarine,” *Times of India*, August 29, 2024,  
<https://timesofindia.indiatimes.com/india/india-commissions-ins-arighat-know-all-about-navys-2nd-nuclear-powered-submarine/articleshow/112900556.cms>

<sup>19</sup> Hans M. Kristensen et al., “Indian Nuclear Forces 2024,” *Bulletin of American Scientists*, vol. 80, no. 05 (2024): 334-337.

<sup>20</sup> “India Submarine Capabilities,” *Nuclear Threat Initiative*.

<sup>21</sup> Hans M. Kristensen et al., “Indian Nuclear Weapons, 2024,” *Bulletin of the Atomic Scientists*, September 5, 2024, <https://thebulletin.org/premium/2024-09/indian-nuclear-weapons-2024/>

<sup>22</sup> “India Missile Overview,” *Nuclear Threat Initiative*, November 4, 2019,  
<https://www.nti.org/analysis/articles/india-missile/>

<sup>23</sup> Hans M. Kristensen et. al., “Indian Nuclear Weapons 2024.”

completed its trials.<sup>24</sup> Nirbhay is dual-capable, with the ability to carry a 450-km conventional or 12-kiloton nuclear payload.<sup>25</sup> A trial of a submarine-launched Nirbhay derivative was conducted in 2023<sup>26</sup> at a range of 402 km. Another Nirbhay supersonic Indigenous Technology Cruise Missile (ITCM) test was conducted with the capability of moving on low-altitude “sea-skimming” flight, using waypoint navigation,<sup>27</sup> Long-Range Land Attack Cruise Missile (LRLACM) is under development and will operate from land, air, and naval domains as an advanced variant of *Nirbhay*.<sup>28</sup> India has additionally, commissioned a highly costly aircraft carrier, known as the *INS Vikrant* in 2022, with the capacity to carry 30 fighter jets and helicopters.<sup>29</sup> The Indian Navy operates another Russian-origin aircraft carrier known as *INS Vikramaditya* (R33).<sup>30</sup> Both the carriers were on display in exercise MILAN 2024 and at a biannual naval conference.<sup>31</sup>

In the 21st century, Indian Navy has made significant investments in naval deterrence. During this span, India has acquired 6 Kalvari-class diesel attack submarines, 4 Arihant-class ballistic missile submarines (two already on patrol as mentioned above), the landing platform dock *INS Jalashwa*, 7 guided-missile destroyers (3 Kolkata-class and 4 Visakhapatnam-class) and

---

<sup>24</sup> Missile Defence Project, “Nirbhay,” *Missile Threat*, Center for Strategic and International Studies, April 23, 2024, <https://missilethreat.csis.org/missile/nirbhay/>

<sup>25</sup> “Nirbhay,” *Missile Threat*.

<sup>26</sup> “India Successfully Conducts Flight Test of Long Range Land Cruise Missile,” *NDTV*, November 12, 2024, <https://www.ndtv.com/india-news/india-successfully-conducts-flight-test-of-long-range-land-cruise-missile-7003698>

<sup>27</sup> “‘Nirbhay’ Cruise Missile Advances Signal India’s Growing Defence Capabilities.” *Indo-Pacific Defence Forum*, May 2024, <https://ipdefenseforum.com/2024/05/nirbhay-cruise-missile-advances-signal-indias-growing-defence-capabilities/>

<sup>28</sup> Mandeep Singh, “Nirbhay Cruise Missile Advances Signal India’s Growing Defence Capabilities,” *Indo-Pacific Defence Forum*, May 29, 2024, <https://ipdefenseforum.com/2024/05/nirbhay-cruise-missile-advances-signal-indias-growing-defence-capabilities/>

<sup>29</sup> Dinakar Peri, “DRDO Carries Maiden Test of Land Attack Long-Range Cruise Missile,” *Hindu*, November 13, 2024, <https://www.thehindu.com/news/national/drdo-carries-maiden-test-of-land-attack-long-range-cruise-missile/article68861163.ece>

<sup>30</sup> Sushil Ramsay, “INS Vikramaditya: The Game Changer,” *SP’s Naval Forces*, Issue No. 06, 2013, <https://www.spsnavalforces.com/story/?id=298>

<sup>31</sup> “Indian Navy Conducts Dual Carrier Operations,” *Naval News*, March 2024, <https://www.navalnews.com/naval-news/2024/03/indian-navy-conducts-dual-carrier-operations/>

14 stealth frigates (7 Talwar-class and 7 Nilgiri-class).<sup>32</sup> India has acquired 18 P-8I long-range maritime patrol aircraft to enhance its anti-submarine warfare competence.<sup>33</sup> New Delhi has fielded air-launched BrahMos at its southern bases for a maritime strike mission. The Indian Navy also commissioned its first squadron of MH-60R anti-submarine warfare helicopters in 2024.<sup>34</sup> India is acquiring 31 Predator high-altitude, long-endurance drones from an American defence company.<sup>35</sup> India has also approved the purchase of MQ-9B high-altitude, long-endurance drones.<sup>36</sup> The 15 of the 31 MQ-9B drones will be positioned in the blue waters which will enhance the Intelligence, Surveillance, and Reconnaissance (ISR) capabilities of its armed forces along its frontier with China and in the IOR.<sup>37</sup> India is inclined to procure High Endurance Unmanned Underwater Vehicles (UUVs) to further enhance its ISR, Anti-Submarine Warfare (ASW), and Mine-Counter Measures (MCM).<sup>38</sup> India is building a close interface between Artificial Intelligence (AI) and military systems thereby acquiring access to AUVs.<sup>39</sup> India is using China's looming threat as a leverage to

