

# AUSTRALIA INDIA INSTITUTE

Towards a peaceful and  
prosperous Indo-Pacific

**A SHORT PAPER SERIES ON  
INDIAN AND AUSTRALIAN  
DEFENCE COLLABORATION:  
A COMPENDIUM**

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## Foreword

**This edited compendium benefits from some remarkable scholars sharing their insights on areas of defence policy and activity with promise for future Australia-India cooperation.**

The current pipelines of collaboration and bilateral engagement between Australia and India have yielded significant advances in maritime security within the Indo-Pacific region. There is, however, still significant opportunity for further development.

As two anchors of the Indian Ocean, growing the partnership between Australia and India to address challenges such as disinformation in island states or by developing climate preparedness and human security responses in the Pacific Ocean demonstrates a commitment of both nations to a peaceful and prosperous Indo-Pacific region.

As comprehensive strategic partners, it makes sense for these two countries to go beyond sporadic engagement to a more sustained arrangement. A stronger maritime partnership across the region through information sharing, military exchanges and naval exercises and protecting subsea infrastructure is just some of the thought leadership on offer in this collection.

Overall, these chapters make a compelling case for future collaboration, knowledge sharing and enhanced cooperation. I want to thank all the contributing researchers for their valuable insights. This compendium underlines the crucial importance of Australia and India's strategic partnership in promoting a peaceful and secure Indo-Pacific region.

**The Hon. Lisa Singh,**  
Chief Executive Officer  
The Australia India Institute  
November, 2024





# About the Australia India Institute Defence Program

Australia and India share a burgeoning defence and security relationship. Over the last decade or more their strategic perspectives on the Indo-Pacific have been drawing ever closer. Both countries are Quad members and they engage in a range of military exercises and other defence activities together. More needs to be done by Australia and India bilaterally, and together with partners, to promote regional security and uphold the fragile Indo-Pacific rules-based order. The Australia India Institute Defence Program is focused on promoting discussion on new areas of Australia-India defence and security cooperation with the goal of strengthening strategic ties between the two countries and promoting regional stability. The Program includes publications on potential new initiatives, including Defence industry cooperation. The Program convenes strategic dialogues and hosts visits to Australia by emerging Indian analysts. The Defence Program, with funding assistance from the Australian Department of Defence, drives a deeper understanding in both Australia and India of our growing defence and security ties and opportunities for new initiatives. We promote understanding and collaboration via research, dialogue, visits and public policy recommendations.

Program research and publications covers key areas of bilateral defence interest, including:

- Cooperation in climate change/environmental security
- Working with regional states on marine environmental threats
- Oceans governance
- India's security role in the Pacific
- Cooperation on emerging issues such as deep seabed mining and undersea cables
- Geopolitical developments
- The impact of cyber and technological developments on the marine domain
- Opportunities for enhanced army and air force cooperation
- Combatting grey zone activities

# Australia's Defence Strategic Review signals radical changes in Australia's defence posture

David Brewster & Samuel Bashfield

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1 May 2023

## The review of Australia's DSR calls for fundamental changes, not only for itself but also for its partners throughout the Indo-Pacific.

Australia's Defence Strategic Review 2023 (DSR2023),<sup>1</sup> which was publicly released on 24 April, signals the biggest changes in Australia's defence posture in at least 50 years. The Review, which was commissioned by the newly-elected Albanese Labour government in 2022, establishes a road map for the urgent restructuring of Australia's basic defence strategy and capabilities to respond to a rapidly changing threat environment. The Review comments that the Australian Defence Force (ADF) as currently constituted and equipped is "not fit for purpose" and proposes fundamental changes to Australia's defence strategy and posture. All of its recommendations have been accepted by the government.

### CHANGES TO AUSTRALIA'S DEFENCE STRATEGY AND OVERALL POSTURE

The Review proposes the following key changes to Australia's defence strategy and overall defence posture:

- **National defence:** For decades, Australian strategy has been more or less based on the 'Defence of Australia' by the Australian Defence Force (ADF). This will be changed to a focus on 'National Defence' through a whole of government/nation effort to improve all-round resilience across all domains (sea, air, land, cyber, and space).
- **Strategy of denial:** Australia will pursue a strategy of deterrence through denial that includes a focus on anti-access/area denial capabilities including long-range strike and undersea capabilities.
- **Alliance and regional partnerships:** The alliance with the United States (US) will remain central to Australia's security and strategy and will become even more important in the coming decades. Investing in other Indo-Pacific partnerships, including with India, are also essential.
- **From a Balanced Force to a Focused Force:** The ADF will be transformed from a Balanced Force to a Focused Force required that the ADF had capabilities to respond to a range of threats, including low-level threats related to continental defence, regional operations, as well as global support for the US. Instead, the ADF force will, in future be framed around critical capabilities, which, in, practice will require de-prioritising capabilities deemed non-essential (e.g. armoured capabilities).
- **From a Joint Force to an Integrated Force:** The ADF will move from its current configuration as a joint force (in which all forces operate under joint command but where the three services retain primary responsibilities for raising, training, and sustaining their forces) to an integrated force across all domains. This will include joint enablers such as integrated logistics and communications.
- **Indigenous manufacture of long-range missiles:** Australia will develop indigenous long-range missile manufacturing.
- **Climate change and disaster relief:** The ADF should, in future, be only the force of last resort for domestic disaster relief. The disaster relief role will be assumed by other Federal and State agencies.
- **Urgency:** The Review notes that Australia's strategic posture is no longer based on a 10-year warning time as the basis for defence planning. Instead, the Review identified three periods: 2023-25 for urgent matters, the period 2026-2030, and the period 2031 and beyond.

## ARMY TO FOCUS ON LITTORAL OPERATIONS

The DSR2023 signals some of the most obvious changes for the Australian Army, which will abandon its long-held balance force structure and instead be optimised for littoral manoeuvre operations (in some ways analogous to marines). Many units will be relocated to Australia's northern coast. Key changes for Australia's Army will include:

- The Australian Army will have much reduced armoured capabilities. This will involve a drastic reduction (by more than two-thirds) in spending on new tanks and infantry fighting vehicles.
- No acquisition of additional self-propelled howitzers, which are deemed to have insufficient range or lethality.
- Reallocation of spending to littoral manoeuvre capabilities, including small craft and landing craft.
- Army will acquire a new long-range land-based maritime strike role, including through HIMARS systems.

## NAVY AS A MORE HEAVILY ARMED FORCE

The majority of Australia's defence spending is already on maritime capabilities, which will only grow significantly in the future. The Review confirms previously announced decisions to acquire a fleet of nuclear-powered (and conventionally armed) submarines from the United States and the United Kingdom at a reported cost of up to AUD 368 billion.<sup>2</sup> These will be principally based at Fremantle on Australia's west coast, along with rotational deployments of American and British nuclear submarines. The Review recommends the establishment of another nuclear-powered submarine base on Australia's East Coast.

But, DSR2023 also signals potentially significant changes in the Navy's surface fleet, including a review of Navy Surface fleet by Vice Admiral William Hilarides, USN (Ret.). There has been speculation that this will involve a reduction in the planned nine UK-designed Hunter Class frigates, which have been criticised for being too lightly armed<sup>3</sup> and building a larger number of heavily armed corvettes.



Source: Australian Prime Minister the Hon Anthony Albanese MP, President of the United States Joe Biden and United Kingdom Prime Minister Rishi Sunak during the announcement in San Diego for Australia to acquire a conventionally-armed, nuclear-powered submarines through the AUKUS enhanced security partnership, Department of Defence image library.



## AIR FORCE TO PROTECT AND DISPERSE ASSETS

Australia's Air Force will be instructed to urgently harden its network of airfields across northern Australia (including the Indian Ocean Cocos Island territory) to protect and disperse assets. Australia will not acquire US-made B-21 bombers at this stage. However, the Review endorses a ramping up of indigenous production of attritable 'loyal wingman' drones that operate alongside crewed aircraft.

## AUSTRALIA AND THE INDIAN OCEAN REGION

The Review confirms previous statements made in the Defence Strategic Update 2022, that Australia's primary area of military interest is its immediate region encompassing the north-eastern Indian Ocean through maritime Southeast Asia into the Pacific, including its northern approaches. For India, this means that the ADF will remain focused on the eastern side of the Indian Ocean and will seek to avoid future commitments in the western Indian Ocean. While the Review is principally focused on Australia's capabilities and not regional relationships, it does specifically recommend the expansion of Australia's Defence Cooperation Program in the Indian Ocean region. This could potentially include the expansion of Australia's Pacific Maritime Security Program (popularly known as the Pacific Patrol Boat Program).

## CONCLUSION

The DSR2023 represents a major turning point in Australian defence. Its call for fundamental changes to Australia's defence strategy and posture should be a wake-up call not only for Australia but for its partners throughout the Indo-Pacific. It signals that time is not on our side.

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# India's battle over disinformation in the Indian Ocean

**Kate O'Shaughnessy**

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Seeking to shape public opinion has long been part of diplomatic checklists the world over.

In the context of an increasingly assertive China, Australia and others have had to think much harder about their own strategic messaging throughout the region, and particularly for small island states that find themselves caught between much bigger powers.

For Australia, this dilemma has been especially stark in the Pacific, where China has sought to build influence<sup>4</sup> through social media, online news and traditional media, in tandem with its agenda to build infrastructure, undersea cables and security pacts.

Similar dynamics are at play in the island states of the far western Indian Ocean. Only there, it's India that's fighting the public diplomacy battle in a region where it never expected to lose influence.

India has long considered itself the net security provider, and partner of choice, for the subregion. Island nations like Mauritius, Seychelles, Madagascar, and Comoros are right on India's doorstep and, some would say, within India's sphere of influence.

So China's growing engagement in the western Indian Ocean worries Delhi—from the Chinese military base in Djibouti, to its investment in port and telecommunications infrastructure, to embassies on every island (the only country apart from France to have such a presence), to Mauritius becoming Africa's third clearing centre for the renminbi.<sup>5</sup>

As a result, in recent years the two countries have been engaged in a tit-for-tat on the battle for influence in the Indian Ocean islands. China's free trade agreement with Mauritius<sup>6</sup> in early 2021 was swiftly followed by the announcement of India's comprehensive economic partnership with Mauritius.<sup>7</sup> India's external affairs minister, S.

Jaishankar,<sup>8</sup> is also a regular visitor to the region, as was former Chinese foreign minister Wang Yi.<sup>9</sup>

At the local level, the two countries' strategies are quite different. In Mauritius, Delhi's public diplomacy takes the shape of grassroots community engagement and big cultural projects like the Indira Gandhi Cultural Centre in Mauritius (one of the world's largest). In contrast, China has had a clear focus on the information environment—through scholarships,<sup>10</sup> funding for journalism training,<sup>11</sup> and cybersecurity training at the local Huawei academy.

India is now realising it doesn't have as firm a hold on public opinion in the western Indian Ocean as it once thought it did. It can no longer assume that it's seen among the islands as a benign big brother, in contrast to the Chinese interlopers.

When India sought to establish a naval base on Assumption Island<sup>12</sup> in Seychelles, it was probably predictable that this would ignite local opposition. Seychelles President Wavel Ramkalawan was on the record<sup>13</sup> about the threat a naval base would pose to Seychelles' sovereignty long before his 2020 election. Not even an Indian high commissioner and former chief of the Indian Army, Dalbir Singh Suhag,<sup>14</sup> could shift this perception.

But India thought itself on solid ground in places like Mauritius: 70% of Mauritians are of Indian origin and India is deeply integrated into Mauritian institutions. The Mauritian prime minister's national security adviser is an Indian secondee, as is the head of the coastguard. And when Mauritian prime minister Pravind Jugnauth's father died in 2021, India called a National Day of Mourning.<sup>15</sup>

Despite those deep cultural and institutional links, as well as significant economic investment, India has faced a surprising amount of public pushback in Mauritius. There's solid public opposition to India's development of a military base on the Mauritian island of Agalega.<sup>16</sup>

But there is also a broader agenda. High-profile Indian delegations that continued to enter Mauritius despite its borders being closed during the Covid-19 pandemic were accused of bringing in the Delta variant. Jugnauth has been under fire

in parliament<sup>17</sup> in recent years for being too ‘pro-India’. Social media and radio commentary in the country regularly questions India’s motivations and the motivations of its diplomatic representatives.

Mauritian debate about the India relationship reached fever pitch in mid-2022 when a scandal broke implicating Delhi and Port Louis in an interception of the country’s Huawei-managed submarine cable.<sup>18</sup> Mauritians worried that they were being spied on by their own government, and by India’s. And they weren’t persuaded by the Mauritian government’s claim that the interception was undertaken for national security reasons.

The Mauritian public’s interrogation of foreign engagement in their country is legitimate and important. But the lack of public discussion about China’s possible role in the affair was striking. And given the amount of news that Mauritians (and others in the region) consume via social media (especially Facebook), it would be surprising if Chinese disinformation operatives weren’t engaged on this, and other issues in the region, just as they have been in the Pacific.<sup>19</sup>

India’s public diplomacy battles are happening in the context of low community awareness of how to critique online information and enormous public distrust in government.

And while India’s strategic narratives are for Delhi to manage, Australia should care about China’s role

in shaping public opinion in these Indian Ocean islands. We are, after all, an Indian Ocean-facing state as much as a Pacific-facing one.

India could learn from our experience in the Pacific—for instance, our declining broadcasting presence in the South Pacific<sup>20</sup> over the past decade provided an opening for China. To remedy that situation, Australia is now trying to rebuild international public broadcasting,<sup>21</sup> in tandem with training to enhance Pacific Island states’ resilience to misinformation.<sup>22</sup>

Stronger media institutions, and greater community resilience to misinformation and disinformation, also needs to happen in the far-flung corners of the Indian Ocean. Australia won’t be the lead here. But we should have countering disinformation in small island states on our agenda for cooperation with India in the Quad, and in our trilateral cooperation with India and France (which comprises Indian Ocean islands, including Reunion). If we don’t, we risk the balance of power in the Indian Ocean changing when we aren’t looking.

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Source: The Royal Australian Navy hosted the crew of Indian Naval Submarine Vagir in 2023, Department of Defence image library.

