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FUTURE MARITIME SECURITY CONCERNS OF THE SRI LANKA NAVY: CHALLENGES VERSUS SOLUTIONS

by

Buddhika Liyanagamage

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Thesis Advisor:	Carolyn C. Halladay
Second Reader:	Feroz H. Khan

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13. ABSTRACT (maximum 200 words)

This thesis explores how the Sri Lanka Navy (SLN) can effectively face its maritime security challenges by utilizing available resources and establishing a maritime strategy to ensure peace and stability in the Indian Ocean Region (IOR). Specifically, the analysis examines security concerns in the IOR, the extra-regional power rivalry between India and China, why sea lines of communication need protection, initiatives to improve maritime security, and why maritime cooperation is important to the SLN. Additionally, this thesis looks at how smaller island nations—Seychelles, Mauritius, New Zealand, and Singapore—have equipped their navies to face the evolving maritime security environment by utilizing available resources. Ultimately, this study recommends Sri Lanka and its navy establish effective security measures by implementing strict maritime laws and drafting bi-lateral agreements with India to counter transnational organized crime. Sri Lanka should also consider implementing joint maritime patrols and a permanent foreign policy in the IOR; maintaining non-aligned status with every nation; building interoperability with sister forces, maritime agencies, foreign navies, and coast guards; and implementing the SLN resources into conventional practices. Finally, based on qualitative research and analysis, this thesis recommends right-sizing the SLN and establishing research and development expertise to utilize Sri Lankan military resources effectively.

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Buddhika Liyanagamage
Captain, Navy, Sri Lanka
BSME, Kotelawala Defence University, 1995
MS, Kotelawala Defence University, 2012

Submitted in partial fulfillment of the
requirements for the degree of

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**NAVAL POSTGRADUATE SCHOOL
December 2018**

Approved by: Carolyn C. Halladay
Advisor

Feroz H. Khan
Second Reader

Afshon P. Ostovar
Associate Chair for Instruction, Department of National Security Affairs

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

ADSU	anti-drug and smuggling unit
AIS	automatic identification systems
ATS	automated targeting system
BCIM	Bangladesh–China–India–Myanmar
BRI	Belt and Road Initiative
CMF	Combined Maritime Forces
CPEC	China Pakistan Economic Corridor
CRRC	combat rubber raiding craft
DNFC	Directorate of Naval Foreign Cooperation
EEZ	exclusive economic zones
FAC	fast attack craft
FARC	Revolutionary Armed Forces of Colombia
FGB	fast gun boats
FMV	fast missile vessels
GDP	gross domestic product
HADR	humanitarian assistance and disaster relief operations
IMBL	international boundary line
IONS	Indian Ocean Naval Symposium
IOR	Indian Ocean Region
IPC	inshore patrol craft
IPV	inshore patrol vessels
ISPS	international ship and port facility code
LTTE	Liberation Tigers of Tamil Eelam
MDA	maritime domain awareness
MOOTW	military operations other than war
NATO	North Atlantic Treaty Organization
OPV	offshore patrol vessels
PLAN	People's Liberation Army Navy

PN	Pakistan Navy
QMS	quota management system
RAN	Royal Australian Navy
ReCAP	Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia
RNZN	Royal New Zealand Navy
RPG	rocket propelled grenade
RSN	Republic of Singapore Navy
SAR	search and rescue region
SBS	Special Boat Squadron
SIDS	small island developing states
SLA	Sri Lanka Army
SLCG	Sri Lanka Coast Guard
SLFP	Sri Lanka Freedom Party
SLN	Sri Lanka Navy
SLOC	sea lines of communications
SLOT	sea lines of trade
SMSA	Seychelles Maritime Safety Administration
SPDF	Seychelles People's Defense Forces
TOC	transnational organized crime
UNHCR	United Nations High Commissioner for Refugees
UNP	United National Party
USD	United States Dollar
USMC	United States Marine Corps
WMD	weapons of mass destruction
WPNS	Western Pacific Naval Symposium

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I.   INTRODUCTION

The Sri Lanka Navy (SLN) is retooling its maritime strategy to face the evolving and emerging security challenges in its maritime domain, including illegal unreported and unregulated fishing, drug trafficking via sea routes, human smuggling, the illegal exploitation of natural resources, maritime terrorism with asymmetric tactics, and piracy. In addition, climate change and rising sea levels also threaten security in the Indian Ocean Region (IOR). The most consequential issue in Sri Lanka's maritime security, however, is the power struggle between India and China that affects regional stability and security.

A.   RESEARCH QUESTION

Primarily, this study attempts to answer the question: How can the SLN effectively face its maritime security challenges by using its available resources according to its strategy to ensure peace and stability in the region?

B.   SIGNIFICANCE OF THE RESEARCH

This study addresses several gaps in previous research concerning Sri Lanka and its maritime security. First, many scholars have identified maritime cooperation and information sharing as the key elements in improving maritime security. Thus, modern navies such as in the United States, United Kingdom, India, China, and Australia are in the process of transitioning to new technologies and doctrines, and acquiring modern combat warships and nuclear submarines with lethality and minimum detection.