---

<sup>32</sup> Arzan Tarapore, "Engaging with Reality in the Indian Ocean," *United States Studies Centre Brief*, September 2024, <https://cdn.sanity.io/files/ooh1fq7e/production/df46a1c745dc7d23d3ca6015886d33a6205a6d9.pdf/Engaging-with-reality-in-the-Indian-Ocean.pdf>

<sup>33</sup> Neeraj Mahajan, "P-8I Poseidon – Indian Navy's Versatile Long Range Maritime Patrol (LRMP) Aircraft," *Raksha Anirveda*, June 24, 2024, <https://raksha-anirveda.com/p-8i-poseidon-indian-navys-versatile-long-range-maritime-patrol-lrmp-aircraft/>

<sup>34</sup> Kamlesh K. Agnihotri, "Preparedness Risks Mitigation – Priorities for the Indian Maritime Forces," *Synergy* (August 2021): 103-114, <https://cenjows.in/wp-content/uploads/2022/02/8-Capt-IN-KK-Agnihotri-Retd.pdf>.

<sup>35</sup> "India Signs US\$4 Billion Deal for 31 Predator Drones from US-Based General Atomics," *Business Standard*, October 15, 2024, [https://www.business-standard.com/external-affairs-defence-security/news/india-signs-4-bn-deal-for-31-predator-drones-from-us-based-general-atomics-124101501107\\_1.html](https://www.business-standard.com/external-affairs-defence-security/news/india-signs-4-bn-deal-for-31-predator-drones-from-us-based-general-atomics-124101501107_1.html)

<sup>36</sup> "India Signs US\$4 Billion Deal for 31 Predator Drones from US-Based General Atomics."

<sup>37</sup> "India Set to Finalise \$3.9 Billion Deal to Buy 31 MQ-9B Predator Drones from US," *Express Tribune*, September 17, 2024, <https://tribune.com.pk/story/2496805/india-set-to-finalise-39-billion-deal-to-buy-31-mq-9b-predator-drones-from-us>

<sup>38</sup> Rohan Ramesh, "Mean Machines," *Force*, <https://forceindia.net/feature-report/mean-machines/>.

<sup>39</sup> Biyon Sony Joseph, "Taking Stock of India's Evolving Unmanned Undersea Capabilities," *The Diplomat*, August 7, 2023, <https://thediplomat.com/2023/08/taking-stock-of-indias-evolving-unmanned-undersea-capabilities/>.



procure 26 Rafale-M fighters to serve as the new carrier Vikrant's air wing, and 3 additional Kalvari-class submarines.<sup>40</sup>

Since 2023, Indian Navy has deployed more than 10 ships under the Operation Sankalp for anti-piracy operations and to safeguard SLOCs in the Gulf of Aden and the Arabian Sea.<sup>41</sup> India has also embraced maritime security cooperation policies through multilateral forums such as the Indian Ocean Rim Association and the Quadrilateral Security Dialogue (Quad).<sup>42</sup> India is contributing to regular and multifaceted training exercises with international partners, conducts peacetime evacuation and humanitarian operations, maintains round-the-clock deployments to project presence, and ensures security across the IOR. It routinely trains other smaller and littoral states i.e., by assisting Mozambique, Seychelles, and Tanzania to navigate their Exclusive Economic Zones (EEZ); offers coastal surveillance radars to Mauritius, the Maldives, Seychelles, and Sri Lanka; or presenting patrol boats to the Maldives, Seychelles, and Sri Lanka. India releases its 'Maritime India Vision 2030,'<sup>43</sup> that unveils India's enhanced regional maritime security and improved Search and Rescue (SAR) capability to increase its maritime influence.

India does not have a substantial existential threat from China given the former's growing trade volume with the latter,<sup>44</sup> although both have unresolved border issue that signals towards a possibility for future conflict between the two states. On the other hand, the India's unchecked qualitative and quantitative defence modernisation is posing a serious threat to Pakistan's maritime strategic interests. Resultantly, Islamabad is compelled to reinforce its existing modest capability in the maritime domain.

---

<sup>40</sup> "Engaging with Reality in the Indian Ocean." *United States Studies Centre*, <https://www.ussc.edu.au/engaging-with-reality-in-the-indian-ocean>.

<sup>41</sup> Press Information Bureau, "Indian Navy's Ongoing Maritime Security Operations ('Op Sankalp')" March 23, 2024, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2016201>.

<sup>42</sup> "India's Quad Strategy." *E-International Relations*, October 22, 2024, <https://www.e-ir.info/2024/10/22/indias-quad-strategy/>.

<sup>43</sup> Sarabjeet S. Parmar, "India's Maritime Security Strategy in the Indian Ocean Region," *National Security and Strategy*, September 23, 2024, <https://www.natstrat.org/articledetail/publications/india-s-maritime-security-strategy-in-the-indian-ocean-region-159.html>.

<sup>44</sup> "China Exports to India," *Trading Economics*, <https://tradingeconomics.com/china/exports/india>.