# How Australia and India can collaborate in the western Indian Ocean

**Kate O'Shaughnessy**

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Deepening strategic and defence cooperation with India is one of Australia's regional priorities, as Prime Minister Anthony Albanese's recent visit to India clearly demonstrated. As we seek to build our cooperation in ways that benefit both nations, we need to keep in mind what India wants most and how that fits with Australia's interests. One of India's priorities is security and stability in the Indian Ocean, including its westernmost edges. How might Australia best work with India in the western Indian Ocean?

Australia's<sup>23</sup> 2023 Defence Strategic Review (and the 2020 Defence Strategic Update)<sup>24</sup> are crystal clear on where our priorities lie—the Pacific, Southeast Asia and the northeast Indian Ocean. So pressing are the needs in our immediate region that then defence minister Linda Reynolds announced in late 2020 that Australia would cease annual navy deployments<sup>25</sup> to the Middle East and western Indian Ocean, ending almost 30 years of Australian maritime security operations in that part of the world.

No friendly country, including India, begrudges Australia making these carefully weighed decisions in our national interest. But it's also worth us understanding that when India looks out into the Indian Ocean, it sees geostrategic uncertainty and competition, just as we do in the Pacific.

The significance of the Indian Ocean to global energy needs and supply chains, including for China, is well known. Half the world's shipping container traffic transits through it<sup>26</sup> and it's home to 40% of the world's offshore oil production. This has driven China to step up its Indian Ocean engagement, from signing port deals in the northeast in Sri Lanka and Pakistan to establishing a military base in 2016 in Djibouti.

Few Australian observers will have paid attention to the full extent to which China has embedded itself in the westernmost edges of the Indian Ocean over the last decade.

Among other things, China has developed or expanded port infrastructure right around the western edge of the Indian Ocean, including in Djibouti (2012), Kenya (Lamu, 2013), Madagascar (Tamatave, 2015) and Tanzania (Dar es Salaam, 2017).

Its forays into East Africa aren't a fait accompli though. Tanzania pushed back<sup>27</sup> against China's proposal to build a \$10 billion port at Bagamoyo<sup>28</sup> that would also have banned any other parties from operating or accessing ports along a 900-kilometre stretch of coastline. Similarly, a 2018 deal with Comoros for China Bridge and Road Corporation to build a deep-water port in the capital, Moroni,<sup>29</sup> hasn't progressed and instead French logistics company Bolloré is expanding the existing port.<sup>30</sup>

In parallel, China is expanding its economic, security and political presence in the western Indian Ocean island states (Mauritius, Seychelles, Comoros and Madagascar). Apart from France, China is the only country with an embassy in each of these countries. It's the biggest diplomatic presence in Seychelles, and according to some diplomatic sources the largest foreign donor in Comoros (the French government also assesses that China's the largest creditor there).<sup>31</sup> Confucius Institutes are on every island.<sup>32</sup>

Huawei is also a key telecommunications provider across the region—providing Seychelles with its submarine cable,<sup>33</sup> upgrading Madagascar's telecommunications<sup>34</sup> infrastructure, and building an inter-island undersea cable in Mauritius,<sup>35</sup> where it has also installed a network of 4000 safe-city cameras<sup>36</sup> (in a country with one of Africa's lowest crime rates).

With these island nations right on India's doorstep, it's not hard to see why Delhi has concerns. Any Australian cooperation with India in a region beyond our immediate neighbourhood needs to be based on three principles.

First, is reciprocity. We should be proactive in demonstrating to India that we understand why it cares about the western Indian Ocean and that we are willing to help India reinforce its strategic





Source: Indian Submarine Visit, Department of Defence image library.

narratives, just as they are starting to do for Australia in the Pacific.<sup>37</sup>

Second is managing long-term strategic risk. We need to consider the possibility that the balance of power in the Indian Ocean could change in the coming years, and potentially quite quickly. That's even more the case now that the UK has formally opened negotiations with Mauritius to return the island of Diego Garcia,<sup>38</sup> on which the US has run a naval base since the late 1960s. Mauritius says it's committed to retaining the US base—but China will see an opportunity and lobby hard in Port Louis.

And third, proportionality. Support to India in the western Indian Ocean doesn't have to mean Australia redeploys naval assets.

But there are some modest things we can do that signal to India—and to others—that long-term Indian Ocean security and stability matter to us too. These include:

Australia becoming an observer to the Indian Ocean Commission (IOC),<sup>39</sup> the mostly EU-funded sub-regional body that brings together Reunion (France), Mauritius, Seychelles, Comoros and Madagascar. India, Japan and China are already observers and Russia's been pushing to join.

We should work with India (through the IOC) to build the capacity of the regional Information Fusion and Operation Centres in Madagascar and Seychelles. India should take the lead as it's got a MOU with the RCOC<sup>40</sup> already, but Australia could provide very modest funding or expertise.

We should also consider a trilateral collaboration between India, Australia and France that shores up security of critical infrastructure like undersea cables, as a recent report by the ANU National Security College proposes.<sup>41</sup> A co-branded project where Australia leads efforts in the Pacific and India and France leads them in the Indian Ocean would make the most sense.

Deliberately crafting a modest Australia-India collaboration in the western Indian Ocean can help demonstrate that we understand what matters to Delhi. And ultimately, enhancing the relationship with India is what matters to us.

**Kate O'Shaughnessy** is a Research Director at the Perth UsAsia Centre. She was an Australian diplomat for 16 years and served as Australia's High Commissioner to Mauritius and Seychelles, and ambassador to Madagascar and Comoros.

# The Colombo Security Conclave: What is it and what does it mean for Australia?

**Viraj Solanki**

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## With the support of the CSC, Australia can enhance its engagement with the Northeast Indian Ocean region

As China's influence and presence in the Indian Ocean grows, India has sought to enhance security cooperation with the Indian Ocean Island and littoral nations, through a new 'minilateral' group called the Colombo Security Conclave (CSC). Held at the National Security Advisor (NSA)-level, the CSC, which brings together India, Sri Lanka, Maldives, and Mauritius, along with Bangladesh and the Seychelles as observers, is probably now the most active security-focused group operating

in the Indian Ocean region. The CSC's remit includes maritime security, countering terrorism, and cybersecurity. The small group provides an opportunity for India to address its own strategic concerns in the Indian Ocean while providing an opportunity for the island and littoral nations to address their own challenges. Australia should consider actively participating in the CSC as part of its strategy of enhanced engagement in the Northeast Indian Ocean.

### EXPANDED SECURITY FOCUS

The CSC evolved out of trilateral meetings between NSAs and Deputy NSAs from India, Maldives, and Sri Lanka, starting in 2011. India's somewhat fraught relationship with then-President Abdulla Yameen of Maldives led to the suspension of meetings between 2014 and 2020.<sup>42</sup>



Source: Exercise Indo-Pacific Endeavour 2023, Department of Defence image library.

Since its revival and re-branding as the CSC in 2020, Mauritius was added as a member of the grouping, with Bangladesh and the Seychelles as observers. A secretariat for the group was established in Colombo in 2021.<sup>43</sup> Bangladesh and the Seychelles have been invited to join the group and are likely to join as full members. They are already represented in the group by their NSA-level equivalent officials and have participated in the CSC's security-focused exercises. Although both countries have hesitations over trying to ensure a 'balanced' foreign policy approach in relation to China, the benefits of enhanced regional cooperation through CSC membership, will likely outweigh their hesitations. Due to the varied security challenges faced by the CSC countries, and the need for cooperation, the group's remit has increased beyond its original maritime security focus. In March 2022, the group adopted an agenda of five<sup>44</sup> pillars: maritime safety and security; countering terrorism and radicalisation; combating trafficking and transnational organised crime; cybersecurity and protection of critical infrastructure and technology; and humanitarian assistance and disaster relief. The group has operationalised practical cooperation under the CSC by hosting regular security-focused exercises. Since July 2021, the CSC's exercises have included on maritime search and rescue; cybersecurity; coastal security; and investigation of terrorism cases. In November 2021, India, Sri Lanka, and Maldives conducted<sup>45</sup> Exercise Dosti XV in Maldives, with Bangladesh and the Seychelles as observers. India, Sri Lanka, and Maldives subsequently conducted their first joint exercise in the Arabian Sea under the aegis of the CSC.<sup>46</sup>

At the March 2022 NSA-level meeting, Indian NSA Ajit Doval called<sup>47</sup> for the heads of the coast guards of the four member countries to meet, and for joint working groups on drug trafficking and transnational organised crimes. He also stated that the CSC should have a 'concrete roadmap', with a 'defined charter of objectives' to institutionalise cooperation.

## CHALLENGES

The CSC will need to address several key challenges to enhance its impact. First, if the CSC does expand its membership, it should not duplicate the work of the other Indian Ocean region multilateral

groups. The effectiveness of the CSC's limited membership and scope has been demonstrated in the regularity of the CSC's dialogues at the NSA and Deputy NSA-level, along with security-focused exercises. The CSC countries are all members of the two region-wide Indian Ocean groupings, the Indian Ocean Rim Association (IORA), and the Indian Ocean Naval Symposium (IONS). However, the lack of coordination between the IORA and the IONS has hindered the effective functioning of these institutions. To encourage coordination, the CSC could include the rotating country Chairs of IORA and IONS, as observers. Second, the group will be vulnerable to domestic political changes unless it can better institutionalise itself within the participant's systems. The CSC should seek to insulate itself from the impact of changes in governments through, for example, establishing working groups at the senior official level.

Third, with the CSC subsuming the former India-Sri Lanka-Maldives maritime security dialogue, India does not currently hold a regular and dedicated bilateral maritime security dialogue with any of the other five CSC countries. Therefore, to ensure a focus on shared maritime concerns in the CSC, India could establish bilateral maritime security dialogues with each of the island and littoral nations, to complement the CSC process.

## ROLE FOR AUSTRALIA

Another challenge is India's dominant role in the grouping, which creates sensitivities among some members who do not want the group to be viewed as anti-China, limiting the willingness of the group's smaller nations to cooperate on sensitive security issues. These concerns could be mitigated by other participants hosting exercises on specific issues that India previously led. As the group becomes more ambitious, member countries have highlighted the benefits<sup>48</sup> of expanding the participation of like-minded countries. The CSC could expand its number of observer countries to include other Indian Ocean countries, including Australia.

Australia could, for example, supplement India's efforts by working through the CSC to provide training to CSC members and through hosting security-focused exercises. Australia could also work with the CSC on a specific issue-basis to enhance capacity-building within the Indian Ocean Island and littoral nations. Australia's

experience and expertise on the CSC's five pillars would likely be welcomed by the CSC countries, including India. Following the Australian government's February 2022 announcement on enhancing engagement in the Northeast Indian Ocean,<sup>49</sup> Australia has been focusing on how it can best cooperate with that region. Support for the CSC could be one way of doing that.

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# A case for India-Australia climate and human security cooperation in the Pacific Islands

**Aditi Mukund & Ambika Vishwanath**

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**While both India and Australia aim to consolidate their strategic presence in the region, the development of security in the Pacific through aid and diplomacy would prove beneficial.**

India and Australia's bilateral endeavours to enhance their strategic footprint in the Indo-Pacific must include a greater focus on climate and human security in Pacific Island countries (PICs). Climate change-induced crises together with transnational crime will likely increase food and health insecurity, with particular impacts on women.<sup>50</sup> There is considerable scope for India and Australia to pursue joint initiatives in human security. India's diplomatic outreach to the Pacific Islands is growing from a low base, but now with a steady uptick in trade and development initiatives. Prime Minister Narendra Modi is scheduled to visit Papua New Guinea<sup>51</sup> in May—the first Indian prime minister to do so. India can benefit from trade and investment opportunities in these countries, particularly in natural resources. As an advocate for South-South cooperation, India can also play an important role in assisting in regional stability, drawing from its own history of pioneering a 'partnership' approach to aid and development, particularly in climate and disaster management. For example, the International Solar Alliance,<sup>52</sup> of which Australia and many PICs are member countries, uses cost-effective nimble small-scale solutions for climate change, which are more compatible with developing economies and often easier to implement.

The initial focus for cooperation could be on countries where India is building partnerships, such as Fiji, the Solomon Islands, and Papua New Guinea. By working together on climate and human

security, Delhi and Canberra could provide alternate policy and alignment choices, as an alternative to discussions on strategic competition. In this regard, linking defence, diplomacy, and development offers a way forward. A multi-pronged approach to climate preparedness and human security should include:

- Disaster risk reduction activities and disaster preparedness simulations, while applying a gender lens.
- Stakeholder mapping to ensure deeper interfacing with community leaders and gender experts.
- Diplomatic cooperation to place a broader climate and gender lens on the regional and multilateral agenda. Releasing joint communiqués as a show of strength.
- Triangular Cooperation and aid and infrastructure projects to be designed with a climate-resilience objective, using existing frameworks and institutions.

We have the following recommendations for India-Australia cooperation in the Pacific:

## EXPLORING 'TRIANGULAR COOPERATION' BETWEEN INDIA, AUSTRALIA AND PICS

The idea of 'Triangular Cooperation' in overseas aid and development is not new to India and is gaining traction to bridge the gap between the Global North and South. It combines the capital and resources of traditional donor countries, with the capacity-building capabilities of developing countries, for projects in third countries. There are several examples<sup>53</sup> of successful partnerships between India and the United Kingdom, the United States (US), and Germany, and United Arab Emirates (UAE). India and Australia can initiate similar projects that have a strong climate focus. India could also learn from the many Department of Foreign Affairs and Trade<sup>54</sup> (DFAT) funded climate programmes that incorporate a gender lens, and apply lessons to its aid programmes, where often gender and

climate are in separate silos.

Triangular cooperation also extends to diplomacy, where there are many mutual lessons to be learnt. The Coalition for Disaster Resilient Infrastructure (CDRI),<sup>55</sup> launched by India, could be a resource for developing climate-resilient projects and provides an opportunity to mainstream gender as a cross-cutting issue, to integrate human and climate security.