Second, the SLN's lack of resources, especially bigger ships, has resulted in weak security in the maritime domain of Sri Lanka.[1] This situation has led to the rise of non-state actors and organized groups using Sri Lanka as a hub for transnational organized crime (TOC).[2] The vulnerable sea corridors further favor TOC groups because of the country's strategic location, especially in the south of Sri Lanka, and the island nation's

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[1] Sri Lanka Navy, *Sri Lanka Navy's Maritime Strategy-2025* (Colombo: Sri Lanka Navy, 2016), 7–13.

[2] Ajith Wickramasekara, "Transnational Organized Crime and New Terrorism in Sri Lanka: A Nexus" (master's thesis, Naval Postgraduate School, 2017), https://calhoun.nps.edu/handle/10945/56778.

proximity to India. Furthermore, the immense potential of such natural resources such as oil, natural gases, and minerals in the ocean around Sri Lanka has yet to yield benefits, which affects the country's already unstable economy. The responsibility to protect these natural resources from illegal exploitation solely falls to the SLN.

On the other hand, the IOR is key to the world's maritime trade, and a disturbance of the effective flow of trade would severely hamper most of the world economies, especially China, as it imports nearly 70 percent of its oil through the IOR.[3] Ensuring safer sea lines of communication (SLOC) is the responsibility of all maritime nations. Yet Sri Lanka, because of its location, has an even greater responsibility to maintain this key maritime corridor. Meanwhile, the increase in Chinese and Indian influence in the IOR has created tensions with regional countries and superpowers. China linked its maritime Silk Road strategy within the Indian Ocean in 2013, which contributes to a heavy militarization and even nuclearization of the region. Similarly, to gain access to Central Asia, India joined with Iran in 2017 to develop the Chabahar port that lies less than 100 nautical miles from the Pakistan's port Gwadar.[4] Hence, rivalries and competitions in the IOR are becoming a concern to the regional countries.

1.   Security Concerns in the Indian Ocean Region

The security concerns in the IOR are multidimensional and can evolve at any time. The connectivity it provides to the Pacific and the Atlantic oceans, and the large volume of trade and energy transfers it supports, have made the Indian Ocean a strategically important hub for trade and energy. Additionally, the Chinese debt- driven model of influencing maritime nations for power supremacy has enabled China to become the regional power, ousting India and shifting the Indian Ocean naval balance. Amid this shift, links between TOC groups and terrorist organizations have grown stronger, resulting in serious security concerns in the IOR. Among the terrorist groups exploiting this situation, the Liberation Tigers of Tamil Eelam (LTTE) in Sri Lanka have heavily depended on TOC to fund its

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[3] Wickramasekara, 3.

[4] Sabeena Siddique, "Comparing Gwadar and Chabahar Ports: Rivals or Sisters," *Asia Times*, December 7, 2017, http://www.atimes.com/comparing-gwadar-chabahar-port/.

fighters.[5] Similarly, other renowned terrorist organizations such as Hezbollah, the Taliban, and the Revolutionary Armed Forces of Colombia (FARC) have extensively used drug trafficking, money laundering, kidnapping, and extortion to raise funds for terrorism.[6]

The Indian Ocean, the third-largest ocean after the Pacific and the Atlantic, increasingly represents a significant pathway for trade globally and a security concern. As David Michel and Russell Sticklor point out, "growing dependence on natural resource flows linking producers and consumers … [and] emerging problems ranging from piracy to territorial disputes … pose significant governance challenges around the IOR."[7] Possible maritime threats could arise at any time in the IOR.

At the same time, energy security and trade security are essential in the IOR. According to Khaled M. Iqbal, the bulk of the world's oil, container traffic, and bulk cargo pass through the Indian Ocean.[8] Dharmendra Wettewa points out that nearly 90 percent of world's trade moves across the ocean, and effective security architecture among the coastal nations is essential to ensure security to their shipping lanes.[9] At present, the most probable security threat and challenges to maritime trade security in the IOR are piracy and maritime terrorism. TOC by non-state actors could happen at any time because of vulnerabilities at the choke points, exacerbated (or at least not mitigated) by regional geo-politics. Any of these actions would lead to disastrous consequences in the region's maritime trade.

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[5] Mitchell Sutton and Serge De Silva-Ranasinghe, *Transnational Crime in Sri Lanka: Future Considerations for International Cooperation* (Canberra: Australian Strategic Policy Institute, October 2016), 5.

[6] William Mendel and Peter McCabe, *SOF Role in Combating Transnational Organized Crime*, (MacDill Air Force Base, FL: JSOU Press, 2016), 41.

[7] David Michel and Russell Sticklor, *Indian Ocean Rising: Maritime Security and Policy Challenges* (Washington, DC: Stimson, 2012), https://www.stimson.org/content/indian-ocean-rising-maritime-security-and-policy-challenges.

[8] Khaled M. Iqbal, "Maritime Trade Security in IOR: Scope of Multilateral Cooperation" (Presentation, IONS 2016 Bangladesh, August 31, 2016), http://www.docslides.com/maritime-trade-security-in-ior.

[9] Dharmendra Wettewa, "Importance of Increasing Maritime Shared Awareness in the Indian Ocean: An Analytical View on Challenges and Way Forward" (paper presented at the Galle Dialogue International Maritime Conference, Colombo, October 2017), http://galledialogue.lk/assets/template/images/GD_2017/reasearch_papers/pdf/rear_admiral_dmb_wettewa.pdf.