## Pakistan's Sea-based Capability

Pakistan's sea-based capability is mainly based on conventional platforms with heavy reliance on cruise missiles. The Babur (Hatf-7), with a 700km range is a subsonic, dual-capable cruise missile with 'stealth capabilities and pinpoint accuracy and a low-altitude, terrain-hugging missile with high manoeuvrability.'<sup>45</sup> The initial Babur-1 Ground-Launched Cruise Missile (GLCM) is a road-mobile launcher that appears to be a unique five-axle TEL with a three-tube box launcher that is different from the quadruple box launcher used for static display.<sup>46</sup> Pakistan seems refining the capacity of original Babur-1 missiles in the form of Babur-1A with improved versions both for land and sea-based operations. Babur-2 or Babur-1B GLCM are also reportedly under development.<sup>47</sup> Reportedly, the Babur-2/Babur-1B has an extended range of 700 km, and 'is capable of carrying various types of warheads.'<sup>48</sup> Pakistan announced that Babur-2/Babur-1B will offer it with an anti-access and area-denial (A2/AD) capability for guarding Pakistan's littoral waters possessing key features i.e., range effectively covering Pakistan's littoral waters presumably from a moving vehicle by carry heavier payload.<sup>49</sup>

Pakistan is also developing a sea-launched Babur-3 — a sea-based variant of the Babur-2 GLCM to have a range of 450 km.<sup>50</sup> This platform was tested in 2017, from 'an underwater, mobile platform'<sup>51</sup> in the Indian

---

<sup>45</sup> Summar Iqbal Babar, "India's Military Modernisation: Implications for Pakistan," *Pakistan Journal of History and Culture* 41, no. 1 (2020): 171-192, [https://www.researchgate.net/publication/367206668\\_India's\\_Military\\_Modernization\\_Implications\\_for\\_Pakistan](https://www.researchgate.net/publication/367206668_India's_Military_Modernization_Implications_for_Pakistan).

<sup>46</sup> Center for Strategic and International Studies, "Pakistan," Missile Threat: CSIS Missile Defence Project, <https://missilethreat.csis.org/country/pakistan/>.

<sup>47</sup> Hans M. Kristensen, Matt Korda, and Eliana Johns, "Pakistan Nuclear Weapons, 2023," *Bulletin of the Atomic Scientists*, September 11, 2023, <https://thebulletin.org/premium/2023-09/pakistan-nuclear-weapons-2023/>.

<sup>48</sup> "Pakistan Advances Sea Leg of Triad," *Arms Control Today*, June 2018, <https://www.armscontrol.org/act/2018-06/news-briefs/pakistan-advances-sea-leg-triad>.

<sup>49</sup> "Overview: Babur-1B, Zarb, and Harba Cruise Missiles," *Quwa Defence News & Analysis Group*, <https://quwa.org/daily-news/overview-babur-1b-zarb-and-harba-cruise-missiles/>

<sup>50</sup> "Pakistan Test-Fires Nuclear-Capable Submarine-Launched Cruise Missile," *Dawn*, January 10, 2017, <https://www.dawn.com/news/1307531>

<sup>51</sup> "Pakistan Test-Fires Nuclear-Capable Submarine-Launched Cruise Missile."

Ocean and later in 2018, from ‘an underwater dynamic platform.’<sup>52</sup> Babur-3 seems significant as it is reported to be capable of delivering various types of payloads thus Pakistan with a survivable triad capability and described it as ‘a step toward reinforcing [the] policy of credible minimum deterrence.’<sup>53</sup> The Babur-3 will most likely be deployed on the Pakistan Navy’s three Agosta-90B diesel-electric submarines<sup>54</sup> as Pakistan is lagging in SSBN.

Pakistan does not possess any SSBNs or Nuclear-Powered attack submarines. It currently possesses, 5 Diesel-electric attack submarines (SSKs), 3 Mini Submarines (SSMs), and 3 Air-independent propulsion (AIP) submarines.<sup>55</sup> In 2015, the Pakistani government approved the purchase of eight AIP submarines from China.<sup>56</sup> The first submarine under construction in China is expected to be delivered by the end of 2023 and the remaining four assembled in Karachi are expected to be completed by 2028.<sup>57</sup> This deal will expand Pakistan Navy’s sub-surface fleet to 11 AIP-equipped boats, joining the PN’s three upgraded Khalid-class (i.e., Agosta 90B) submarines. Likely, these new Hangor-class submarines could eventually be assigned a nuclear role with the Babur-3 submarine-launched cruise missile.<sup>58</sup> Presumably, the Babur-3 will offer Pakistan a triad nuclear capability from ground, air, and sea domains. Pakistan indicated that ‘Babur-3 neutralises India’s nuclear triad capability.’<sup>59</sup>

---

<sup>52</sup> “Pakistan Test-Fires Nuclear-Capable.”

<sup>53</sup> Malik Qasim Mustafa, “Pakistan’s Second-Strike Capability: A Step Towards Deterrence Stability in South Asia,” Issue Brief (Islamabad: Institute of Strategic Studies Islamabad, January 12, 2017), [https://issi.org.pk/wp-content/uploads/2017/01/Final-Issue\\_Qasim\\_dated\\_12-1-2017.pdf](https://issi.org.pk/wp-content/uploads/2017/01/Final-Issue_Qasim_dated_12-1-2017.pdf)

<sup>54</sup> Nuclear Threat Initiative, “Pakistan Submarine Capabilities,” Nuclear Threat Initiative, September 4, 2024, <https://www.nti.org/analysis/articles/pakistan-submarine-capabilities/>

<sup>55</sup> “Pakistan Submarine Capabilities,” *Nuclear Threat Initiative*, September 4, 2024, <https://www.nti.org/analysis/articles/pakistan-submarine-capabilities/>.