## MAINSTREAMING GENDER IN HUMANITARIAN ASSISTANCE AND DISASTER RELIEF (HADR) AND DISASTER RISK RELIEF (DRR)

Climate change threatens human security, particularly gender equality, further compounding the cascading risks and effects of climate change. A study by the Asian Development Bank<sup>56</sup> found that disaster impacts are not gender-neutral—in societies where the socioeconomic status of women is low, natural disasters kill more women than men. Integrating a gendered perspective into disaster management can strengthen an entire community's resilience, especially when indigenous ideas and a bottom-up approach are instituted. The demand for HADR is amongst the highest<sup>57</sup> in the Indo-Pacific region, where civil-military integration can enhance effectiveness. Defence forces are well suited to conduct HADR operations, because of their organisational cohesiveness and logistical capacity. Integrated civil-military responses<sup>58</sup> can also enhance effectiveness. India and Australia could better use the growing numbers of women in their armed forces to contribute towards gender-focused disaster recovery.<sup>59</sup> For example, the National Disaster Response Forces,<sup>60</sup> India's specialised paramilitary forces for disaster response, are now mandated<sup>61</sup> to have at least 108 women per battalion.

## CONCLUSION

Mainstreaming gender does not necessarily require drastic changes. The existing multilateral Sendai Framework<sup>62</sup> acknowledges the vulnerabilities that women face in disasters and recognises the role of women in risk reduction offering ideas for concrete action. The Australian government currently supports the Women's Resilience to Disasters programme,<sup>63</sup> in Fiji, Kiribati, and Vanuatu. It may also be useful to look at the experiences of



Source: HADR support to PNG, Department of Defence image library.

gender-sensitive disaster management in India. The Indian state of Orissa has taken steps to mainstream gender through capacity-building<sup>64</sup> and gender budgeting,<sup>65</sup> one of the earliest in India. Experience from these initiatives can be brought into the broader security sector to 'create a culture of allyship',<sup>66</sup> ensuring that the underlying values of equity and justice are paramount and contribute towards strengthening resilience. India is taking a leading role in developing coalitions across the Global South, presenting alternatives. While both India and Australia can consolidate their strategic presence in the region, any contribution to the overall development of security in the Pacific through aid and diplomacy would benefit from collaboration. Collaborative approaches can provide a framework for incorporating diverse perspectives, and multiple stakeholders, and reiterates a universal commitment to countering climate change. A smart multi-pronged approach with a combination of short-term and long-term initiatives that put human security and gender at the heart of climate adaptation-related activities is the way forward.

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# Elevating the Australia-India maritime partnership

**Abhijit Singh**

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India and Australia must raise the level of their engagement, going beyond pre-planned exercises and sporadic deployments.

Australia-India relations have been on the upswing lately. As comprehensive strategic partners since June 2020, New Delhi and Canberra have positioned defence cooperation as a key pillar of the bilateral partnership, particularly in the maritime domain. But this now needs to progress to a more sustained engagement across a variety of maritime agencies. Last month, Australia's Defence Strategic Review (DSR)<sup>67</sup> called for an expansion in the relationship with India. Canberra's announcement earlier this year,<sup>68</sup> that the forthcoming Malabar naval exercise will be held off Australia for the first time, signals more convergence between Quad partners. The Indian Navy will be sending warships and P-8I long-range maritime patrol aircraft to the exercises. For many, conducting Exercise Malabar in Australia's waters is a natural progression.<sup>69</sup> They have been held off the coast of India and Japan since October 2020, when Australia rejoined the exercises after many years.<sup>70</sup> Indian observers acknowledge this is, to a significant degree, an outcome of Canberra's determined push to be a more active maritime partner with India.<sup>71</sup>

It is encouraging for New Delhi that the Royal Australian Navy (RAN) has been sending sizable maritime contingents to the Indian Ocean. Although RAN's engagements in the region seem limited to the northeastern part, the announcement of AUKUS in March and the DSR add weight to Australian plans. For India, it denotes a greater intent on the part of the Anglo alliance to deter China.<sup>72</sup> The visit of Australian Prime Minister Anthony Albanese to India in March indicates further convergence between India and Australia.<sup>73</sup> Onboard the INS Vikrant, India's first indigenous aircraft carrier, Albanese described India as a "top-tier security partner"<sup>74</sup> for Australia, signifying a greater desire for deeper defence ties with New Delhi. Even so, the

existing framework for India-Australia military collaboration is far from robust. While naval interoperability has improved in recent years, cooperation between the Indian Navy and the RAN has yet to cross a critical threshold. Despite a growing number of engagements, including the AUSINDEX bilateral naval exercises, the Pitch-Black air combat exercise, and the Austra-Hind infantry exercise, the Indian and Australian militaries have yet to collaborate in ways that would thwart Chinese expansionism in the regional commons. For one thing, India and Australia could do more with their 2020 logistics support agreement meant to facilitate the replenishment of warships and military aircraft at each other's bases.<sup>75</sup> The pact has only been sparsely used. While the Indian Navy deployed a stealth frigate and a maritime patrol aircraft to Darwin last year<sup>76</sup> and the Royal Australian Air Force (RAAF) sent a P-8A aircraft to Goa on a reciprocal deployment,<sup>w</sup> bilateral naval visits have been too few to credibly claim that the logistic agreement is being optimally utilised. Meanwhile, Australia's neighbourhood engagement policy, aimed ostensibly at South Pacific Island states and among the country's highest foreign policy priorities, has somewhat constrained the attention to the Indian Ocean. While Australian policymakers recognise the importance of deeper cooperation with India in the Northeast Indian Ocean—a fact highlighted in the DSR—burden-sharing in the region hasn't materialised in tangible ways.

A second area of collaboration is information sharing. India and Australia have a white shipping agreement, and an Australian liaison officer has been assigned to India's International Fusion Centre for the Indian Ocean Region,<sup>78</sup> but more classified information needs to be shared. In the past, New Delhi was wary of sharing sensitive information with Canberra because of the perception that it was part of the US-led Western alliance, regarded with circumspection by many in India's political establishment. Indian elites then felt that the Five Eyes could not be relied upon, as they could consciously or inadvertently use the



information India provided in ways detrimental to the country's interests. That perception has now changed. Recent events show New Delhi is willing to back AUKUS plans to counter China. India, it appears, wants to work with AUKUS members more closely, especially in the area of emerging technologies.<sup>79</sup> If asked to join an AUKUS-related technology partnership, New Delhi could be willing to share more information on grey and dark shipping.<sup>80</sup> Whether this would be in the nature of a quid pro quo, or a genuine Indian desire to be more giving in the relationship with Australia is unclear. Inviting India to partner in a technology-sharing agreement would certainly encourage New Delhi to think out of the box about expanding collaboration with Canberra. Indian policymakers could consider using minilateral groups like the India-Indonesia-Australia trilateral to better effect, for example, proposing trilateral joint exercises in the eastern Indian Ocean close to the sensitive chokepoints. Another area of potential cooperation is underwater domain awareness. India's main concern in its near seas is the presence of Chinese submarines.<sup>81</sup> If Australia

were to deploy its P-8A maritime surveillance aircraft in coordination with Indian P-8Is, the Indian Navy would have a keener sense of underwater threats in the Indian Ocean. India's Andaman and Nicobar Islands and Australia's bases at Darwin and Fremantle need to be better utilised for that purpose. With the DSR promising an upgrade in Cocos (Keeling) Island bases,<sup>82</sup> where facilities are already being modernised,<sup>83</sup> Indian P-8I operations could find an additional place of logistics support. Even the occasional refuelling of Indian maritime patrol aircraft would help better surveillance operations over the eastern Indian Ocean.

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Source: Exercise Malabar 2023, Department of Defence image library.

# Protecting Indian Ocean submarine cables: Exploring Australia-India cooperation

**Pooja Bhatt**

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**Australia's world-leading legislation provides a template for creating cable protection zones that India could emulate to protect its underwater assets.**

The protection of subsea infrastructure is a growing concern for countries in the currently fragile geopolitical milieu. Subsea cables are a crucial conduit of telecommunications that enable internet connectivity and support growing cyberinfrastructure by reducing latency and increasing bandwidth, a quality that satellites lack. However, recent disruptions either through sabotage, espionage, manipulation, or sheer accident highlight the issue of subsea infrastructure protection. In sum, submarine cables form a part of India's critical infrastructure that require legislative and physical protection in the Indian Ocean region. Submarine cables are the foundation of the country's flagship vision, Digital India 2015,<sup>84</sup> which aims to digitally empower society and governance of the country. India is emerging as a crucial hub for submarine cable infrastructure.<sup>85</sup> Currently, India has 17 submarine cables landing from different parts of the world.<sup>86</sup> However, India currently lacks jurisdictional, legislative, and physical protection measures for these expensive and vulnerable underwater assets.<sup>87</sup>

However, Australia is one of the few nations with a dedicated regime as well as declared zones for the protection of undersea cables. Australia's world-leading legislation provides a template for creating cable protection zones under India's domestic legislation in its Indian Ocean waters.

## AUSTRALIA'S 'CABLE PROTECTION ZONE REGIME': A SUCCESS STORY

Australia has established 'Cable Protection Zones' within its Exclusive Economic Zone (EEZ—extending up to 200 nautical miles from the baseline) utilising the legislative space provided by the United Nations Convention on the Law of the Sea (UNCLOS). Cable Protection Zones were established by the Howard government in 2005 for the protection of international submarine cables under Schedule 3A of the Telecommunications Act namely—the Telecommunications and Other Legislation Amendment (Protection of Submarine Cables and Other Measures) Act 2005<sup>88</sup> and the Telecommunications Legislation Amendment (Submarine Cable Protection) Act 2014.<sup>89</sup> Australia's domestic protection regimes allow the industry regulator, the Australian Communications and Media Authority (ACMA), to safeguard its international submarine cables landing in Australia. Under the regime, ACMA declared three protection zones in 2007: Northern Sydney, Southern Sydney, and Perth.<sup>90</sup> Under this legislation, Australia prohibits and restricts activities such as seabed trawling, sand mining, vessel anchoring, dredging, and activities that involve a serious risk to the seabed in the restricted/protected zones. The establishment of these zones further prohibits certain kinds of fishing and shipping vessels in their jurisdictional waters. It also requires an ACMA permit for telecommunication carriers before installing submarine cables in Australian waters.

## REPLICATION SIMILAR ZONES IN INDIAN WATERS AND BEYOND

India can work with its Australian counterparts to adopt similar laws in India. It can legislate over submarine cables within the 12 nm territorial zone. India can further use its sovereign rights over submarine cables within the EEZ to establish 'Submarine Cable Protection Zones' via a domestic legislative framework. The creation of a Submarine

Cable Protection Zone within India's Exclusive Economic Zone is consistent with the international maritime laws, provided under UNCLOS.

Such zones can be decided either based on the density of the cables or by calculating vulnerability factors in Indian waters. A solid legislative framework would enable India to use its maritime law enforcement within these zones, as well as jurisdictional capacities for the arrest and prosecution of wrongdoers. In terms of physical protection, the repair of damaged cables is an expensive and skilled task. The Indian Ocean has a unique yet challenging maritime geography due to factors such as bathymetry, salinity, and temperature of its waters, which renders it difficult for any single Indian Ocean Region (IOR) littoral to protect its interests and assets unilaterally, more so in the subsea/underwater domain. IOR littorals largely comprise underdeveloped and developing nations; therefore, they lack the national capacity and capability to safeguard respective assets in these waters. The rather difficult task of monitoring and protecting submarine assets in the IOR not only requires technical expertise but also a policy framework to ensure physical safeguards are backed up by legislation. Taking the idea of establishing cable protection zones a step further, Australia's model legislation could also be adopted throughout the IOR. This initiative could be pursued through the Indian Ocean Rim Association, where India and Australia could spearhead the issue. Such legislation would mean that these Indian Ocean littoral nations will be able to satisfy their UNCLOS obligation to protect cables. Furthermore, being an issue of sovereign rights, the protection of submarine cables has been included in the agenda of the Quad, providing the issue with the required political support. Operationally, this agenda could allow national agencies, such as the navies of the Quad and like-minded countries in the IOR, to coordinate their work in monitoring high-density cable zones or routes. Based upon respective assets and jurisdictional purviews, the navies and coastguards of India and Australia could provide support in the protection of regional subsea cables. The jurisdictional and operational nuances could be worked out once domestic legislative frameworks for the protection of subsea infrastructure are in force. This initiative would be a practical and effective way to reduce submarine cable

damage and sabotage in the Indian Ocean Region, whether accidentally by vessels or purposefully by antagonistic actors.

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Source: Royal Australian Air Force Flight Lieutenant Thomas Flatley and Indian Navy Commander Ruchit Gaur Sit in the cockpit of a Royal Australia Air Force P-8A Poseidon at Indian Naval Air Base Rajali, Department of Defence image library.

# Developing a regional Single Window System in the Indian Ocean Region

**Riya Sinha**

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## India and Australia can support the development of a Single Window System in fellow Indian Ocean Region states for trade facilitation at the regional level.

The Indian Ocean Region (IOR) is an important area for global trade, connecting the continents of Asia, Africa, and Australia, and playing a critical role in the flow of goods and resources around the world. According to estimates, half of the world's container ships, one-third of the bulk cargo traffic, and two-thirds of the world's oil shipments pass through the IOR.<sup>91</sup> However, the region is also facing several challenges, including piracy, illegal fishing, and security threats, which can disrupt trade supply chains and undermine the region's economic growth. In response to these challenges, many countries in the IOR are working to enhance Maritime Domain Awareness (MDA) and improve the safety and security of the region's shipping lanes. One of the ways this is being done is through digital collaborations such as the development of a Single Window System (SWS) for trade facilitation at both national and regional levels. In the IOR, India and Australia have developed significant capacities to support the development of this system in fellow IOR states.

### SINGLE WINDOW SYSTEM IN THE IOR

An SWS is a digital platform that facilitates trade by enabling all necessary information and documents for export and import (EXIM) to be submitted through a single-entry point.<sup>92</sup> The objective is to streamline customs/regulatory procedures, improve information flows, and enhance the efficiency and transparency of trade transactions. It brings multiple stakeholders—ports (sea and land), customs, traders, shipping lines, financial institutions, etc.—on a common platform

for real-time information exchange. This eliminates the need to provide duplicative information to multiple agencies and reduces the time and cost of trade.