Because the IOR occupies nearly 20 percent of ocean space,[10] the navies in the Indian Ocean Rim are important security providers to the world.

Hence, the maritime nations in the IOR, especially India, have an important role to play.[11] India, in fact, seeks cooperation of the other IOR states to improve peace and stability in the region.[12] Dipanjan Roy Chaudhury quotes a speech made by Indian Foreign Secretary S. Jaishankar at the Indian Ocean Rim Association meeting, in which Jaishankar acknowledges that "as the Indian Ocean takes a center stage in the 21st century, the onus is on us, as equal stakeholders, to collectively secure and nurture our oceanic states."[13]

At the same time, poor situational awareness, weak information sharing, and military rivalries in the IOR could lead to vulnerabilities in energy security. Wettewa further notes that, "maritime security is a multilateral task, and collaborative activity is required to ensure protection to assets."[14] Hence, securing the IOR sea lanes has become the prime responsibility of all the maritime nations despite the power rivalry between regional powers.

2.   Changes to the IOR Maritime Domain after 9/11

Most maritime nations are changing their strategies to face evolving threats. Powerful navies—the United States Navy, the Indian Navy, the Royal British Navy, the People's Liberation Army-Navy (PLAN), and the Royal Australian Navy (RAN), among others—are changing their maritime strategies to counter evolving and emerging threats, both conventional and non-conventional, in the IOR. While India welcomes the U.S. "Cooperative Strategy for 21st Century Sea Power" and accepts the United States as the

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[10] Wettewa, 36.

[11] "Maritime Security in the Indian Ocean: Strategic Setting and Features," Institute for Security Studies, August 2012, https://issafrica.s3.amazonaws.com/site/uploads/Paper236.pdf.

[12] "Maritime Security in the Indian Ocean: Strategic Setting and Features," Institute for Security Studies.

[13] Dipanjan Roy Chaudhury, "Maritime Security an Important Dimension of India's Bilateral Relations: Foreign Secretary Jaishankar," *Economic Times*, July 12, 2018, https://economictimes.indiatimes.com/news/defence/maritime-security-an-important-dimension-of-indias-bilateral-relations-foreign-secretary-jaishankar/articleshow/61549143.cms.

[14] Wettewa, "Importance of Increasing Maritime Shared Awareness in the Indian Ocean," 36.

preeminent power for regional and global security (mainly to counter the Chinese threat),[15] India's sea power concept concentrates on sea-based deterrence, forward presence, energy and economic security, and naval diplomacy in order to use naval ships to ensure foreign policy without violent means.[16] Further, the Indian navy is taking measures to protect maritime assets, especially economic ones, and the coast guard focuses on law-enforcement duties.[17] Meanwhile, China closely monitors major changes in the Indian Navy's acquisitions and doctrine.

India was the first state in the region to expand its maritime strategies and laws in response to terrorism and TOC threats.[18] Similarly, both Japan and Australia are expanding their naval capabilities and laws to meet new challenges.[19] Additionally, despite India's growing security concerns with Pakistan and China, it has initiated such new strategies as a universal legal framework to counter terrorism and TOC. According to the United Nations Office on Drugs and Crime, India has ratified United Nations resolutions combating terrorism such as the Terrorist and Disruptive Activities (Prevention) Act, the Prevention of Terrorism Act, and the Unlawful Activities (Prevention) Act.[20] India also has taken precautionary actions against possible internal and external threats well in advance, knowing cross-boundary threats and regional threats mainly originate from Pakistan and China. In turn, Pakistan and China have also initiated a new legal framework suitable to them, with greater emphasis on defending themselves strategically. Sri Lanka has also reformed its law to meet emergent challenges mainly concerning TOC.

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[15] James R. Holmes, Andrew C. Winner, and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-First Century* (London: Routledge, 2009), 121.

[16] Holmes, Winner and Yoshihara, 62.

[17] Holmes, Winner and Yoshihara, 70.

[18] Satoru Nagao, "The Role of Japan-India-Sri Lanka Maritime Security Cooperation in the Trump Era," *Maritime Affairs; Journal of the National Maritime Foundation of India*, May 2017, https://www.tandfonline.com/loi/rnmf20.

[19] Tomohiko Satake, "Japan and Australia Ramp up Defense Engagement in the South China Sea," East Asia Forum, April 26, 2016, http://www.eastasiaforum.org/2016/04/26/japan-and-australia-ramp-up-defence-engagement-in-the-south-china-sea/.

[20] "India: Building Capacities to Prevent and Counter Terrorism," United Nations Office on Drugs and Crime, 2014, http://www.unodc.org/southasia//frontpage/2014/August/india-building-capacities-to-prevent-and-counter-terrorism.html.