<sup>56</sup> “Pakistan Submarine Capabilities,” *Nuclear Threat Initiative*.

<sup>57</sup> Hans M. Kristensen and Matt Korda. “Pakistani Nuclear Forces, 2023,” *Bulletin of the Atomic Scientists* 79, no. 4 (2023): 227-237.

<sup>58</sup> Hans M and Korda, “Pakistani Nuclear Forces, 2023.”

<sup>59</sup> “Pakistan Attains ‘Second Strike Capability’ with Test-Fire of Submarine-Launched Cruise Missile,” *Dawn*, January 9, 2017, <https://www.dawn.com/news/1307384>

Pakistan is also developing a variant of the Babur cruise missile, known as the Harbah, that can be carried by surface vessels. Pakistan described Harbah as an ‘all-weather’ subsonic cruise missile with anti-ship and land-attack capabilities and a range of approximately 290 km, deployed on Azmat-class surface ships.<sup>60</sup>

Considering its security concerns, Pakistan does not aim at achieving parity with India but rather focuses on creating a rational strategic balance in the maritime domain. The changing regional environment and growing stress on strategic stability will compel Pakistan to further reinforce its national security thereby plugging the gaps in the bilateral deterrence spectrum.

### **Probability of India-Pakistan Maritime Entanglement in the IOR**

Maritime entanglement refers to the complex and potentially dangerous situations where naval forces from different states often adversaries come into proximity or engage in activities that could lead to unintended confrontations, miscalculations or escalations. The presence of a nuclear-powered ballistic missile submarine near another state’s naval assets might be perceived as a prelude to an aggressive action or a direct threat, especially during times of heightened geopolitical tensions. A stark example of this occurred during the 2019 Pulwama-Balakot crisis between India and Pakistan.<sup>61</sup> In the milieu of the Pulwama crisis, the Indian Navy declared that its carrier battle group, including the Indian nuclear-powered ballistic missile submarine, *the INS Arihant*, was on a deterrent patrol, which was ‘swiftly shifted from exercise to operational disposition’ amid the crisis.<sup>62</sup> Soon after the Pulwama-Balakot crisis, Pakistan also reportedly detected an Indian submarine, suspected of being armed with nuclear capabilities,

---

<sup>60</sup> Joanne Stocker, “Pakistan Navy Successfully Test-Fires Harbah Cruise Missile,” *Defense Post*, January 3, 2018, <https://thedefensepost.com/2018/01/03/pakistan-navy-harbah-missile-test/>

<sup>61</sup> Saima Aman Sial, ed., *CISS Special Issue on Pulwama-Balakot Crisis & Operation Swift Retort* (Islamabad: Center for International Strategic Studies, 2020), 26, <https://ciss.org.pk/PDFs/CISS-Special-Issue-Pulwama-Balakot-Crisis.pdf>.

<sup>62</sup> Udai Rao, “Post-Balakot, Navy on the Prowl,” *Deccan Herald*, March 12, 2019, <https://www.deccanherald.com/opinion/post-balakot-navy-on-the-prowl-722932.html>

within its maritime zone.<sup>63</sup> The lack of transparency surrounding nuclear-powered ballistic missile submarine movements makes it difficult for states to distinguish between routine operations and potential threats, increasing the risk of miscalculations that could escalate into conflict. The aforementioned issue is particularly noteworthy in the IOR where numerous states assert their interests in strategically significant areas, such as disputed waters encompassing the East and South China Sea, as well as crucial chokepoints for trade routes, namely the Strait of Hormuz and the Strait of Malacca. Thus, misinterpretation of naval manoeuvres, especially involving nuclear-armed submarines, heightens the risk of maritime entanglement between India and Pakistan which will create challenges for all the players involved in the IOR and disrupt all the sea lines of communications and transportation.

In addition, India's acquisition of AUVs, advanced unmanned underwater systems used for a range of military and surveillance purposes, introduces new complexities and risks for maritime security in the Indian Ocean. AUVs, capable of stealthy and autonomous operation without direct human intervention, are ideal for tasks such as surveillance, reconnaissance, and anti-submarine warfare. While this autonomy makes AUVs valuable for enhancing naval reach and situational awareness, it also makes them less predictable, raising the potential for unintended maritime entanglements with other countries' forces, particularly Pakistan.

One key risk with AUVs is that they can operate undetected, often in restricted areas or near sensitive installations. If an Indian AUV were to patrol near Pakistan's territorial waters, it might be seen as an act of surveillance or intelligence gathering. Since AUVs are difficult to detect and track, their mere presence — especially if discovered by Pakistan — could be perceived as a provocative action, even if they are operating independently and without offensive intent. The stealth and autonomy of AUVs mean that they may unintentionally cross into disputed waters, such as the areas around Sir Creek, without immediate human intervention to adjust course, increasing the likelihood of accidental confrontations.

---

<sup>63</sup> Ali Osman, "Navy Thwarts Attempt by Indian Submarine to Enter Pakistani Waters," *Express Tribune*, March 5, 2019, <https://tribune.com.pk/story/1923388/navy-thwarts-attempt-indian-submarine-enter-pakistani-waters>

Furthermore, unlike crewed submarines, AUVs lack onboard personnel who can respond in real-time to unexpected encounters, leaving little room for communication or de-escalation if they are intercepted by Pakistani forces. The absence of direct human control can make AUVs more unpredictable or even aggressive to nearby vessels, potentially escalating tensions in already sensitive areas. If a Pakistani vessel were to intercept an Indian AUV near its waters, Pakistan might respond by deploying additional naval assets or placing its forces on higher alert. This could trigger a self-reinforcing security dilemma, with both nations interpreting each other's actions as increasingly aggressive and hostile.