The IOR, which includes several countries with important ports and supply chain hubs, can greatly benefit from such a regional SWS by streamlining trade, increasing global competitiveness, and securing sea lines of communication. It would create a seamless and efficient trade environment in the IOR, which would drive economic growth, job creation, and regional integration. Several countries in the region are invested in developing both national and regional SWS.<sup>93</sup> For instance, the Maldives is being assisted by the Asian Development Bank (ADB) to develop a national SWS. In 2022, the Indian Ocean Commission, too, focused on developing a regional maritime single window system for trade facilitation and enhancing MDA.<sup>94</sup>

### FINDING A ROLE FOR INDIA AND AUSTRALIA

Both India and Australia are well-placed in the IOR to share their best practices and contribute towards the development of a regional SWS. As global trade started to adopt technology towards streamlining practices, India has transitioned to digital platforms for trade transactions with the goal of improving the ecosystem and facilitating trade through digitisation and information exchange. The Customs ICEGATE (Indian Customs Electronic Commerce/Electronic Data Interchange Gateway),<sup>95</sup> maintained by the Central Board for Indirect Taxes and Customs, Ministry of Finance, provides services such as risk management, shipping bill submissions, generation of electronic bills of lading, and duty payment, amongst others. The system has improved cross-border trade data management and analysis and has helped the country enhance its trade environment for ease of doing business by bringing all stakeholders on board. This was one of the factors that contributed to India's improved score in the UN Global Survey on Digital and Sustainable Trade Facilitation, from 78.49 percent in





Source: Royal Air Force Sergeant operating aircraft system on board a P-8A Poseidon during a flight near Tamil Nadu, India, Department of Defence image library.

2019 to 90.32 percent in 2021.<sup>96</sup> Similarly, at India's land ports, for instance, the time taken for trucks to cross the India-Bangladesh border from the Petrapole Integrated Check Post has reduced from five days to one day.<sup>97</sup> To further improve logistics efficiency, reduce EXIM costs, and increase trade predictability, India is now developing an API-based Unified Logistics Interface Platform to include more stakeholders and enhance data sharing.<sup>98</sup>

India's efforts to improve the trade and supply chain ecosystem through digitalisation and information exchange could be complemented by Australia in the region by developing a regional SWS. Australia has its own experience in the development of such systems, as demonstrated by its Integrated Cargo System (ICS),<sup>99</sup> which was created in 2004 and communicates with multiple Australian departments and agencies. Australia also has experience in cross-border data exchange streamlining, as evidenced by the launch of the Secure Trade Lane in 2017,<sup>100</sup> in collaboration with New Zealand for containerised trans-Tasman Sea cargo. The Secure Trade Lane uses supply chain security through Mutual Recognition Agreements and streamlines border clearance processes by using the digital information sent by the exporters. These initiatives demonstrate Australia's ability to contribute to the development of a regional SWS, which could have a positive impact on securing trade supply chains.

## BUILDING A REGIONAL SWS

There are several levels of interventions required for developing a regional SWS. This includes establishing

a clear legal framework, service-level agreements with partner countries or the region, data harmonisation, and stakeholder collaborations. First, in terms of the legal framework, several IOR countries have ratified the World Trade Organisation's Trade Facilitation Agreement and are developing a national SWS.<sup>101</sup> They are also signatories to the International Maritime Organisation's FAL convention that enables data sharing by shipping lines across ports to enhance risk management. In IOR countries, where the legal framework is streamlined, it will be easier for both India and Australia to enter into SWS projects and develop a harmonised framework for a regional SWS. In countries where the legal frameworks are yet to be implemented, both India and Australia can support the development of this system through technical programmes. At a bilateral level, this can also be done through India's Indian Technical and Economic Cooperation (ITEC) programme as part of India's development assistance or the Australian Agency for International Development.

Second, India, Australia, and the smaller IOR islands can sign a service-level agreement (bilateral, trilateral, or regional-level) for building an SWS and engage in capacity enhancement for data management, harmonisation, and exchange. This would also need a strong institutional platform to back this system to ensure transparency and data security. Regional institutional platforms such as the Indian Ocean Rim Association or the Indian Ocean Commission can potentially oversee the overall management of the system. This could also be made part of the India-Australia-Japan Supply Chain Resilience Initiative. Finally, beyond the technical interventions, successful implementation of a regional SWS will require concentrated efforts at various levels—governments, security establishments (border guards, navy, coastal security), the trade fraternity, and the private sector. The development and management of the SWS requires political trust and a long-term commitment to safeguarding trade routes to promote economic development. This can also be achieved through the organisation of joint trade facilitation and border management meetings at different levels.

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# India and Australia should join forces to support maritime security in the Pacific

**Prakash Gopal**

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**Ricky Ponting, one of the most successful captains of an Australian cricket team, once described his mindset at the batting crease: ‘In my head, I don’t see the fielders. I only see the gaps.’<sup>102</sup>**

Indian Prime Minister Narendra Modi’s visit to Papua New Guinea last month was his second to the Pacific Islands’ region. His last visit was in 2014, to Fiji, and while the intervening period may seem long, it’s worth recalling that no Indian prime minister had visited the region since Indira Gandhi went to Fiji in 1981, 33 years earlier.<sup>103</sup>

Modi’s trip to PNG, and India’s increasing engagement with the region, show that New Delhi is beginning to see the gaps in the field. Australia may well be an effective partner for India, particularly in addressing the capacity constraints of Pacific Island countries in maritime security.

India already plays a leading role in augmenting the maritime security capabilities of smaller countries in the Indian Ocean region.<sup>104</sup> This includes assistance in maritime law enforcement and domain awareness, and the provision of boats and aircraft to regional partners. However, the Pacific has remained beyond the limits of India’s strategic horizons. Even with its new ‘Act East’ policy, India has been unable to stretch its resources, or to marshal its intentions in any significant manner, in the western Pacific region.<sup>105</sup> Faced with serious threats along its northern land borders, and a stretched navy and coastguard, it’s unlikely that India, by itself, could be effective in strengthening the maritime security capabilities of Pacific Island countries.<sup>106</sup>

It was strange that maritime security didn’t feature in the action plan that emerged from the third summit of the Forum for India–Pacific Islands

Cooperation in Port Moresby.<sup>107</sup> There are many reasons why the issue should have been high in the agenda. Despite India’s geographical displacement from the Pacific, it’s evident that India enjoys the trust of many Pacific Island countries as a natural partner in helping address their strategic concerns, particularly those related to climate change.<sup>108</sup>

India is generally viewed as a viable, third alternative to the great powers, particularly to China, whose aid tends to be riddled with geopolitical traps.<sup>109</sup> Moreover, India has considerable experience in tackling the types of maritime security threats that the Pacific Island countries are vulnerable to. Interestingly, in 2017, India and Fiji signed an agreement to expand defence cooperation in maritime security.<sup>110</sup> It is only logical to extend the same to other Pacific Island countries, and to build on Australia’s experiences working in this area.

Australia has sustained a long-term commitment<sup>111</sup> to supporting Pacific Island countries, particularly through security cooperation that encompasses the entire spectrum from defence to human security. While there are several concurrent programs in place, India can easily join forces with Australia in three specific areas to bring greater value to these efforts.

First, India can contribute substantially to the Pacific Fusion Centre in Vanuatu<sup>112</sup>, which provides strategic assessments and advisory functions to member countries in tackling security issues. India has considerable experience in developing domain-awareness solutions, including the Information Fusion Centre – Indian Ocean region<sup>113</sup>. India’s expertise in maritime surveillance equipment, such as shore-based radars, automatic identification system transponders, and satellite-based surveillance systems, all of which it has provided<sup>114</sup> in aid to Indian Ocean countries, would be particularly useful. India’s contribution to the Pacific Fusion Centre could also extend to improving maritime security software and other technical support.



Source: PNG Guardian-class Patrol Boat handover, Department of Defence image library.

The second facet of Pacific maritime security that India and Australia can jointly strengthen is training.<sup>115</sup> The Indian Navy has a robust program for training international naval personnel through a range of basic and advanced courses for sailors and officers. Several Fijian military personnel<sup>116</sup> have already trained in Indian naval establishments. India's defence ministry could collaborate with the Australia Pacific Security College<sup>117</sup> to deliver professional training modules to military and civilian personnel from Pacific Island countries. India and Australia could also extend operational exposure to naval personnel from Pacific Island countries by including them as observers during bilateral and multilateral exercises such as AUSINDEX and Malabar.

Third, India could substantially augment the Pacific Maritime Security Program,<sup>118</sup> under which Australia provides patrol boats, associated training and maintenance support to Pacific Island countries. The program has been successful in enhancing the maritime security capabilities of Pacific countries, but increasing security challenges will require that it not only be sustained, but substantially augmented. The similar support India provides to<sup>119</sup> Indian Ocean Island countries could well be extended to supplement Australia's efforts and help

strengthen maritime security capacity-building in the Pacific islands region.

India's engagement with Pacific Island countries would benefit from appointing a dedicated defence adviser to the region, possibly based at the high commission in Suva, Fiji. Currently, the defence adviser<sup>120</sup> at the high commission in Australia performs this role. Besides assuring Pacific partners of India's intent to engage constructively, such a move could also facilitate greater collaboration with Australia in capacity-building efforts.

One recent article<sup>121</sup> highlighted the positive impact of India's increasing involvement in the Pacific and encouraged Australia to not 'get in the way'. If Australia and India join forces in building maritime security capabilities in the Pacific Islands' region, they could yield even better outcomes.

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# Educating for effect: bolstering Australia-India military exchanges

**Prakash Gopal**

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On 2 March, Australia and India signed a landmark framework for the mutual recognition of educational qualifications, with the aim of enhancing two-way mobility<sup>122</sup> for students and professionals. A week later, Australian Prime Minister Anthony Albanese visited India, where, as the first foreign leader to set foot on India's locally constructed aircraft carrier, *Vikrant*, he described India as a 'top tier' defence partner.<sup>123</sup>

These developments are part of a significant uptick in bilateral relations. While the connection between education and defence may not be immediately apparent, professional military education is a key element of Australia's defence relationships throughout the Indo-Pacific. With the Australia-India relationship getting a comprehensive overhaul, it's time to leverage and build on the professional military education program to deliver outcomes that can enable greater security in the region.

Each year, two Australian Defence Force officers head to India, one to the Defence Services Staff College in southern India, and the other to the National Defence College in New Delhi. At the same time, three Indian military officers<sup>124</sup> head to the Australian War College in Canberra, two of whom participate in the Australian command and staff course for mid-career officers, and one in the defence and strategic studies course for more senior officers.

Both countries send their brightest military minds to these courses. Participants undergo a year of rigorous education interspersed with social and cultural exposure to their host country. This exposure is vital to developing links between the defence establishments of Australia and India, particularly as officers from these programs often go on to senior leadership roles. For instance, Vice Admiral Jonathan Meade, who headed the AUKUS submarine taskforce<sup>125</sup> in Australia, is a graduate of the National Defence College in New Delhi.



*Source: AUSINDEX21, Department of Defence image library.*



The annual program is supplemented by short-term and occasional exchanges. For example, an Australian naval officer completed the specialist hydrographic course<sup>126</sup> offered by the Indian Navy, and an Indian naval officer spent three months as a visiting research fellow<sup>127</sup> at the Sea Power Centre in Canberra.

In March, a group of 15 ADF officers visited India as part of the inaugural General Rawat India–Australia Young Defence Officers’ Exchange Program, which is designed to ‘foster greater understanding and cooperation’<sup>128</sup> among officers in Australia and India.

Professional military education is vital for familiarisation and networking, but as the Indian and Australian defence forces draw closer, it should increasingly be focused on preparing for combined operations.

The annual mid- and senior-level exchanges have the most potential to achieve more ambitious results. Since participants rotate among different services and some will assume strategic leadership roles, further investment in these courses would have a significant impact.

These exchanges could, at a relatively small cost, be supplemented with additional bilateral or minilateral activities to promote interoperability. Australian and Indian officers could, for example, participate in scenario-based workshops and war games that require them to conduct simulated combined operations. For senior-level courses, this could also involve drafting strategies for such operations.

The scenarios could start at the lower end of the spectrum of military operations, such as humanitarian assistance and disaster relief or maritime law enforcement. They could then be scaled up to non-combatant evacuation, combined interdictions of maritime militia, or even combined special forces operations such as in hostage situations.

While the program already includes some exercises, conducting them in small, focused groups in bilateral or minilateral settings could provide officers with insights that would inform future combined operations in the region. Short modules focused on combined operations could supplement the course offerings in both countries.

In Australia, these units could be delivered at the National Security College at the Australian National University, which runs professional development courses in security and strategic studies. The Australian Civil–Military Centre and the Sea Power Centre could also deliver specialist modules.

In India, domain-focused think tanks such as the National Maritime Foundation, the Centre for Land Warfare Studies and the Centre for Air Power Studies could play this role. Exposure to non-military elements of government would also enhance officers’ understanding of the nuances of combined operations. Incrementally, the target group for these activities could be expanded to include representatives from the other Quad partners—Japan and the US.

There are many other courses that could benefit from a regular program of reciprocal engagement, and Australia and India could identify which of these could incorporate a periodic exchange program. This would contribute to sustained bilateral defence engagement at all career levels. Closer training could also set a foundation for cross-deployment of personnel on operational rotation across various military units.

The primary purpose of military training and education is to enhance operational effectiveness. Reciprocal engagement programs should be strongest between partners that may be required to operate together. The Indo-Pacific, with its numerous security challenges, is an arena where such combined operations may become an essential pillar of maintaining security. Expanding this area of bilateral defence engagement will contribute significantly to Australia and India being truly ‘top tier’ defence partners.

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# India-Australia rare earth supply chain collaboration

**Neha Mishra**

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## Australia and India as emerging partners can collaborate to strengthen the rare earth supply chain and build resilience.

Global demand for rare earth elements is expected to reach 315,000 tonnes by 2030,<sup>129</sup> driven largely by the global shift towards clean energy technologies such as electric vehicles, wind power, and solar power. China's dominance in the supply chain of rare earth elements (REE) is leading to collaborative alliances amongst several countries. Australia and India as emerging partners can collaborate to strengthen the rare earth supply chain and build resilience.

The rare earth supply chain is comprised of upstream (extraction and separation of REE oxides), midstream (processing REE metals and alloys), and downstream (manufacturing of permanent magnets and end-products) elements. Upstream and midstream capacities have been increased in most countries, but cooperation is required to reduce over-reliance on China in the downstream capacities.