On the other hand, China has also revived its emphasis on energy security. As James R. Holmes, Andrew C. Winner, and Toshi Yoshihara opine, "The paramount concern animating Chinese interest in the Indian Ocean is energy security."[21] Robert Looney points out that China will need to import nearly two-fifths of its energy by 2020 because of its rapid development and military modernization plans, and securing them is very important as it would depend heavily on energy.[22] Meanwhile Holmes, Winner, and Yoshihara highlight that beyond China's energy insecurity and America's hegemony, Beijing is concerned with a potential Indian challenge in the IOR.[23] A study made by Booz Allen Hamilton reveals that major Chinese investments—ports and container terminals in Gwadar (Pakistan), Hambantota (Sri Lanka), Sittwe (Myanmar), Chittagong (Bangladesh), and elsewhere, as well as radar stations and listening posts—would give the PLAN an advantage and perhaps a threatening strategic presence in the IOR.[24] Nonetheless, China reiterates that its "String of Pearls" concept is exclusively "commercial in nature; that China has never and will never seek military bases abroad; and that China's relationship with South Asian countries will never come at India's expense."[25] Still, India is mindful of the real Chinese intention, and New Delhi has introduced new strategies along with acquisitions to balance this maritime rivalry.

China and India also are strengthening their maritime security initiatives. Both China and India are building aircraft carriers and nuclear submarines in addition to other combat ships. Some of the major maritime security initiatives of China and India are the maritime domain awareness (MDA) concept; 24/7 surveillance radars; automatic identification systems (AIS) not only on their shores, but also in other countries; and the integration/networking of information sharing.[26] Another aspect of security enhancement

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[21] Holmes, Winner, and Yoshihara, "Indian Naval Strategy in the Twenty-first Century," 129.

[22] Meghan L. O'Sullivan, *Windfall* (New York: Simon and Schuster, 2017), 212–248.

[23] Holmes, Winner and Yoshihara, "Indian Naval Strategy in the Twenty-first Century," 131.

[24] Jeff M. Smith, *Cold Peace China-India Rivalry in the Twenty-First Century* (Lanham, MD: Lexington Books, 2014), 151.

[25] Smith, *Cold Peace China-India Rivalry in the Twenty-First Century,* 151.

[26] Automatic identification systems (AISs) are designed to be capable of providing information about the ship to other ships and to coastal authorities automatically.

is the employment of the International Ship and Port Facility Security (ISPS) Code on cargo, vessels, and port facilities that coordinate with emergency response agencies and local law enforcement agencies to counter any threat to ships and ports.[27]

In addition, maritime symposia, associations, partnerships, exercises, and dialogues on maritime security have commenced to share vital information and initiatives in the IOR. Some key initiatives to ensure security and cooperation in the IOR are the Galle Dialogue international maritime conference in Sri Lanka; the Indian Ocean Naval Symposium (IONS) involving South Asian, West Asian, East African, and Southeast Asian, and Australian littorals; and the international maritime seminar "Milan" in India. Additionally, multilateral and trilateral naval exercises allow these nations in the IOR to work together to counter maritime threats and train naval disciplines. Some international naval exercises are 'AMAN' in Pakistan; 'SLINEX' between Sri Lanka and India; 'DOSTI' involving Sri Lanka, Maldives, and India; and 'Malabar' involving Australia, the United States, and India. These seminars, joint exercises, and associations influence IOR countries to cooperate with each another to achieve maritime security.

3.   Extra-regional Power Struggle in the Indian Ocean

Amid the other Indian Ocean trade and security challenges, the power rivalry between China and Pakistan on one side and India on the other might open competition between the regional powers.

a.   The China Factor

The Indian Ocean is significant to regional countries and powerful nations because of its trade, energy, and abundance of natural resources. According to Cody T. Smith, "the Indian Ocean is incredibly important … in terms of trade and energy security."[28] Regional energy security presents a serious strategic dilemma, mainly between energy dependent China and India, which leads to a rivalry. Additionally, the sea bed of the Indian Ocean is

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[27] Thompson L. Jean, "US Maritime Security Sustainability Challenges" (master's thesis, Naval Postgraduate School, 2011), http://hdl.handle.net/10945/5539, 12.

[28] Cody T. Smith, "Century of the Seas: Unlocking Indian Maritime Strategy in the 21st Century," (master's thesis, Naval Postgraduate School, 2017), http://hdl.handle.net/10945/56178,21.

well-off in natural resources, which increases tensions over the rights of the Exclusive Economic Zones (EEZ) and has further aggravated rivalries.[29] While the rapid growth of their economies, naval modernization, and energy security may have been reasons for a power struggle between India and China in the IOR in recent times, historically, their rivalry emerged when both of these countries reclaimed their identity after an extended period of foreign tyranny. China and India had tensions over unsettled borders in the Indo-Tibetian frontier, in Tawang; over the Chinese invasion of Vietnam in 1979; and over an Indian nuclear weapons test in 1998.[30] Despite the many tensions, China and India fought openly only once in the 20th century.[31]

After the 1962 war, China and India had better relationships despite past rivalries. They had the first strategic dialogue, the first annual defense dialogue, the first memorandum of understanding on defense exchanges, and the first joint naval exercise.[32] But, in 2013, they returned to rivalry again over the ownership of Arunachal Pradesh state.[33] Since then, India has opted for tactical partnerships with the Soviet Union and with the United States while China was content with Pakistan to pilot its regional policy.

Time and again, Pakistan has been the most ardent supporter and closest ally of China in economic development and in military cooperation. The Pakistan factor in Sino-India relations is gradually transforming into an informal military relationship somewhat similar to the one China has with North Korea.[34] Though both parties benefit, the economic, military, and nuclear support received from China have considerably helped Pakistan to counter India's military and economic dominance. Although China's access through Pakistan has existed since the 1970s—when both countries jointly constructed the Karakorum Highway that linked Xinjiang with Pakistan's northern areas and provided

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[29] Smith, "Century of the Seas," 22.