The deployment of AUVs also complicates the attribution of actions in the maritime domain. If an AUV were to damage infrastructure or collect sensitive data in Pakistan's waters, Pakistan might find it challenging to determine whether the incident was intentional or simply an operational oversight. This lack of clarity could increase suspicions and promote a more confrontational posture from both sides. To mitigate these risks, establishing no-deployment zones for AUVs near sensitive boundaries or contested waters would help prevent unintended encounters.

Another area of concern is cyber-security threats to maritime infrastructure which have significant potential to escalate tensions between India and Pakistan in the Indian Ocean, especially as both countries are increasingly relying on digital systems for naval operations, port management and communication networks. A cyber-attack disrupting critical systems, such as radar, ship communications, or navigation, could be misinterpreted by one side as a hostile act, particularly if the source or intent of the attack is unclear. The ambiguity inherent in cyber threats makes it difficult to trace the origin, leading India or Pakistan to suspect one another of cyber aggression even if the attack was carried out by a non-state actor or was the result of a technical failure. For instance, a malware attack that disrupts naval base communications or hinders port operations could prompt either country to mobilise naval assets in a defensive posture. This mobilisation could easily be misread by the other side as an offensive manoeuvre, increasing the likelihood of accidental encounters in contested waters like the Arabian Sea. The involvement of non-state actors or politically motivated hackers can further complicate the situation, as they may exploit these vulnerabilities to provoke conflict or disrupt regional stability.

Additionally, a cyber-attack that disrupts surveillance or intelligence-gathering systems could create ‘blind spots’ in monitoring capabilities, leading to misinterpretations of naval activities. For example, if one country’s radar is disabled due to a cyber-incident, it might lead to incorrect assumptions about their adversary’s movements, causing them to adopt a more aggressive or defensive posture. This escalation risk is further heightened if the disruption affects command and control communications, as either side might interpret a communication blackout as an attempt to interfere with their operational readiness. In such a scenario, the affected country might deploy additional naval assets to counter what it perceives as a cyber-enabled threat, leading to direct encounters that were never intended.

Against the above backdrop, the establishment of Maritime CBMs between India and Pakistan and risk reduction strategies in the IOR are imperative to prevent inadvertent confrontation and escalation of likely conflicts.

### **Conceptual Framework of a CBM**

A CBM in international relations refers to an action that demonstrates goodwill or a willingness to share information with an adversary. These measures aim to reduce misunderstandings, tensions, fear, anxiety, and conflict between parties by promoting trust and preventing conflict escalation.<sup>64</sup> Historically associated with wars, national security, and peacekeeping, CBMs have since become integral to political and diplomatic engagements as tools of preventive diplomacy. The Henry L. Stimson Center in Washington, D.C., has identified four key types of CBMs: communication, constraint, transparency, and verification.<sup>65</sup> Communication measures aim to prevent crises by reducing tension and utilising tools such as presidential or military hotlines, regional communication centers, and consultations. Constraint measures focus on controlling the levels and types of power, often achieved through reducing military deployments in sensitive areas like border regions and providing advance notice of military activities. Transparency measures promote openness between parties by requiring the exchange of

---

<sup>64</sup> Sophie Harman, “Confidence-Building Measure,” *Encyclopaedia Britannica*, <https://www.britannica.com/topic/confidence-building-measure>.

<sup>65</sup> Harman, “Confidence-Building Measure.”

information and pre-notification of actions, building mutual trust and understanding. Verification measures address mistrust and vulnerability, using tools like aerial and ground-based sensors in military contexts, while in diplomacy, verification is achieved through written agreements, independent monitoring, inspections, and treaties.<sup>66</sup>

## **Framework for Application of the CBMs between India and Pakistan**

Given the current political impasse between India and Pakistan, the implementation of a maritime CBM would require a cautious and incremental approach. The process could begin with backchannel diplomacy or discreet discussions facilitated by neutral intermediaries — third-country or international organisations. These early talks would frame the CBMs as risk-reduction measures aimed at preventing accidental conflict, rather than a political compromise which could make it more acceptable to both sides. Instead of establishing entirely new agreements, the CBMs could be built on existing bilateral frameworks such as the hotline between the Directors-General of Military Operations (DGMOs), adapting these structures to include data sharing on cyber security threats in maritime infrastructure, establishing No-Deployment Zones for AUVs, SSBN-related notifications, and India-Pakistan Code of Conduct (CoC) for the Arabian sea. A neutral third party, such as the International Maritime Organization (IMO) or the United Nations (UN), could help oversee the process, providing a layer of trust and ensuring both sides adhere to the protocols without direct politically sensitive interactions.

## **Maritime CBMs between India and Pakistan**

Despite a legacy of mistrust, India and Pakistan have established various CBMs over the years.<sup>67</sup> However, an assessment of these

---

<sup>66</sup> Harman, “Confidence-Building Measure.”

<sup>67</sup> Aman Nair and Arindrajit Basu, “Confidence-Building Measures and Norm Diffusion in South Asia,” ORF Issue Brief No. 471 (Observer Research Foundation, July 2021), <https://www.orfonline.org/research/confidence-building-measures-and-norm-diffusion-in-south-asia>



initiatives reveals a significant gap or a lack of focus on naval or maritime CBMs. Maritime concerns, although discussed in broader bilateral talks, have rarely translated into focused efforts to prevent military confrontations at sea. In the current context, both states are at a critical crossroads, where the pursuit of CBMs holds the potential to promote greater stability and security. The maritime sphere, in particular, offers a productive platform for negotiation, addressing fewer sensitive issues and involving institutions that have a stronger probability of achieving early and effective results.