Australia, the fourth-largest rare earth producer with a 24,000-tonne<sup>130</sup> yearly capacity, has profited most from a sharp rise in its demand. This output is small compared to China's 168,000 tonnes,<sup>131</sup> but represents significant growth from 1,995 tonnes<sup>132</sup> in 2011. Lynas Rare Earths, Arafura Rare Earths, and Iluka Resources have helped the Australian rare earth industry develop upstream and midstream levels in the supply chain. Since 2011, Lynas has increased neodymium-praseodymium production, while Nolans by Arafura Rare Earths aims at expanding downstream processing through the production of the most economically important neodymium iron boron (NdFeB) magnets and permanent magnets. The Australian government invested A\$30 million in this effort as part of their

A\$240 million<sup>133</sup> rare earth industry investment to lessen reliance on China.

For India, increased domestic demand for REE is principally driven by the demand for permanent magnets used in defence and environmental technology. Indian Rare Earth Limited (IREL), India's sole rare earth producer, has given top priority to meeting defence needs. IREL also plans to quadruple its upstream mining capacity of rare-earths-bearing ore to 50 million tonnes per year<sup>134</sup> by 2032 and increase REE production to 13,000 tonnes from the current 5,000 tonnes.

Despite possessing the fifth-largest rare earth reserves (6.9 million tonnes) and upstream mining capacity, IREL imports manufactured rare-earth magnets, primarily from China. India's ability to grow downstream processing has been limited since the Indian government banned mineral exploration by private companies<sup>135</sup> in 2019, citing their illegal mining, exports, and corruption as reasons.

Even though India lacks a strategic plan for its REE industry, the government is taking steps to promote the industry, such as Bhopal's "Rare Earth Theme Park."<sup>136</sup> The Atomic Minerals Directorate for Exploration and Research and the Geological Survey of India are also investigating new REE deposits, such as the recent discovery of light REE deposits<sup>137</sup> in South India.

India, which is still in the exploration phase, and Australia, which is the second-leading producer in the REE business, have begun working together on critical minerals since their memorandum of understanding (MoU) in 2020.<sup>138</sup> Collaborations, such as the Supply Chain Resilience Initiative (SCRI) and the Quad, have taken shape at all bilateral, trilateral, and multilateral levels.

The recent bilateral announcement to partner on five target critical mineral projects<sup>139</sup> (three cobalt and two lithium) also represents their strengthening supply chain collaboration. In 2022, Australia updated its India Economic Plan to 2035,<sup>140</sup> to give priority status to the Mining Equipment, Technologies, and Services (METS) sector in India. Since then, one of the five priorities of the

Australia-India Business Exchange (AIBX)<sup>141</sup> has been mining and resources, and by 2022 about 40 Australian companies were reportedly involved in the Indian mining industry.

Recent changes to Indian law to accredit 13 private agencies<sup>142</sup> to undertake mineral exploration in India has further potential to open up exploration rights for Australian firms. Australian and Indian firms, such as Tata Group, Aditya Birla, Mahindra Limited, Permanent Magnets Limited, and Dura Magnets, may collaborate on projects to explore heavy and light REE in India, just as they have done with iron ore and copper.

India and Australia should work together to create a sustainable eco-system for mining, processing, and manufacturing of REE. This system should be built up gradually, beginning with ensuring more advanced and reliable upstream mining in both countries, followed by efforts to develop midstream processing downstream manufacturing. Every stage of the rare earth supply chain needs to be secured to enable a sustainable ecosystem, as only reliable upstream mining would ensure stable access to the raw rare earth oxides for processing into REE in the midstream stage, and the successful processing would ensure the manufacturing of end products and rare earth magnets.

In addition, REE sourced permanent magnets and rare earth alloys, like neodymium iron boron and samarium cobalt, which are used for the manufacturing of military weaponry,<sup>143</sup> could stimulate further India-Australia cooperation to meet their defence production goals.

India's scale, market size and low-cost manufacturing coupled with Australia's comparative strength in raw materials, critical minerals and innovative research can lead to mutually beneficial outcomes through partnerships between Indian and Australian companies. Australia, with its advanced upstream-midstream rare earth facility and third largest REE-producing capacity, can aid the productivity and efficiency of India's mining industry through an extended relationship involving METS, investments, technology transfers, and information support.

There is no doubt in Australia's potential to become a rare-earth supply-chain powerhouse, but it is important to keep in mind that excessive mining depletes deposits and creates supply-chain insecurity. As an example, China's percentage of global rare earth reserves has dropped from 70 percent in the 1990s to 38 percent today<sup>144</sup> due in part to excessive mining. Australia would be able to develop a sustainable ecosystem and secure access to rare earth oxides if it had access to India's untapped deposits and low labour costs. This will allow Australia to confidently plan its long-term rare earth projects and guarantee supply chain sustainability.

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Source: Indo-Pacific Endeavour 2019, Department of Defence image library.

# Indian aircraft visit Cocos Islands as Australia strengthens its maritime security network

**David Brewster & Samuel Bashfield**

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Despite Australia's hopes,<sup>145</sup> the Indian military will not be participating<sup>146</sup> in the Australian Defence Force's multinational Exercise Talisman Sabre later this month. But that shouldn't be taken as a reflection of the Australia-India defence relationship. This week several aircraft from India's navy and air force made a ground-breaking visit to Australia's Cocos (Keeling) Islands. The visit represents an important step in the bilateral relationship as the two countries increasingly give each other access to their military facilities in the Indian Ocean.

Since 2022, Australian and Indian naval aircraft have been regularly hosted at each other's facilities, making use of a mutual logistics support arrangement<sup>147</sup> signed in 2020. This has included visits by Indian P-8I maritime patrol aircraft to Darwin<sup>148</sup> and visits by Australian P-8A aircraft to Goa and (earlier this week) to Tamil Nadu<sup>149</sup> in southern India. The use of each other's facilities allows Australian and Indian aircraft to undertake coordinated operations right across the northern Indian Ocean, from the Arabian Sea to the Bay of Bengal and Southeast Asia.

Analysts have also long been calling for Indian access to the Cocos Islands airfield,<sup>150</sup> which is being strengthened and expanded<sup>151</sup> to take P-8 maritime patrol aircraft. Indeed, since 2021 the territory has been used to support Indian space missions.<sup>152</sup>

This week's visit by Indian Navy Dornier maritime patrol aircraft and a C-130 Hercules from the Indian Air Force effectively elevates the Cocos Islands as a staging point for Australian and Indian air surveillance of the maritime choke points through Southeast Asia and the entire eastern Indian Ocean.

For Australia, the visit should be seen as part of its efforts to develop a network of maritime security partnerships<sup>153</sup> in the eastern Indian Ocean. For

more than a decade, Australia has focused on strengthening its bilateral defence relationship with India, but its Indian Ocean focus is fast expanding to include other partners in the region, such as Sri Lanka, Bangladesh and Maldives. This is an important step in building an Indian Ocean coalition that, while consistent with US interests, doesn't necessarily rely on US capacity or capability.

The Indian Ocean is too big for any one country to monitor. To achieve an acceptable level of maritime domain awareness, Australia needs to build partnerships with key countries such as India and France, as well as others in the region. This will require a web of relationships<sup>154</sup> among partners that can, in different ways, contribute maritime surveillance capabilities and necessary facilities.

Sri Lanka has long been seen as an important regional partner, although much of the focus over the past decade has been on combating people smuggling. Australia-Sri Lanka defence ties are in the process of being expanded with a broader focus on maritime security.

In 2019, as part of Indo-Pacific Endeavour, a Royal Australian Air Force P-8A patrol aircraft made a symbolically important visit to Hambantota<sup>155</sup> in southern Sri Lanka, where a Chinese company controversially controls the nearby port. In May this year, Australia donated<sup>156</sup> a Beechcraft KA350 twin-engine turboprop aircraft to the Sri Lankan Air Force to complement the 2014 gift of two Bay-class offshore patrol vessels to the Sri Lankan Navy. Further gifts should be expected. A broad-based security partnership with Sri Lanka will provide Australia with many new options in developing its presence in the Bay of Bengal.

Maldives is also a new regional security partner. In a major step, a RAAF P-8A patrol aircraft quietly visited Gan<sup>157</sup> in southern Maldives in October 2022. Gan was a big British air and naval base until the mid-1970s and boasts an extended runway of 3,400 metres. Gan's location in the central Indian Ocean,





Source: Royal Australian Navy sailor Able Seaman Boatswains Mate Taylor Bootle manages the distance line during a Replenishment at Sea Approach (RASAP) exercise with Sri Lanka Navy Ship Sindurala as part of Indo-Pacific Endeavour 2019, Department of Defence image library.

some 700 kilometres north of the joint US-UK base at Diego Garcia, makes it prime real estate<sup>158</sup>—especially given the growing uncertainties<sup>159</sup> about the future of that base.

As part of Indo-Pacific Endeavour 2023,<sup>160</sup> RAAF aircraft will visit Maldives, Sri Lanka and Bangladesh. Those visits could potentially be expanded in 2024 to include Australian naval visits.

Regular visits by Australian ships and aircraft to India and other partners in the northeast Indian Ocean will be important in familiarising ADF personnel with those nations and their facilities, as well as further developing Australia's maritime and surveillance presence in the eastern Indian Ocean.

Australia is also stepping up its assistance to Bangladesh, Sri Lanka and Maldives in building their maritime domain awareness capabilities. It is very much in Australia's interests to ensure that its neighbours have strong, sovereign capabilities to properly govern their maritime zones against a range of threats, such as illegal fishing, drug smuggling and human trafficking.

Both Australia and India remain focused on developing their defence partnership in new areas, including working with each other to build maritime domain awareness in the Indian Ocean. This task will require working with partners around the region to govern shared maritime spaces.

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# India's rocky path to establishing joint theatre commands

**M. Matheswaran**

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The Indian military has been seeking to build jointness among its services for decades, including through proposals to establish regional joint theatre commands with responsibility for different areas of the subcontinent and beyond. But those efforts hit a roadblock earlier this year when the Indian Air Force (IAF) objected to its capabilities being split across commands and relegated to providing tactical support to land operations. A truly joint Indian military may still be a long way off.

For around a decade, Indian military leaders have been touting theatre commands as a way to bring together the army, air force and navy under joint command in defined regions. The proposed structure is broadly modelled on the US theatre command system, although on a much smaller geographic scale.

The initiative gathered pace in 2020 with the appointment of India's first chief of defence staff (CDS), General Bipin Rawat. Under one proposal, the three services' 17 regional commands would be replaced with five theatre commands—one each in the west, north and east, plus an Indian Ocean command and an air defence command. That arrangement, it was hoped, would reduce duplication and promote jointness in planning, strategy and operations (though some have argued<sup>161</sup> that the government's approach is driven more by financial considerations than by operational goals).

While all three services have shown a willingness to consider the plan, they are yet to agree on the details. After Prime Minister Narendra Modi urged them to reach a consensus on proposals earlier this year, the new CDS, General Anil Chauhan, set about the task of resolving the individual services' concerns. He has now been directed to implement jointness through a 'bottom-up' approach that focuses first on logistics, human resources, weapons procurement and communications before addressing other areas.

In contrast to past hurried efforts, the new CDS has displayed a mature and measured approach to the task.

The IAF is the most apprehensive about the change. Its leaders<sup>162</sup> say the proposal weakens the IAF's force structure, undermines its doctrinal approach and affects its operational capabilities. For them, it seems like a plan to parcel out the air force to theatre commands. Fundamentally, the IAF's reservations are that the model is too army-centric. The Indian Army's huge size and leading role in domestic counterinsurgency and land-based border disputes have given it a disproportionately large role in India's military strategy.

Yet every recent Indian prime minister has articulated the nation's strategic interests as extending beyond its land borders, from the Gulf of Aden to the Malacca Straits. Except for a brief period in the 1980s, India has rarely demonstrated the will to defend those interests through power-projection capabilities, which critically include airpower. Paradoxically, India's political leadership has generally limited itself to defensive and reactive military responses.

The IAF has said that while it's not against theatre commands in principle, its core strengths shouldn't be compromised by such a change. The feeling seems to be that the army is out of sync with the realities of modern warfare and has an archaic, land-centric mindset. That concern was reinforced in 2021 by Rawat, who said that the IAF is only a supporting arm for the ground forces, much like artillery and engineers. That statement betrayed a deeply held belief within the army that the IAF's role is subordinate to the army's.

There are concerns that the proposed air defence command would effectively reduce the IAF to playing such a supporting role. Limiting the IAF to air defence would ignore the multidimensional nuances at play in the air domain, including offensive and defensive counter-air, strategic strike, air transport, and intelligence, surveillance and reconnaissance. The chief of air staff, Air Chief Marshal V.R. Chaudhari, has said that this makes the proposal unacceptable<sup>163</sup> and counterproductive,



Source: Royal Australian Navy ship HMAS Arunta conducting a Regional Presence Deployment to the Indo-Pacific, Department of Defence image library.

noting that strong air defence is inextricably linked to counter-air and all other offensive air operations.

The IAF has also argued that the distribution of air assets to theatre commands would go against the principle of unity of airpower. Its fighter aircraft are all multirole platforms, which allows considerable flexibility in their usage. Assigning dedicated forces to a theatre could hamper that flexibility, particularly when resources are limited. The IAF is down to 32 fighter squadrons and may touch a low of 30 by 2025–26, compared with its sanctioned strength of 42 squadrons. Chaudhari estimates<sup>164</sup> that the IAF may, at best, increase to 36 squadrons by 2035–36. This low strength doesn't offer the luxury of allocating dedicated airpower resources to each of the theatre commands.

Despite its reduced fighter squadron strength, the IAF has kept modernisation on track and possesses a growing expeditionary capability (as was demonstrated in its participation in Exercise Pitch Black 2022<sup>165</sup>). Due to limited resources, control of these capabilities needs to be centralised and execution needs to be decentralised.

For fixed air force deployments to theatre commands to be viable, the IAF would need a force of at least 42 fighter squadrons. Even when integrated theatre commands finally replace the IAF's geographical operational commands, it would need to have functional commands (such as an air combat command and an air transport command) to train and maintain the forces to be provided to the theatre commands. These functional commands would be especially important for executing specialist airpower missions, although the tasking may flow from the CDS.

The IAF's updated doctrine, released early this year, should also be taken into consideration. It reflects a strategic shift that should influence the restructuring. It divides the conflict spectrum into

'war', 'peace', and 'no war, no peace', and stresses that airpower is a key component of joint military strategy. It also emphasises the importance of expeditionary capability, punitive strikes, civil-military fusion and air diplomacy. It postulates a larger regional role for the IAF, particularly in the Indian Ocean, including airborne early warning and control; intelligence, surveillance and reconnaissance; and strike and airlift capabilities.