[30] Smith, *Cold Peace China-India Rivalry in the Twenty-First Century*, 19.

[31] Smith, 22.

[32] Smith, 36.

[33] Smith, 39.

[34] Smith, 129.

access to the coastline—now the China-Pakistan Economic Corridor (CPEC) has significantly expanded this capacity to include energy, economic, and agricultural sectors. Yet, by allowing China to access energy rich Central Asia and the Indian Ocean, the Sino-Pakistan relationship is transforming into deeper strategic relations, which gives Pakistan the leverage to balance India's predominance in size, resources, and military. Cody T. Smith elaborates on the Sino-Pakistan relationship to India as, "Three elements of the Sino-Pakistan relationship remain distinctively threatening to India: the possibility of a two-front war, the provision of Chinese nuclear and military assistance to Pakistan, and Chinese activities in Kashmir."[35] The strong China-Pakistan relationship has resulted in worries for India, particularly concerning Chinese construction activities in Pakistan-administered Kashmir.[36] India even asked China to stop the projects.[37] During the Cold War period, China's direct military assistance strengthened Pakistan to reduce the gap between Pakistan and India, but India sought partnerships with both the Soviet Union and the United States for military assistance.

While India is strengthening its relations with Russia and the United States today, China has gradually been increasing its naval facilities in the IOR, which worries India. Figure 1 depicts the military facilities of the United States, India, and China in the IOR.

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[35] Smith, 131.

[36] "India has Asked China to Stop Construction in PoK: Govt," *Times of India*, August 9, 2018, https://timesofindia.indiatimes.com/india/india-has-asked-china-to-stop-construction-in-pok-govt/articleshow/65341741.cms.

[37] "India has Asked China to Stop Construction in PoK: Govt."

Figure 1. The power balance of the Indian Ocean in 2017.[38]

Many Indian scholars opine that Chinese naval expansion, deployments, and support bases in the Indian Ocean are a threat to India and are designed to surround India via the Belt and Road Initiatives (BRI).[39] India, however, is keeping its options open to participate in the BRI. The Bangladesh-China-India-Myanmar (BCIM) economic corridor connects the four countries in trade, and investment has been progressing well.[40] Despite BCIM and China's invitation, India is hesitant to link with China's belt and road initiative because of India's suspicions about Chinese intentions and possible misuse of geo-strategic

[38] Source: "The Power Balance of the Indian Ocean in 2017," Google Maps, accessed August 28, 2018, https://www.google.com/search?rlz=1C1GCEA_en&biw=929&bih=927&tbm=isch&sa=1&ei =NpuJW9T_AaLo9APD0qrADw&q=international+maritime+bureau+map+on+india+china+and+united+s tates+beses+in+the+indian+ocean&oq=international+maritime+bureau+map+on+india+china+and+united +states+beses+in+the+indian+ocean&gs_l=img.3...327814.373062..373573...0.0..0.68.5418.92......1....1..g ws-wiz-img.......0j35i39j0i67j0i24j0i30.khl9UNBe0DM#imgrc=J3j_Y-_Zgr-0fM:

[39] Prabhash K. Dutta, "Can China Really Encircle India with Its String of Pearls? The Great Game of Asia," *India Today*, June 15, 2017, https://www.indiatoday.in/india/story/china-encircle-india-string-of-pearls-982930-2017-06-15.

[40] Saheli Bose, "Can an India-China Reset Help BCIM," *Diplomat*, June 9, 2018, https://thediplomat.com/2018/06/can-an-india-china-reset-help-bcim/.

advantage by China.[41] In contrast, Chinese scholars have expressed that China has embarked on rapid naval modernization to protect its energy and trade routes.[42] Amid these confusions, Indian Prime Minister Narendra Modi stresses that India will not be strangled by China—and, to this end, India is hosting a multi-nation naval exercise involving 23 navies, including Vietnam, in the Indo-Pacific Ocean to showcase the Indian navy's capabilities to China.[43] Figure 2 elaborates how China has encircled India by the Maritime Silk Road and from the CPEC.
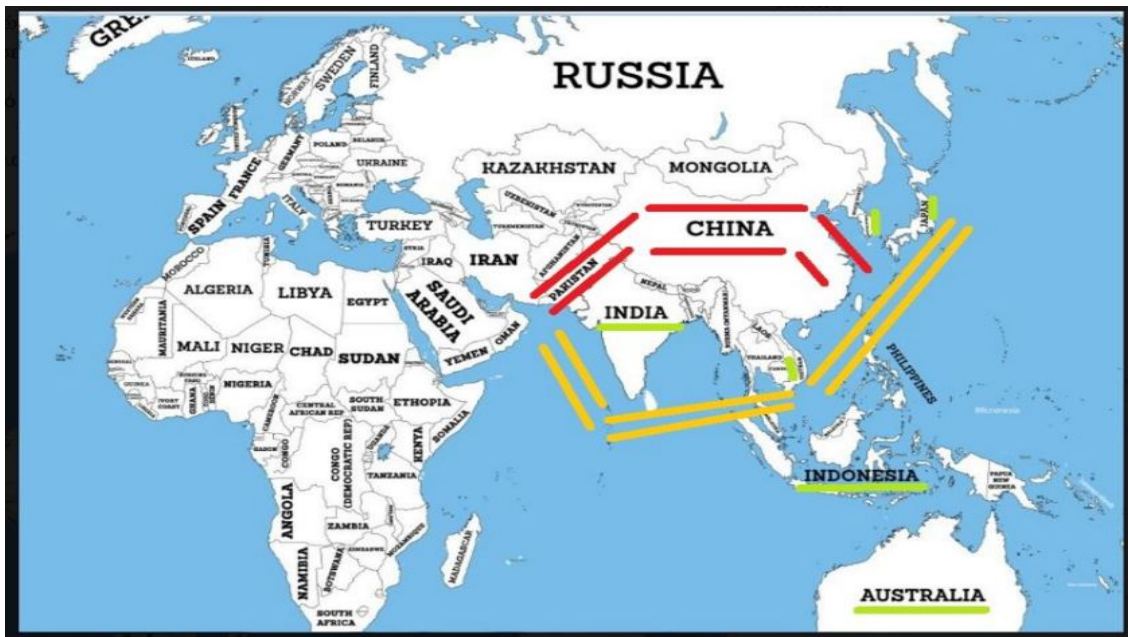
Figure 2. Encirclement of India by China.[44]