In addition, maritime CBMs can play a critical role in avoiding confrontation at sea by promoting transparency, communication, and mutual understanding between the naval forces of both countries. Over time, these CBMs can build a foundation for addressing more complex security concerns, gradually improving maritime stability and reducing the overall political tensions between the two countries. It is essential to review and expand the existing maritime CBMs to incorporate strategies for addressing new and emerging threats, particularly those arising from the use of disruptive technologies in the maritime domain.

Following is the list of existing CBMs between India and Pakistan:

- i. *Agreement on the Prohibition of Attack Against Nuclear Installations (1988)*:<sup>68</sup> This agreement promotes restraint by prohibiting attacks on nuclear installations but has no enforcement mechanisms for maritime nuclear assets, leaving strategic areas like SSBN operations unaddressed.
- ii. *Agreement on Prevention of Air and Maritime Space Violations (1991)*:<sup>69</sup> Designed to prevent boundary incursions, this agreement reduces risks of escalation but suffers from inconsistent

---

<sup>68</sup> “Agreement Between India and Pakistan on the Prohibition of Attack Against Nuclear Installations and Facilities,” signed December 31, 1988, entered into force January 1, 1991,

[https://media.nti.org/documents/india\\_pakistan\\_non\\_attack\\_agreement.pdf](https://media.nti.org/documents/india_pakistan_non_attack_agreement.pdf)

<sup>69</sup> “Agreement on Prevention of Air Space Violations and for Permitting Over Flights and Landings by Military Aircraft,” signed April 6, 1991, entered into force August 19, 1992, United Nations Treaty Series, vol. 1843, I-31419,

<https://treaties.un.org/doc/publication/unts/volume%201843/volume-1843-i-31419-english.pdf>

- implementation, especially in cases involving fishermen and patrol vessel violations.
- iii. *Hotlines between Maritime Security Agencies:*<sup>70</sup> Communication channels between the Indian Coast Guard and PMSA help de-escalate tensions from incidents like accidental boundary crossings. However, their effectiveness is limited by a reactive approach and broader political challenges.
  - iv. *Agreement on Advance Notification of Military Exercises (1991):*<sup>71</sup> Transparency in military exercises reduces the risk of misinterpretation but does not eliminate mistrust, particularly for operations near disputed or sensitive areas like Sir Creek.
  - v. *Periodic Release of Detained Fishermen:*<sup>72</sup> Releasing arrested fishermen serves as an informal CBM, addressing humanitarian concerns but it fail to resolve underlying disputes over maritime boundaries.
  - vi. *Composite Dialogue Process Mechanisms:*<sup>73</sup> Maritime issues are sometimes discussed under broader dialogue frameworks, promoting understanding but often disrupted by political instability and lacking tangible outcomes.
  - vii. *Participation in International Maritime Forums:*<sup>74</sup> Interactions in Track-II diplomacy and maritime forums help foster informal

---

<sup>70</sup> Press Information Bureau, Government of India, "Maritime Cooperation Between India and Pakistan," *Ministry of Shipping*, May 10, 2012, <https://pib.gov.in/newsite/PrintRelease.aspx?relid=83529>

<sup>71</sup> "Agreement on Advance Notice on Military Exercises, Manoeuvres and Troop Movements," signed April 6, 1991, entered into force August 19, 1992, United Nations Treaty Series, vol. 1843, I-31420, <https://treaties.un.org/doc/publication/unts/volume%201843/volume-1843-i-31420-english.pdf>

<sup>72</sup> Rear Admiral Hasan Ansari (retired) and Rear Admiral Ravi Vohra (retired), "Confidence Building Measures at Sea: Opportunities for India and Pakistan," Cooperative Monitoring Center Occasional Paper no. 33 (Albuquerque, NM: Sandia National Laboratories, December 2003), 30-31, <https://www.govinfo.gov/content/pkg/GOVPUB-E-PURL-gpo86719/pdf/GOVPUB-E-PURL-gpo86719.pdf>

<sup>73</sup> "Timeline of Dialogue Process Between India, Pakistan," *Business Standard*, August 22, 2015, [https://www.business-standard.com/article/news-ians/timeline-of-dialogue-process-between-india-pakistan-115082200662\\_1.html](https://www.business-standard.com/article/news-ians/timeline-of-dialogue-process-between-india-pakistan-115082200662_1.html)

<sup>74</sup> Directorate General Public Relations (Pakistan Navy), "Chief of the Naval Staff Attends Indian Ocean Naval Symposium (Ions) in Bangkok," *Press Release*, December 26, 2023, <https://www.paknavy.gov.pk/PR%20Englishindian.pdf>

communication and cooperation but remain non-binding and limited in addressing major maritime disputes.

## **Proposed Maritime CBMs**

The study proposes four important CBMs that should be established between India and Pakistan to prevent entanglement at sea.