The theatre command concept should be tested before it is fully implemented. The Andaman and Nicobar Command, set up in 2001 as India's first real joint theatre command, provides a great opportunity to validate and finetune all elements of a theatre command, but, to date, interservice rivalry has prevented it from reaching to its full strategic potential.

Theatre commands should also reflect a national security strategy, which India currently lacks. As former army chief General M.M. Naravane recently commented,<sup>166</sup> moving to theatre commands without an overarching strategy is like 'putting the cart before the horse'.

Finally, radical changes in operational and administrative chains of command can't just be left to the military to decide. It will be difficult given the entrenched jostling in India's chain of command, but for a theatre command concept to work, decision-makers need to sit within a clear and consistent command structure. That could mean developing a joint chiefs of staff system like in the US, fully integrating service headquarters with the Ministry of Defence, and removing the operational roles of the service chiefs. Without clear structures, newly appointed joint theatre commanders could be simply sidelined in practice.

Since the government isn't interested in biting that bullet, those crucial reforms may need to be driven by a parliament-mandated committee that involves all major stakeholders. India needs its own Goldwater-Nichols<sup>167</sup> moment to produce lasting and effective military reforms.

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# Australia and India should collaborate to counter terrorism

**K.V. Thomas**

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Terrorism remains a serious threat to global peace and security. No country is immune to it, but nor can any country effectively deal with it alone. The nature, intensity and impact of the terror threats vary between countries,<sup>168</sup> but India and Australia both face risks that should be combated through coordinated efforts.

A key threat to both countries is Islamist terror groups, which have established a strong presence in Southeast Asia. The US withdrawal from Afghanistan and the regrouping of Islamic State Khorasan, al-Qaeda and other terror groups, coupled with instability in Pakistan, have contributed to a heightened risk from Islamic extremists.

India has long been a victim of such groups, including Lashkar-e-Taiba, Jaish-e-Mohammed,

Hizbul Mujahideen, Indian Mujahideen and Jamaat-ul-Mujahideen. The recent history of Islamic terror attacks in India includes the 1993 Mumbai blasts,<sup>169</sup> a 2001 suicide attack<sup>170</sup> on the parliament in New Delhi, and the 2008 attacks<sup>171</sup> in Mumbai.

Pakistan's strategy of cross-border terrorism<sup>172</sup> has further aggravated the problem. Islamic terrorists, sometimes called non-state actors or lone wolves, have established bases in India's neighbours to target India or support anti-Indian groups. For example, National Thowheeth Jama'ath, a jihadist group implicated in the 2019 Easter bombings<sup>173</sup> in Sri Lanka, is believed to have links with banned Islamic terror organisations in India.

Australia faces similar threats.<sup>174</sup> According to the Department of Foreign Affairs and Trade, more than 200 Australians<sup>175</sup> have travelled to conflict zones in Syria and Iraq and about 40 have returned. Many of these returnees were indoctrinated and radicalised and could become involved in terror activities in Australia or elsewhere.



*Source: Exercise Austrahind 22, Department of Defence image library.*



The growing nexus between home-grown extremists and pan-Islamic terror groups increases the threat in the region. For example, Jemaah Islamiyah, which was responsible for the 2002 Bali bombings, was a close ally of al-Qaeda and has relationships with other groups in Southeast Asia. Similarly, the Abu Sayyaf Group, which had historical links with al-Qaeda, has been operating in tandem with Islamic State since 2014 towards their declared goal of establishing an independent Islamic State in southern Philippines.

Racially and ethnically motivated violent extremism, commonly known as right-wing extremism, is another threat facing India and Australia. For example, the Khalistan movement—a violent extremist movement that seeks to create a separate homeland for Sikhs—is still alive among overseas Sikhs in many countries, including Australia. In January this year, clashes<sup>176</sup> erupted in Melbourne between Khalistan supporters and pro-India demonstrators.

Violent nationalism can spread hatred against other ethnic groups. The 2019 Christchurch Mosque attack showed how such sentiments can drive an individual to commit an act of terror.

There is much that Australia and India can do to counter these risks, but improving their sharing of intelligence and data is perhaps the most important.

A key priority for improving Australia-India intelligence cooperation is shared profiling of new terror groups and extension organisations with a presence or links in the region. Normally this information comes from open-source and covert channels such as agent reports, infiltration operations, interception, monitoring and interrogations. For example, the interrogation of Khalid Sheikh Mohammed, described as the 'principal architect' of the 11 September 2001 attacks on the US, helped expose the plans of al-Qaeda and its affiliates.

Another priority area is improved intelligence sharing on travel and communications, which is crucial for disrupting transnational terror links. This requires coordination between the various agencies with responsibility for immigration, policing and aviation security. The 2017 incident where Australian authorities were able to foil a plot by Islamic State terrorists thanks to a timely alert by an international intelligence partner showed how important this is. Following the tip-off, Australian authorities

were able to detain the suspects, who had planned<sup>177</sup> to bomb an international flight and create a chemical weapon.

Terror financing, especially through covert means, is another priority area. Terrorist groups fund their operations through clandestine channels, such as 'hawala'<sup>178</sup>, used by their supporters in various countries. In 2014, the Australian Transaction Reports and Analysis Centre intervened against a Sydney firm<sup>179</sup> that had transferred almost \$19 million to Turkey and Lebanon as part of terror financing.

Better intelligence sharing will help neutralise these threats and bring other benefits. Many Indo-Pacific states are prone to organised crime, especially drug trafficking, human trafficking and arms smuggling—potentially even of weapons of mass destruction. The Indian Ocean has become the preferred maritime route for many drug traffickers operating from Myanmar and Afghanistan.

In May 2023, the Indian Navy seized more than 2,500 kilograms of methamphetamine with a market value of around US\$300 million from a vessel in the Arabian Sea, using intelligence<sup>180</sup> shared among India, Sri Lanka and Maldives. There are also reported connections between South American drug cartels and non-resident Indians, including in Australia, and Indian drug lords with links to Khalistan terrorists and Pakistan.

Since 9/11, intelligence agencies around the world have improved coordination and intelligence sharing. Countries like the US, India and Australia have created national counterterrorism centres for joint operational planning and joint intelligence.

Trust is a key factor in the nature and extent of intelligence sharing between two countries, and cooperation needs to approach this carefully. The Australian and Indian governments should work together to innovate when it comes to shared intelligence and revamp their agencies' approach in line with the challenges on the ground.

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# Seabed Warfare, Australia, India & the Indian Ocean

**Samuel Bashfield**

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Seabed warfare is now proliferating in Europe and has the potential to reach the Indian Ocean. A newly released ORF Issue Brief *Indian Ocean Seabed Defence: Lessons from Europe*<sup>181</sup> looks at military operations in Europe that have targeted seabed cables (data and power), sensors and energy transmission and extraction infrastructure, and how Australia and India should be preparing for the seabed warfare threat.

## SEABED WARFARE

The Russia-Ukraine conflict and wider Russia-Europe tensions have, in part, played out on the seabed. The sabotage of the Nord Stream 1 and 2 gas pipelines in September 2022 represented a return to the past, in which seabed infrastructure were targets for military operations. Three explosions were reported on 26 September 2022, which destroyed three of the four pipelines running from Russia to Germany. Nord Stream is no longer operational, exacerbating Europe's energy crisis.<sup>182</sup>

Earlier, in January 2022, a communications cable servicing Norway's Svalbard Satellite Station<sup>183</sup> was cut under mysterious circumstances. France also experienced several instances of cable sabotage<sup>184</sup> in 2022. A Russian oceanographic ship was found loitering near offshore wind farms and an oil field in Denmark and the United Kingdom (UK).

Russia is conducting surreptitious and unauthorised surveys of critical seabed infrastructure across Europe, potentially as a prelude to disruption operations. Russia's *Yantar* intelligence collection ship was tracked loitering off the Irish coast in August 2021 in the vicinity of the future Celtic Norse communications cable (which will connect Ireland and Norway), as well as AECConnect-1 that links Ireland the United States (US). In November 2022, a Russian oceanographic ship was found loitering near offshore wind farms and an oil field in Denmark and the United Kingdom (UK). When approached by journalists<sup>185</sup> at sea, masked men appeared on

deck with Russian-style rifles and bullet-proof vests. In addition to this publicly reported Russian activity, it should be noted that all sides are playing offense in this new deep sea frontier.

## SEABED INFRASTRUCTURE IN THE INDIAN OCEAN

There is no reason to believe that the seabed warfare operations currently taking place in Europe won't reach the Indian Ocean, should regional tensions heighten.

The Indian Ocean is a conduit for submarine cables that both connect Indian Ocean nations and send data further afield. But just as shipping is concentrated at oceanic choke points such as the Malacca Strait and Bab el-Mandeb Strait so too are submarine cables, making them vulnerable to attack at these locations.

Subsea pipelines will also be of increasing importance in the Indian Ocean, especially for India. India's Oil and Natural Gas Corporation already operates thousands of kilometres of subsea pipelines off India's west coast, connecting major fields including Mumbai High, Neelam and Heera, Bassein. Iran is currently considering extending its subsea natural gas pipeline from Oman to India, which would connect to Porbandar in Gujarat. Further, a US\$5 billion undersea United Arab Emirates-India gas pipeline was proposed in May 2023, which would also connect to Gujarat. Iran is currently considering extending its subsea natural gas pipeline from Oman to India, which would connect to Porbandar in Gujarat.

Australia already has extensive gas pipelines of its Northwest Shelf in the Indian Ocean, connecting offshore extraction facilities to the mainland. But it will also become vulnerable to seabed warfare in new ways. Australia is prioritising establishing offshore renewable infrastructure, including offshore wind and solar farms, wave energy plants and undersea interconnectors at various sites around Australia's coast, including the Indian Ocean. Australia may soon begin exporting solar power to Singapore via the world's longest

undersea high voltage direct current cable, the Sub Cable Australia-Asia PowerLink.

Seabed mining exploration is also being undertaken in the Indian Ocean, where polymetallic nodules are in abundance. Such mining will involve a whole new range of players and seabed activities.

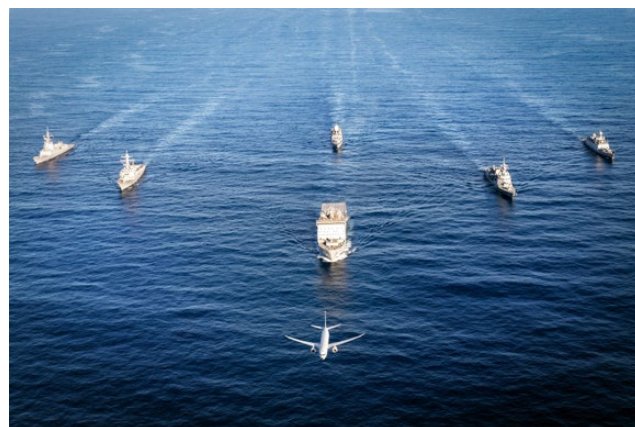
## INDIAN OCEAN SOLUTION

It is clear that Australia and India share many interests in seabed security in the Indian Ocean. This will require public discussion and debate on the implications of seabed warfare and how it should be integrated into respective Australian and Indian defence strategies. These should include governance arrangements for seabed warfare responses, capability requirements (e.g., vessels, unmanned and/or autonomous underwater vehicles, sensors, etc.), as well as articulating how human resources and partnerships in seabed warfare should be developed. France recently released its seabed warfare strategy in 2022,<sup>186</sup> which may provide a useful model.

As littoral Indian Ocean states with sophisticated navies and coast guards, Australia and India should take the lead in coordinating with less capable regional nations to monitor seabed infrastructure and develop plans for responses to disruptions.

The Indian Ocean comprises various littoral and island nations, many of which do not possess sophisticated navies or coast guards, and there is no overarching grouping such as NATO to coordinate responses. As littoral Indian Ocean states with sophisticated navies and coast guards, Australia and India should take the lead in coordinating with less capable regional nations to monitor seabed infrastructure and develop plans for responses to disruptions. Australia and India can also assist these nations to consider seabed defence as part of regular defence reviews. Such cooperation could also include capability building in underwater domain awareness, capacity building programmes targeting seabed defence techniques, and adding seabed incident response scenarios to joint regional military exercises and drills.

In May 2023, the Quad announced plans to create a Quad Partnership for Cable Connectivity and Resilience, through which Australia will establish an Indo-Pacific Cable Connectivity and Resilience Program. The United States agreed to provide capacity building and technical assistance via its



Source: Exercise Malabar 2023, Department of Defence image library.

'CABLES program,' which is worth US\$5 million. It is uncertain whether this programme will be confined to communication cables or whether it will be extended to other types of seabed infrastructure. These initiatives should engage with the wider issue of seabed warfare, and not be limited to communication cables. While the Quad could be an avenue for cooperation, Australia and India should take the lead in working with Indian Ocean neighbours.

## CONCLUSION

Australia and India need to watch seabed warfare developments in Europe closely as a harbinger to potential developments in our region. These two influential Indian Ocean maritime powers need to coordinate to secure Indian Ocean seabed critical infrastructure. As more critical infrastructure traverses the Indian Ocean seabed, a coordinated approach will best protect these assets from catastrophe.

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# The untapped potential of Australia – India defence space cooperation

**Cassandra Steer**

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Our security depends more and more on space. Today's militaries depend on space systems for operations on land or sea, in the air, or in many cases, in cyberspace. Space technologies are integral to our daily lives and to the functioning of global infrastructure making it imperative that the space domain is politically stable and accessible. The only way to ensure this is through strategic partnerships, and India and Australia have great potential to cooperate to advance their interests in several ways.

Space has become commercially competitive, with over two thirds of the approximately 8,500 operational satellites in orbit belonging to commercial entities. Most of those are US companies, making it hard for companies from other nations to compete.

The space domain is now a strategic domain politically and militarily contested. The most effective way to compromise an adversary's eyes and ears is to target the space systems they depend upon. Threats to space systems come in various forms. The ability to interfere with any one of these technologies and the need to protect them leads to an escalatory trend in 'counterspace technologies'. As more countries become active in space and seek to protect their assets, the space domain itself comes under threat.