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[41] "BRI – A Chinese Marshall Plan for Global Dominance Made up of a Belt of Overland Corridors and a Maritime Road of Shipping Lanes," *Guardian*, July 30, 2018, https://www.theguardian.com/cities/ng-interactive/2018/jul/30/what-china-belt-road-initiative-silk-road-explainer.

[42] James A. Russell, "The Indian Ocean," in *Maritime Strategy and Global Order: Markets, Resources, Security*, ed. Daniel Moran and James A. Russell (Washington, DC: Georgetown University Press, 2016), 197.

[43] Panos Mourdoukoutas, "Modi Is Getting Ready to Stop China, As the Indian Economy Booms," *Forbes*, March 4, 2018, https://www.forbes.com/sites/panosmourdoukoutas/2018/03/04/modi-is-getting-ready-to-stop-china-as-the-indian-economy-booms/#5a24a4ba79db.

[44] Source: "Encirclement of India by China," Google Maps, accessed August 28, 2018, https://www.google.com/search?q=Figure+6.+Encirclement+of+India+by+China&rlz=1C1GCEA_en&source=lnms&tbm=isch&sa=X&ved=0ahUKEwibzNGEuZDdAhVmsFQKHdYWDNcQ_AUICygC&biw=929&bih=927#imgrc=vllzzsnMMFE1CM.

The following comparison is made to highlight the increasing rivalries and power struggle among China, India, and Pakistan in the IOR.

(1)   China's Mindset, Aims, and Efforts

- Prevent domination of global powers over the IOR.

- Maintain free flow of energy supplies in SLOC and sea lines of trade (SLOT).

- Is keen to develop neighbors and naval support units in neighboring nations.

- Align with Pakistan in order to control Indian power.

- Continue naval modernization to a 'blue water navy,' aiming to beat the Indian navy and to match the U.S. Pacific Fleet. A prime example is the Luyang III class guided missile destroyers similar to the U.S. Arleigh Burke class guided missile destroyers.

- Has invested heavily in Sri Lanka and, as a result of the debt crisis, obtained control of the port Hambantota for 99 years.

- Continue developing port Gwadar in Baluchistan to access energy-rich Central Asia and to have road access through CPEC to Xinjian province in China to overcome the 'Malacca dilemma.'[45]

- Maintain advantage over India in undersea warfare.

- Develop theater range ballistic missile with maneuverable reentry vehicle for targeting aircraft carriers.

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[45] Malacca Dilemma – Closing off the Malacca Strait to choke off China strategically.

(2)   Pakistan's Mindset, Aims, and Efforts

- Achieve a sustainable navy of around 100 ships.

- Have the ability to deploy nuclear cruise missiles from under the sea.

- Rely on Port Gwadar to give defense in depth for its navy.

- Ensure India's relations with Iran and Afghanistan do not destabilize Pakistan.

(3)   India's Mindset, Aims, and Efforts

- Seek continued alliance with the United States to deter Chinese expansion.

- Suspect that China has encircled it.

- Has ambition to become regional maritime power and security provider.

- Is modernizing its fleet to match the Chinese navy.

- Continue developing port Chabahar in Iran to counter port Gwadar.

- Continue developing maritime assets in Seychelles, Mauritius, and Andaman and Nocobar.

- Is planning to install surveillance radars with AIS in Sri Lanka, Maldives, Seychelles, and Mauritius.

- Has advantage over China in aircraft carriers.

b.   Naval Rivalry between China and India

Chinese navy deployments in the India Ocean and its naval modernization have increased its rivalry even more with India. Initially, construction of the strategic port of Djibouti in 2016 as China's first overseas deployment, as well as its listening post in the Coco Islands in Myanmar, sparked India's concern. This concern was compounded when a private Chinese company secured a 99-year deal to run the Hambantota port in 2017, and

China undertook construction of the Gwadar port in Baluchistan, strategically located near the Strait of Hormuz choke point.[46] Furthermore, extensive aid to develop the Maldives is also viewed by many as a Chinese strategy to secure military bases and expand its maritime footprint in the IOR.[47] Finally, the Chinese navy's deployment in anti-piracy operations off Somalia since 2008 is another strategy to enhance its naval capability beyond the Chinese waters into the Indian Ocean.