### **i. Mutual Notification and Data Sharing on Cybersecurity Threats in Maritime Infrastructure:**

Introducing a mutual notification and data-sharing mechanism on cybersecurity threats to maritime infrastructure between India and Pakistan is crucial due to the increasing reliance on digital systems for naval operations, port management, and maritime trade. As both countries modernise their maritime capabilities, critical infrastructure — such as communication networks, shipping logistics, and naval command systems has become more vulnerable to cyber-attacks. These vulnerabilities, if exploited, could lead to disruptions in trade, interference with naval operations, or, worse, trigger escalation based on perceived attacks or failures in critical systems.<sup>75</sup>

One of the most concerning developments in cyber warfare is the increasing role of non-state actors, such as cybercriminals, hacking collectives, or terrorist organisations, who target digital systems for financial or ideological gain.<sup>76</sup> For example, in 2017, the global shipping giant Maersk was severely impacted by the NotPetya malware which disabled the company’s global operations, including port systems for several days.<sup>77</sup> This attack highlighted the vulnerability of the shipping

---

<sup>75</sup> Columbia University, School of International and Public Affairs. “NotPetya: A Columbia University Case Study,”

<https://www.sipa.columbia.edu/sites/default/files/2022-11/NotPetya%20Final.pdf>

<sup>76</sup> Martin C. Libicki, “The Role of Non-State Actors in Cyber Warfare,” *Journal of Strategic Studies* 41, no. 1-2 (2018): 289-310.

<sup>77</sup> Andy Greenberg, “The Untold Story of NotPetya, the Most Devastating Cyberattack in History,” *Wired*, August 22, 2018, <https://www.wired.com/story/notpetya-cyberattack-ukraine-russia-code-crashed-the-world/>

and maritime logistics sector to cyber-attacks, demonstrating how reliant modern maritime operations have become on digital infrastructure. Another example is the 2018 Port of San Diego attack in which a ransomware attack disrupted operations at the Port of San Diego, highlighting how ports, as critical nodes in maritime infrastructure, are particularly vulnerable to cyber threats.<sup>78</sup> Such attacks can cripple economic and naval logistics, impacting both commercial and military operations. Against this backdrop, hostile third parties or proxies could launch cyber-attacks on either India or Pakistan's maritime systems to provoke tensions or create confusion, aiming to spark conflict. This makes cyber threats in the maritime domain particularly dangerous, as cyber incidents are difficult to attribute to a specific actor, leading to the risk of miscalculation. A cyber-attack that disrupts communication between naval command and deployed assets such as submarines or drones could be seen as an attempt to degrade operational readiness, escalating into a broader military conflict. Hence, safeguarding these systems is essential to maintaining stability in a high-risk environment like the Arabian Sea.

By establishing a formal mechanism for sharing information on cyber threats, both states can reduce the risk of misunderstandings and avoid the inadvertent attribution of cyber incidents to state actors. Sharing limited, non-sensitive data about cyber-attacks or breaches in maritime infrastructure would also allow both countries to strengthen their defences against common threats such as hacking, malware, and espionage, which can originate from non-state actors or hostile third parties. Such cooperation, while focused on civilian and non-military systems, would enhance regional security by ensuring that cyberattacks targeting maritime infrastructure do not spiral into larger conflicts due to misattribution or misinterpretation.

## **ii. No-Deployment Zones for AUVs:**

CBMs on the non-deployment of AUVs between India and Pakistan are necessary because of the potential risks associated with the presence of

---

<sup>78</sup> Dave Lee, "San Diego Port Hit by Ransomware Attack," *BBC News*, September 28, 2018, <https://www.bbc.com/news/technology-45677511>

autonomous systems in sensitive maritime areas. While Pakistan currently does not possess AUVs, India's growing use of such technologies could lead to misinterpretation, escalation, and heightened tensions in shared or disputed waters.<sup>79</sup> The establishment of no-deployment zones would help ensure that AUVs are not deployed in regions near nuclear facilities, disputed boundaries like Sir Creek, or naval bases, reducing the likelihood of accidental confrontations and providing both nations with a buffer of safety in the maritime domain.

The stealth and autonomy that make AUVs useful also pose risks, particularly when deployed near sensitive areas. Autonomous systems can sometimes operate unpredictably, and their presence in disputed waters or near military installations can be misinterpreted as aggressive actions, leading to heightened tensions or military responses. The absence of direct human oversight further complicates matters, as AUVs may not always adhere to de-escalatory protocols in the way that crewed submarines or surface vessels might.

In 2016, China seized a U.S. Unmanned Underwater Drone (UUV), which was conducting oceanographic surveys in the South China Sea, a region where territorial disputes are ongoing. The drone was deployed from the USNS Bowditch, a U.S. Navy survey ship and China accused the U.S. of conducting espionage in its territorial waters. While the U.S. claimed the drone was conducting scientific research, China viewed the deployment as a threat to its sovereignty.<sup>80</sup> The incident triggered a diplomatic crisis and led to significant tensions between the two countries, highlighting the risks posed by the deployment of autonomous systems in disputed waters.

---

<sup>79</sup> Petr Topychkanov, ed., *The Impact of Artificial Intelligence on Strategic Stability and Nuclear Risk: Volume III, South Asian Perspectives* (Stockholm: Stockholm International Peace Research Institute, 2020), [https://www.sipri.org/sites/default/files/2020-04/impact\\_of\\_ai\\_on\\_strategic\\_stability\\_and\\_nuclear\\_risk\\_vol\\_iii\\_topychkanov\\_1.pdf](https://www.sipri.org/sites/default/files/2020-04/impact_of_ai_on_strategic_stability_and_nuclear_risk_vol_iii_topychkanov_1.pdf).