The best way to respond to commercial and military contestation is to balance it with cooperation. Countries that cooperate in their space programs can leverage this to enhance their geopolitical influence. Australia and India have an underutilised potential as space partners, particularly when it comes to defence and security. As Australia and India become closer political, economic and security partners, there are many opportunities for cooperation on space technologies.

Opportunities to leverage existing civil space cooperation between the Indian Space Research

Organisation and the Australian Space Agency, include facilitating collaborative technology development,<sup>187</sup> and a ground station in Australia's Cocos Islands<sup>188</sup> to support India's Gaganyaan human spaceflight missions.

In addition, Australia's International Space Investment (ISI) fund<sup>189</sup> looks to bring Indian and Australian researchers and industry partners together with \$20.69 million in funding over four years. While the Fund is primarily aimed at civil space partnerships, the dual use nature of most space applications means that there are immediate security benefits as well. Earth observation satellites, for example, contribute to disaster and climate response, water management, agricultural planning and decision-making in many sectors, and also have applications for intelligence, surveillance and reconnaissance, maritime domain awareness and defence operations. High speed, secure satellite communications are critical for military operations and are integral to our national economies.

Our space capabilities can complement each other well. Australia has a strong heritage in space domain awareness (the ability to accurately track objects in orbit) and a workforce of defence space operators with experience in intelligence, communications and information warfare. Australia already has space data sharing agreements with the 'Five Eyes Plus' partners, which include France and Germany. Australia could offer its strengths to India as a reflection of our shared security interests in the region.

Laser communications are being developed in Australia through an optical ground station network<sup>190</sup> to support Defence needs and NASA's Artemis program to return astronauts to the Moon. Expanding this ground station network to India would provide secure, high-speed communications in the region, and strengthen the Defence partnership among our nations.

India has an outstanding launch capability and demonstrated its effectiveness with its recent Moon landing.<sup>191</sup> This technological success expands India's strategic influence. The Defence Space Research Agency has contributed to India's



rise as a space power, but both India and Australia need to better integrate their Defence and civil space agencies under national priorities. Australian Defence could be partnering with India on launch needs, and on developing robotics and AI needed for lunar activities, given the competition for lunar resources that will emerge in the next decade.

India also has a large constellation of Earth observation satellites.<sup>192</sup> Australia may need to become a greater consumer of their services with cancellation of its National Space Mission for Earth observation.<sup>193</sup>

Greater space cooperation can also contribute to our shared regional interests and our ability to influence global security issues. There has, for example, been a deadlock on space arms control for decades. Australia and India could potentially play a role in bridging that gap.

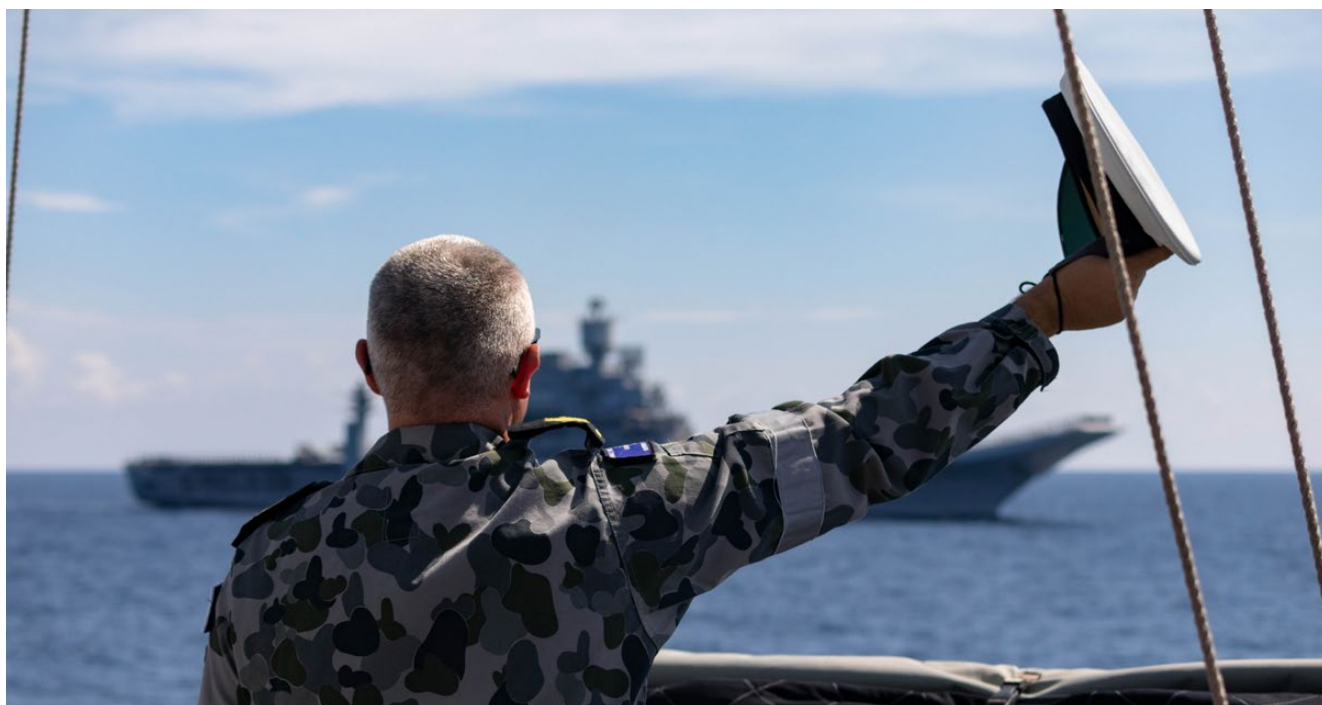
In August, the UN Open Ended Working Group on Reducing Space Threats (OEWG) failed to produce a consensus report<sup>194</sup> on norms, rules and principles of responsible behaviour because Russia and its supporting nations failed to agree on it. While most states wanted to see concrete outcomes, some, like India, remain ambivalent. Australia could work with India towards an agreement. The OEWG has also led to 35 countries making binding unilateral commitments<sup>195</sup> not to test direct ascent anti-satellite weapons. They included Australia

and key space partners to both Australia and India, such as the US, Germany, Japan, South Korea and New Zealand, but not India itself. A UN General Assembly resolution<sup>196</sup> calling for a moratorium on such tests garnered further international support of 155 nations. Russia, China and their supporters voted against it. India chose a middle ground and abstained.

As a more multipolar global order evolves, middle and regional powers have ever greater influence in international affairs. If, for example, India were to support a moratorium, even without making a binding commitment not to undertake further tests, this would contribute enormously to greater space stability for the Indo-Pacific and the world.<sup>197</sup>

While India's civil and military space programmes are in many ways more advanced than Australia's, neither nation can achieve their ambitions alone. By seeking to complement each other's strengths in certain space technologies we can further our own interests and impact the policies, strategies and behaviours of other active space nations, and thus further influence regional stability.

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Source: Indian Naval Ship Vikramaditya on the final day of Exercise MALABAR 2020, Department of Defence image library.

# Made in the Himalayas: building war games for India and its partners

**Sidharth Raimedhi**

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Wargaming has returned to the fore as a tool for military planning. US think tanks are outcompeting each other in wargaming a Taiwan contingency, with their recommendations amplified by mainstream media. One recent war game<sup>198</sup> even made congressional representatives act as US National Security Council members in a Taiwan contingency.

The potential benefits of wargaming are historically evident,<sup>199</sup> even if their full impact is still debated. Many war games are essentially geared towards military scorecard comparisons and warfighting, with the objective of collecting information on the likely use of weapons systems within a set of strategic choices.

But such games tend to have limited engagement with the larger political context.<sup>201</sup> The road to war is often left unexamined when games begin with the assumption that a political decision for war has already been made. The political objectives for the hypothesised military operation are assumed to be relatively fixed and unidimensional.

Understandably, perhaps, many games are geared towards making useful and timely interventions in the debates on the US's warfighting capabilities and options in a Taiwan contingency.

India lags in wargaming and should develop a culture of strategic wargaming. But the type of war game that's prominent in the West may have limited value for India, particularly in examining potential conflicts with China in the Himalayas.

For one thing, compared with other countries, India's political system is characterised by 'absent dialogues',<sup>202</sup> between civilians (politicians and bureaucrats) and the military, and between the government and its people. This, combined with limited access to information,<sup>203</sup> make it difficult to build war games aimed at deducing likely outcomes of a conventional war between India and China or Pakistan.

In addition, Indian analysts generally don't seriously consider an all-out war against China as an option. The unfavourably skewed military balance combined with geographic disadvantages imposes costs that are considered too prohibitive to accept. Political considerations, in part related to historical memory and self-identity, make the prospect of a defeat in any such war all the more unbearable.

Rather, India's security challenges are usually conceived in terms of political crises surrounding military contingencies such as transgressions and military coercion by China. India's cognitive energies are geared towards establishing conventional minimal deterrence vis-à-vis China, which also relies on appeals to China's own broader strategic interests. In contrast, US strategic priorities pertain to coalition warfighting to deter rising Chinese assertiveness in the entire Indo-Pacific region.

But in understanding a potential conflict in the Himalayas, straightforward bean counting<sup>204</sup> or even more nuanced assessments<sup>205</sup> of military capabilities<sup>206</sup> may miss important variables in decision-making and responses. Analyses of long-term trends<sup>207</sup> are useful and indispensable guides but can suffer from inductivism and may ill-prepare us for strategic surprise—such as Chinese actions in May 2020.<sup>208</sup> Well-designed war games have the potential to combine analysis and military empirics to uncover unthought-of pathways, drivers and contingencies.

The military balance should be understood in conjunction with the particular ways through which a crisis evolved towards war. Hence, an understanding of the nature of the crisis and its history and elite perceptions of political realities are indispensable for a fuller understanding of the architecture of the India-China flashpoint in the Himalayas. Crises occur primarily in the minds of human agents, which is why war games are a valuable tool to understand the contours of a future crisis as it looks in the minds of decision-makers.

The evolving crisis in the Himalayas poses tough questions for the Indian strategic community, which remains confused about Chinese objectives and strategy.

In recent months, the US administration<sup>209</sup> and strategic community<sup>210</sup> have registered a greater interest in the stand-off between India and China in the Himalayas as an emerging flashpoint with global implications. The US is making a cognitive shift from supporting bilateral dialogue to resolve the crisis to assessing China's continuing military build-up and coercion of India. But US decision-makers also struggle to understand what is driving the border conflict or how it could end.

Simulation exercises and wargaming would assist India and its partners to better anticipate strategic decisions and prepare responses to various pathways. A recent report<sup>211</sup> recommends that Delhi and Washington 'hold joint wargaming exercises to develop mutual understanding of the threat of a future India-China conflict and identify Indian capabilities gaps that can be filled before conflict breaks out'. Another thoughtful analysis<sup>212</sup> recommends discussing escalation-driven crisis scenarios with Quad members to enable 'red-teaming of India's escalatory assumptions, as well as its proposed off-ramps, to support Delhi's escalation-control efforts ahead of time'.



Source: Exercise Austrahind 22, Department of Defence image library.

But cooperation in wargaming between India and its like-minded partners will require translation of differing strategic concerns to reflect India's unique needs and approaches. Wargaming should be a flexible tool that emphasises scenarios that are principally political, but with strong military arbitration.

These war games should also emphasise scenario-building to help unpack the slow and winding road to a severe crisis and then, possibly, war. Given the political nature of the crisis, such exercises could face significant challenges when conducted at an official level, meaning that academic institutions and think tanks can play a valuable role.

With these objectives in mind, I, with the assistance of senior retired military officers, design war games for the Council for Strategic and Defense Research in New Delhi. These games have generated valuable insights by encouraging vigorous debate of interpretations and responses. Conditions are also created to allow for back-channel negotiations to assess likely dynamics between military developments and civil negotiations.

Also valuable have been role-play-driven insights on possible Chinese perceptions<sup>213</sup> of the larger border crisis as well as Beijing's more immediate reasons for undertaking the May 2020 military operations. Intra-team negotiations can also be used to interrogate unspoken assumptions<sup>214</sup> on each side.

It may seem surprising that a wargaming culture hasn't taken off in India given its acute security challenges and strategic aspirations. As part of managing a rising China in its own backyard, India will have to reduce perception gaps that exist between it and its like-minded partners. Increasing engagement in jointly designed wargaming exercises that permit free thinking and force players to reckon with difficult choices is one way to do so.

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# India and Australia: Building media resilience in the Pacific and Indian island states

**Blake Johnson**

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**The Pacific and Indian Ocean islands states require support from external partners to protect the integrity of independent thought and defend themselves against disinformation.**

In recent years, both Australia and India have made significant efforts to assist island states in the Pacific and Indian Oceans to help build resilience against a range of threats. There is considerable scope for the two to work together to build media resilience and combat disinformation from malign actors in the region. Island states in both the Indian and Pacific Oceans are facing similar problems. Financial and capacity constraints in the formal media sector make it difficult to keep pace with the rapid spread of information online. Meanwhile, China's assistance<sup>215</sup> through scholarships, training, equipment and other financial incentives<sup>216</sup> is targeted to build influence that will enable the spread of propaganda and narratives

that undermine<sup>217</sup> other foreign partnerships. These island countries need support from external partners who want to uphold media as a pillar of democracy, protect the integrity of independent thought, and defend against malicious information operations.

In Pacific island countries, rumours of corruption, political upheaval, and financial opportunities<sup>218</sup> that are too good to be true flood the information environment. In the confusion, there have been cases<sup>219</sup> of journalists who have, by their own admission, inadvertently further spread false information. These inaccuracies, which further harm traditional media's reputation, often come from inexperience and insufficient time to correctly check sources. Mistrust of traditional media creates an opportunity for false narratives to gain a foothold and for malign actors to manipulate information and populations. Some recent reports have showcased several examples where the Chinese Communist Party has sought to suppress the truth<sup>220</sup> and undermine democracy<sup>221</sup> and partnerships across Pacific islands by influencing media and spreading false information online. Resilience against the spread of false information, deliberate or inadvertent, can be built by providing greater financial support and by training journalists



*Source: Royal Australian Air Force and the Indian Navy working together to enhance shared maritime domain awareness in the Indo-Pacific from INS Rajali, India, Department of Defence image library.*



in small island nations. Although there is a concern that media freedom is regressing,<sup>222</sup> the scale, complexity, and diversity in India's rich media landscape<sup>223</sup> offer many opportunities for strong collaboration and support. Further training on identifying false information, checking sources, and reporting on complex economic, political, or security issues would be welcomed: doubly so if it was delivered in the country to a broader audience of local media professionals rather than a few selected to travel overseas on scholarship or training opportunities.