Alison A. Kaufman opines that China has not joined the multinational Combined Task Force, but conducts anti-piracy operations to protect its merchant fleet to secure the SLOT.[48] Further, Kaufman points out:

> China's anti-piracy operations may be seen as part of a longer term … mission aimed at protecting … economic interests, preventing terrorism, delivering humanitarian aid, and conducting other Military Operations Other Than War (MOOTW).[49]

Nevertheless, India sees anti-piracy operations as an opportunity for China to monitor Indian naval activities.

China and India have their own naval strategies to counter each other. Table 1 depicts a comparison of China's and India's recent power struggle in the IOR.

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[46] Vikas Bajaj, "India Worries as China Builds Ports in South Asia," *Global Business*, February 16, 2010, https://www.nytimes.com/2010/02/16/business/global/16port.html.

[47] Yusuf Unjhawala, "Sino-Rivalry in the Indian Ocean." *Swarajya*, June 12, 2015, https://swarajyamag.com/world/sino-india-rivalry-in-the-indian-ocean.

[48] Alison A. Kaufman, "China's Participation in Anti-Piracy Operations off the Horn of Africa: Drivers and Implications," CNA China Studies, July 2009, https://www.cna.org/CNA_files/PDF/D0020834.A1.pdf.

[49] Kaufman.

Table 1. Comparison of recent power struggle between China and India
in the IOR.[50]

Place	India	China
Strait of Malacca	-Threatened to block when China tries to help Pakistan in 1971 war. -Choked supply to Pakistan in 1999 Kargil conflict.	-Moves 80 % of its oil imports. -Keen to develop neighbors. -Developed a naval support unit on Cocos Island.
Myanmar	-Extended USD1.75 billion grant.	-Has presence in Kyaukpyu port. -Invested in 2,400 km gas pipeline connecting Kunming.
Bangladesh	-Offered USD 500 million credit line to buy Russian fighter jets. -Offered to train military personnel, assist on defense technology and research.	-Developed Chittagong port. -Is pushing Bangladesh to allow it a naval base near to Chittagong. -Launched construction of Kunming-Chittagong highway. -Established missile launch pad near Chittagong for Bangladesh. -Eyes Bangladesh's oil and gas reserves of 15.51 trillion cubic feet.
Sri Lanka	-Donated an Offshore Patrol Vessel (OPV) to prevent Sri Lanka buying a Chinese OPV. -Prevented a Chinese submarine's docking. -Increased military training to personnel. -Established six surveillance radars	-Developed Hambantota port. -Allowed 99-year lease of Hambantota port to a Chinese company. -Was refused docking of a Chinese submarine by Sri Lanka.
Pakistan	-Made a deal with Iran to develop Chabahar port.	-Established the China-Pakistan Economic Corridor. -Developed Gwadar port.
Maldives	-Rejected Indian invitation to participate in 'Milan" naval exercise. -Requested by former president to intervene in the Chinese debt trap, but present president support of China. -Established ten surveillance radars.	-Is developing the airport which was earlier given to an Indian firm to develop. -Launched construction of Friendship Bridge. -Developed Male port. -Conducted a joint naval exercise during political crisis.

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50 Adapted from Maninder Dabas, "Here Is All You Know About 'String of Pearls,' China's Policy to Encircle India," *India Times*, June 23, 2017, https://www.indiatimes.com/news/india/here-is-all-you-should-know-about-string-of-pearls-china-s-policy-to-encircle-india-324315.html.

Place	India	China
Seychelles	-Agreed to develop airstrip and berthing facilities at Assumption Island. -Established eight surveillance radars.	-Pressured opposition to prevent the government signing the agreement with India.
Mauritius	- Aims to prevent Chinese actions. -Established eight surveillance radars. -Provided patrol boat. -Agreed to develop Agalega Island similar to Assumption Island.	-Provided financial aid, training. -Prevent Indian access for military infrastructure developments.

Not only has India watched Chinese deployments in the Indian Ocean with concern, it has also expanded its sphere of influence and interventions aiming to counter China. India views the deployment of Chinese submarines for anti-piracy operations as serious security concerns to the region.[51] The Indian navy has detected many Chinese submarines since 2013, but China stresses that it is for anti-piracy operations.[52] Yet, Admiral Sunil Lamba has said that "it is odd for China to deploy submarines for anti-piracy operations in the Indian Ocean…. [T]hey may say it is for anti-piracy operations but it is an odd task to give to a submarine."[53]

Despite concerns over the intended purpose of the submarines, India, with the largest navy in the Indian Ocean, has also demonstrated its desire to project power and influence similar to China in the region. Similar to the Chinese strategy, India is also engaging in humanitarian operations, maritime security operations, and anti-piracy operations, and extending maritime diplomacy, making logistic arrangements with island

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[51] PK Ghosh, "Chinese Nuclear Subs in the Indian Ocean, *Diplomat*, April 12, 2015, https://thediplomat.com/2015/04/chinese-nuclear-subs-in-the-indian-ocean/.