<sup>80</sup> Phil Stewart, "China seizes U.S. Underwater Drone in South China Sea," *Reuters*, December 17, 2016, <https://www.reuters.com/article/idUSKBN14526Z/>

### **iii. SSBN Deployment Notification and Safety Protocol:**

This CBM should involve India agreeing to notify Pakistan, through a neutral third party or a direct hotline, about routine SSBN deployments or movements in areas closer to Pakistan's EEZ in the Arabian Sea. This measure could also include an agreement on communication protocols for accidental encounters between Indian SSBNs and Pakistani naval forces, ensuring that such incidents should not lead to misinterpretation or unintended escalation. This proposed CBM can be initiated with routine notification of SSBN deployments. India should provide limited, non-sensitive information to Pakistan regarding the general timing and location of SSBN deployments near shared maritime boundaries. While New Delhi does not need to reveal sensitive operational details but it may need to inform Pakistan of SSBN's presence in regions where misunderstandings could potentially occur. The notifications could be transmitted through an existing or newly-established maritime security hotline, or facilitated by a neutral third party, such as the IMO, to ensure transparency and build trust.

Additionally, both countries would require to agree to establish a Submarine Safety Communication Protocol (SSCP). This protocol could define clear rules of engagement and safe distances between SSBNs and conventional submarines, particularly while operating near each other. It would also outline specific actions to be taken in case of unexpected encounters to prevent miscalculations. Both states should utilise predefined, secure communication channels to notify each other of the proximity between their submarines ensuring real-time resolution of potential incidents.

To further build trust, India and Pakistan could also conduct joint or observed naval safety exercises in non-contentious maritime zones. These exercises would allow both sides to practice safe submarine operations, focusing on rescue operations, de-escalation procedures in the event of accidental encounters, and submarine safety drills. The exercises could be observed by neutral international bodies or third-party naval forces, enhancing confidence through transparency and cooperation. Moreover, this CBM would include an annual review mechanism. Both countries should convene to review SSBN-related CBMs, discuss any incidents or near-encounters involving submarines, and update

communication protocols as necessary. This review could be conducted through a bilateral naval commission or facilitated by international maritime security forums ensuring accountability and ongoing transparency.

#### **iv. India-Pakistan Code of Conduct (CoC) for the Arabian Sea and Adjacent Maritime Zones:**

India and Pakistan should establish a CoC for the Arabian Sea and adjacent maritime zones to manage their interactions, reduce the risk of confrontations, and promote peaceful use of the sea in the context of rising tensions in the region. This CBM, modelled after the South China Sea-based CoC<sup>81</sup> negotiations between Association of Southeast Asian Nations (ASEAN) and China would help both countries develop a framework of rules governing their behaviour in contested and sensitive waters and along their maritime boundaries.

India and Pakistan should agree on rules of engagement for their naval vessels operating near disputed maritime boundaries to prevent aggressive manoeuvres, close encounters, and actions that could be misinterpreted as hostile. Both sides need to avoid provocative exercises, excessive patrolling, or confrontational behaviour by naval forces in sensitive areas. Additionally, both countries must commit to notifying each other of any military exercises, missile tests, or large-scale naval deployments in shared waters or near maritime boundaries in the Arabian Sea. This advance notification would help reduce the risk of miscalculations and ensure transparency regarding naval movements.

India and Pakistan should also pledge to resolve maritime disputes peacefully, using negotiations, diplomatic channels, or arbitration bodies like the International Court of Justice (ICJ) or the International Tribunal for the Law of the Sea (ITLOS), avoiding unilateral actions that could escalate tensions. Specific maritime zones for cooperation should be designated in the Arabian Sea, where both states may work together on

---

<sup>81</sup> Ismi Damayanti, "ASEAN Chief Says South China Sea Code to Be Concluded by 2025," *Nikkei Asia*, May 30, 2024, <https://asia.nikkei.com/Editor-s-Picks/Interview/ASEAN-chief-says-South-China-Sea-code-to-be-concluded-by-2025>

joint efforts such as search and rescue operations, environmental protection, or anti-piracy patrols, promoting trust and reducing the risk of incidents. To facilitate de-escalation, a hotline between Indian and Pakistani Naval Commands should be established for real-time communication during any incidents, alongside regular meetings between naval representatives to review the effectiveness of the CoC.

## **Conclusion**

The likelihood of maritime entanglement in the IOR appears highly likely due to the power competition among states. Moreover, the defence partnership between the U.S. and India, coupled with India's forward military positioning and its increased militarisation of the Indian Ocean, enhances India's power-projection capabilities. This development, in turn, exacerbates the trust deficit between India and Pakistan. The aforementioned trends significantly impact Pakistan's geo-economic and security interests within the IOR. The two states should consider and materialize the proposed CBMs for their smooth sailing in the IOR. The two states should consider agreeing to a Mutual Notification and Data Sharing on Cybersecurity Threats in Maritime Infrastructure, No-Deployment Zones for AUVs, Code of Conduct for the Arabian Sea and Adjacent Maritime Zones. Moreover, the two states should consider an SSBN Deployment Notification and Safety Protocol, establish a Submarine Safety Communication Protocol. These CBMs would help them manage their maritime interactions, reduce the risk of confrontations, and promote peaceful use of the sea in the context of rising tensions in the region. To further build trust, India and Pakistan should conduct joint or observed naval safety exercises in non-contentious maritime zones. Maritime CBMs can successfully avert clashes at sea by promoting transparency, clear communication, and shared understanding between the naval forces of both countries.