Support from the Australian Broadcasting Corporation International Development<sup>224</sup> (ABCID)—involving the provision of equipment, training, exchanges, and other initiatives by media professionals but funded largely by the Australian government—has been highly valued in the Pacific, but the ABCID lack the capacity and funding to reach every island country and deliver on all development. Recently, the British Broadcasting Corporation Media Action,<sup>225</sup> has also engaged with the Solomon Islands in their first foray into the region. Still, there is plenty of room for more partners to engage and media organisations remain in need of more support. There are lessons to be learnt from Australia's long history of media engagement in the region, including the consequences of the recent downsizing<sup>226</sup> in broadcasting presence which created space for others like China. India can also leverage Australia's deep connections across the region to underpin media support. Think tanks, academics, and media professionals should be funded by the Australian and Indian governments to create networks of media professionals from Pacific and Indian Ocean island states to exchange views and experiences of the challenges in the media industry in an inclusive way. In many parts of the Pacific, this is referred to as 'talanoa' (which means "talk" or "discussion"). Through these networks, journalists and other media professionals could share stories and discuss solutions. Outlets that promote greater diversity and gender equality, such as the all-female *Khabar Lahariya*<sup>227</sup> online network should also take part in these exchanges, building upon existing efforts<sup>228</sup> to strengthen female representation in media. Australia and India could also help island states dream bigger when it comes to generating online media revenue. The size of the Australian customer base across a number of social media platforms provided leverage in wrangling a share

of social media revenue from companies like Meta and Google for traditional media outlets through the news media bargaining code,<sup>229</sup> an idea that is now spreading globally.<sup>230</sup> Australia should offer to work with the Pacific Islands Forum to help develop a regional approach for securing revenue. India—which boasts the largest number of Facebook users in the world—can also make sure that Indian Ocean states are not left behind.

In addition to supporting media development, there are online challenges in combating disinformation that require cooperation at the political level. Online deception methods are evolving rapidly, using AI for text generation and deep-fake imagery.<sup>231</sup> For populations, in many island nations that are still gaining internet access, this level of deception will be difficult to detect. Disinformation may not be used by malign actors like China in isolation. Hybrid threats<sup>232</sup> occur in coordination to target and undermine governments across the Indo-Pacific. Economic coercion, political interference, illegal fishing activities, and cyber-attacks are taking place across the region, initiated by both state and non-state actors, and require a coordinated response. Other scholars have proposed the establishment of an Indo-Pacific hybrid threats centre<sup>233</sup> that would help regional governments, businesses, and civil society to understand the threat landscape, build resilience and counter malign activity in the region. Australia and India could cooperate in their support for the creation of a centre of excellence to address these threats. This could cooperate with existing structures like the Pacific Fusion Centre<sup>234</sup> supported by Australia. Combatting disinformation involves more than just identifying false information. It requires an understanding between like-minded partners of how disinformation is being used to manipulate and meddle in internal affairs, directly or in conjunction with other hybrid threat actions—and how these nations and others are vulnerable to its spread. Cooperation between the largest partners of Pacific and Indian Ocean states should start with building resilience through financial independence and amplifying the voices of media in small island states.

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# Australia and India should cooperate in undersea search and rescue

**Prakash Panneerselvam**

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India and Australia have an interest in addressing subsurface challenges in their shared maritime domain. As they and other countries in the region grow their submarine fleets, there's a critical need to develop underwater search and rescue capabilities and considerable scope to work together.

In the coming years, there will likely be a significant increase in underwater activities in the Indian Ocean, including a major increase in the deployment of military submarines by littoral and non-littoral states. Currently, nearly 15 countries operate submarines in the region. India and Australia are the longest-running operators among Indian Ocean states.

As a consequence, underwater search and rescue will increasingly become an important public good. In 2021, India and Australia quickly mobilised naval assets, aircraft, and underwater search and recovery equipment to help Indonesia find the disabled submarine KRI Nanggala. China also made a high-profile contribution<sup>235</sup> to search efforts. The tragic loss of the Indonesian submarine and its 53 crew underlined the critical need to develop underwater search and rescue capabilities in the Indian Ocean region.

We should also expect a significant increase in commercial activities involving underwater vehicles, crewed and uncrewed. This includes installing and maintaining subsea infrastructure such as communications, power cables and pipelines.

A significant growth in seabed mining may involve submersibles. The International Seabed Authority<sup>236</sup> has already awarded contracts to India, China, Germany and South Korea to mine in the Central Indian Ocean and more contracts are expected.

Conventional maritime search and rescue employs vessels, aircraft and space-based assets to search and respond to incidents across vast areas of ocean. Underwater search and rescue is generally

far more difficult and complex, requiring highly specialised skills and capabilities to detect, recover and salvage disabled underwater vehicles and high-value objects like aircraft's black boxes.<sup>237</sup>

The location and recovery of submarines present challenges due to the environment and the nature of the vessels involved. Specialised vehicles and equipment are often in short supply. The tropical waters of the Indian Ocean also pose unique challenges<sup>238</sup> for underwater sensing. This can lead to significant delays in fixing the location of a disabled submarine for rescue operations to commence.

Building interoperability and coordination between India and Australia could increase the likelihood of successful search and recovery efforts for their and their partners' submarines.

Both countries are planning significant expansions of their submarine fleets. The Indian Navy currently has several classes of conventional and nuclear-powered submarines. One is in operation, with a second to be commissioned by 2024.<sup>239</sup> Australia, which currently operates Collins-class submarines, plans to acquire or build a fleet of nuclear-powered submarines over several decades as part of the AUKUS arrangement.

While they both possess some submarine rescue capabilities, the further development of a sovereign rescue capability is a key priority for both navies. The Indian Navy now has a third-generation deep submergence rescue vehicle (DSRV) that can reach a disabled submarine at up to 650 meters. In 2018, the Indian Navy demonstrated its rescue capability<sup>240</sup> by 'mating' its DSRV with a submarine on the sea floor 100 meters down. The navy has two DSRV systems, providing submarine rescue coverage on India's east and west coasts.<sup>241</sup>

Australia's submarine rescue capability is limited. The Royal Australian Navy contracts a private company<sup>242</sup> to maintain, operate and upgrade the LR5 escape and rescue system<sup>243</sup> that provides limited capability and is due to be retired in 2024. Nuclear-powered submarines will likely require more advanced capabilities.

There have been delays in procuring a new deployable submarine escape system<sup>244</sup> following the termination of a contract with a US company. Nevertheless, the RAN and its industry partner conduct regular exercises to ensure they meet the appropriate requirements and are ready to carry out a rescue at short notice.<sup>245</sup>

International cooperation is vital for submarine rescue. There are several ways that India and Australia could collaborate to improve their capabilities through joint rescue exercises, training and capacity-building programs.

In the multilateral space, India could participate in the triennial exercise Pacific Reach sponsored by the Asian Pacific Submarine Conference to enhance rescue skills. India participated in the Australian-hosted 2019 exercise as an observer.

Australia and India are also members of the International Submarine Escape and Rescue Liaison Office (ISMERLO),<sup>246</sup> a NATO-sponsored group that helps coordinate search and rescue operations. The Indian and Australian navies already participate in joint exercises and training programs with other member nations to develop interoperability and share best practices. India and Australia could

consider working within ISMERLO to establish a joint coordinated submarine rescue centre to share information during emergencies.

Cooperative arrangements could potentially include regional partners like Singapore, which already has agreements for submarine rescue support and cooperation with India and Australia.

The Quad is another forum where Australia and India could discuss with Japan and the US building a regional underwater search and rescue system.

India's National Institute of Ocean Technology and Australia's CSIRO could develop innovative solutions such as underwater robotics or deep-sea autonomous vessels to aid in submarine rescues.

As underwater activity increases, so too will the reasons and opportunities for Australia and India to join forces to develop underwater search and rescue capabilities.

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Source: Exercise Malabar 2022, Department of Defence image Library.

# Seabed critical minerals: An emerging frontier for India-Australia collaboration

**Soham Agarwal**

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Close collaboration between India and Australia can pave the way to extract critical minerals by undertaking seabed mining in a responsible and sustainable manner.

Exploration and exploitation of mineral resources on the seabed—known as seabed mining—has garnered renewed interest due to advances in deep-sea technology. HMS Challenger’s discovery of polymetallic nodules in the 1800s<sup>247</sup> apprised the world of the existence of mineral deposits on the ocean floor. Further discovery of polymetallic sulphides and cobalt-rich ferromanganese crusts has made the seabed a known repository of minerals<sup>248</sup> such as copper, cobalt, manganese, iron, lithium, and rare earth elements. Great opportunities exist within existing arrangements for Australia and India to sustainably and responsibly unlock this new source of critical minerals in tandem.

Seabed mining, however, raises significant environmental impact concerns. The process<sup>249</sup> of extracting polymetallic nodules involves mining machinery cutting approximately 5cm of the seabed. Nodules are pumped up, cleaned and separated after which the remaining sediment<sup>250</sup> is deposited back at mid-ocean level. Mining polymetallic sulphides and ferromanganese crusts involve cutting rock<sup>251</sup> at hydrothermal vents and seamounts respectively.

While some research does document the impact of mining<sup>252</sup> on marine ecosystems, the extensive gap in scientific knowledge<sup>253</sup> about deep-sea ecosystems precludes an evidence-based impact assessment. The potential environmental impact, compounded by a lack of information on its extent, is a major obstacle for both India and Australia in pursuing seabed mining. More recently, this position was echoed by Australia’s Environment Minister Tanya Plibersek who is “concerned about the broad and unknown environmental impacts”.<sup>254</sup>

However, her statement did not completely rule out the possibility of seabed mining and instead stated that it should not take place “unless strong environmental regulations are in place.”

This sentiment stems from the potential economic and geopolitical benefits of seabed mining. Earning the title of ‘critical’<sup>255</sup> due to their importance, and prevailing global supply risk, the Central Indian Ocean Basin (CIOB) alone is estimated to hold<sup>256</sup> 4.7 million tonnes of nickel, 4.29 million tonnes of copper, 0.55 million tonnes of cobalt and 92.59 million tonnes of manganese. Lying in the ‘Area’, i.e., the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction (Article 1(1) UNCLOS), these estimates are in addition to those available within the continental shelves of coastal states i.e., within national jurisdiction. This figure surpasses<sup>257</sup> any current or estimated land-based extraction figures and potentially offers a steady supply of such minerals which are currently marred with volatility, scarcity, and geopolitical uncertainty. Further, these minerals are becoming increasingly critical for battery storage and electric vehicle technology,<sup>258</sup> important to support energy



*Source: Australian and Indian Army soldiers during Exercise Austrahind 2022, held in India, Department of Defence image library.*



transition processes and sustainable futures.

The issue in addition to the lack of directed research, is the lack of available technology in both India and Australia which compounds the difficulty in conducting effective impact assessments that are critical to putting in place robust regulations.

Current collaboration between Australia and India, thus, should be expanded to include research in sustainable seabed mining. This could include joint deep-sea ecosystem exploration; co-development of environmental impact assessment frameworks and management plans; and commercialisation of deep-sea technologies which could make the process more efficient and environmentally sound. Current engagement under the Australian government's An Update to An India Economic Strategy to 2035: Navigating from Potential to Delivery (IES)<sup>259</sup> has placed partnerships with India in critical minerals as a priority. To that effect, an India-Australia Critical Minerals Research Partnership (CMRP) was established to "strengthen supply chains, add value to Australian exports, and work with India to commercialise technology. The CMRP, therefore, could be the appropriate platform under which such engagement could take place.

This partnership is led by Australia's national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), which seeks to<sup>260</sup> work with Indian and Australian researchers, industry and government to draw on complementary capabilities, combine expertise, and fast-track cutting-edge research and technology. A key component of the CMRP remains to "unlock commercial benefits of commencing, improving and integrating Indian and Australian critical minerals value chains." Run under CSIRO's Mineral Resources Processing Programme, projects<sup>261</sup> are to be conducted over 3.5-years and seek to contribute to diversified, resilient, and responsible critical mineral supply chains, expand critical mineral industries, and commercialise innovative Australian and Indian technologies. CMRP funds<sup>262</sup> CSIRO projects designed to deliver to CMRP objectives and has so far received AU\$ 35.7 million in funding. The nature of projects<sup>263</sup> being undertaken includes "development of novel IP to help unlock Australian vanadium deposits and enable the production of battery materials at commercial scale".

Undertaking projects which enable the extraction of mineral resources from the seabed

in a responsible and sustainable manner could unlock a diversified and sustainable source of minerals. CSIRO further, also has expertise<sup>264</sup> in deep-sea mining research and is currently leading a consortium to develop an integrated ecosystem assessment and ecosystem-based management framework to gauge the potential impacts of proposed mining activities. Here, collaboration with the Ministry of Earth Sciences, the Government of India and its autonomous institutions such as the National Institute of Oceanography, Goa which has conducted disturbance studies<sup>265</sup> in the past, will be fruitful. Such collaboration will allow experiences from the CIOB to be applied to the Clarion-Clipperton Zone in the Pacific, and afford a better understanding of the similarities and differences between regions. Sharing experiences will allow for more effective tailor-made management approaches.

Moreover, joint development and commercialisation of technology for sustainable mining could go a long way in assuaging concerns of environmental impact through assessment and monitoring. Since technology transfer is a politically sensitive issue in both jurisdictions, collaboration on the joint development of IP may be an effective solution. Complementarities can be drawn under India's Deep Ocean Mission<sup>266</sup> which prioritises the development of technology for deep-sea mining and an Integrated Mining System. The National Institute of Ocean Technology is developing a manned submersible Matsya 6000,<sup>267</sup> which will be operational at a depth of 6,000m. Given CSIRO's expertise, tech collaboration is a great opportunity to draw on complementarities and reach commercialisation at an earlier date.

Therefore, research in deep-sea mining is an emerging frontier for India-Australia collaboration, and the CMRP provides an existing and suitable architecture within which it should be undertaken. This collaboration would allow for more efficient action and would enable India and Australia to pave the way for not only unlocking a new source of critical minerals but also ensuring that such extraction is undertaken in a responsible and sustainable manner.

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