[52] Ananth Krishnan, "China Defends Deployment of Submarines in Indian Ocean," *India Today*, July 20, 2015, https://www.indiatoday.in/world/story/china-defends-submarines-deployment-indian-ocean-283460-2015-07-20.

[53]"Odd that China Has Submarines in Indian Ocean for Anti-Piracy Ops: Navy Chief," *Hindustan Times*, December 1, 2017, https://www.hindustantimes.com/india-news/odd-that-china-has-submarines-in-indian-ocean-for-anti-piracy-ops-navy-chief/story-eUwmKlcyYOWIGrZckvyoHJ.html.

nations and strategically located countries, besides expanding the navy in terms of modernization and fleet enhancement.[54] Additionally, India is turning toward East Asia to have a foothold in the South China Sea to defend its interests. Further, India has established good relations with South Korea and Singapore to further discomfort China. Michael Richardson and Andrea J. Dew highlight,

> Beijing's initial reaction to India's Look East policy was simply to try to discourage India from joining East Asia's plethora of regional institutions or at least to ensure that where India was granted a seat at the table, so too was Pakistan (part of China's policy of seeking 'balance' in South Asia).[55]

As an example of China's and India's influences in regional countries, John Garver notes,

- ✓ In Seychelles and Mauritius

  - India: Established economic and security relationships.

  - China: Resources and strategic advantage in Western Indian Ocean.

- ✓ In Maldives and Sri Lanka

  - India: Assisted democratic transition, political ties.

  - China: Long-term military cooperation.[56]

While, both China and India grab territory in regional countries, they have also expedited their naval expansions. Chinese naval strength, though, far outstrips India's. Moreover, China has more submarines, auxiliary tankers, and amphibious ships, which indicates its strategy to become a powerful and lethal navy with the capability for long-range logistical support.[57] Because India and China have nuclear capability, submarines,

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54 Rupert Herbert Burns, "Naval Power in the Indian Ocean: Evolving Roles, Missions, and Capabilities," in *Indian Ocean Rising: Maritime Security and Policy Challenge*, ed. David Michel and Russell Sticklor (Washington, DC: Stimson, 2012), 48.

55 Michael Richardson and Andrea J. Dew, "Armed Groups at Sea: Maritime Terrorism in the Indian Ocean Region," in *Deep Currents and Rising Tides*, ed. John Garofano and Andrea J. Dew (Washington, DC: Georgetown University Press, 2013), 186.

56 John Garver, *The Indian Ocean in Sino-Indian Relations*, *in Protracted Conquest* (Seattle, WA: University of Washington Press, 2001), 278–282.

57 Burns, "Naval Power in the Indian Ocean: Evolving Roles, Missions, and Capabilities," 53.

and aircraft carriers, the naval competition between them and land grabbing by both countries has inevitably led to a rivalry for supremacy in the Indian Ocean, though China is not a country in the region. Table 2 depicts a comparison of the naval strength of China and India.

Table 2. Comparison chart of naval strengths of India and China by 2017.[58]

Platform	India	China
Aircraft carriers	1 + 1 planned	1 + 1 planned
Submarines	14 (only nuclear submarine under trials)	52 (5 nuclear and 47 conventional)
Destroyers	8	26
Frigates	13	51
Corvettes	8	41 (planned 40–60)
Offshore/Anti-Submarine Warfare patrol vessels	10	67
Minesweepers	9	29
Amphibious ships	11	84
Auxiliary tankers	3	153

The future of Indian Ocean trade and security will be decided on naval power. Rupert H. Burns believes that the IOR will become a complex and important maritime space over the next two decades, characterized by continued naval presence and the increasing expeditionary presence of naval task groups.[59] In addition, Sidra Khan stresses that the power struggle will increase in impact and influence on the region and the one who dominates will control the Indian Ocean.[60] Other than the Indian and Chinese competition for supremacy, the navies of Pakistan, South Korea, and Japan are also in completion,

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[58] Adapted from Burns, 49–51.

[59] Burns, 53.

[60] Sidra Khan, "Indian Ocean Power Struggle: Pakistan Responding India," *Voice of Journalists*, May 30, 2018, https://www.voj.news/indian-ocean-power-struggle-pakistan-responding-india/.

although they are not competing in the same way as China and India. Hence, they have less influence in the region. While China attempts to dominate the Indian Ocean, India attempts to dominate the South China Sea as a countermeasure. Eventually, the Indian Ocean's trade, security, and sustainability will be decided by a maritime nation, be it India or China

By the same token, Richardson and Dew point to three China-initiated factors that could trigger the Sino-India naval rivalry.

> A forward deployment of People's Liberation Army Navy (PLAN) nuclear submarines to the Indian Ocean.
>
> A militarized Chinese 'String of Pearls,' or network of Chinese naval stations spanning the IOR.
>
> A Chinese effort to shut New Delhi out of the South China Sea, complicating and India's broader 'Look East' policy in Southeast Asia.[61]

Similarly, India also has a strategy to counter China, as Smith notes,

> To close the Strait of Malacca to all container traffic.
>
> To enforce a near-in blockade of China close to its shores and ports.
>
> To selectively target ships carrying oil to China and confiscate the ships and crew, or deter them from continuing their voyage.[62]

Smith elaborates three Indian strategies to counter China's progression, but closing the Malacca Strait would not be possible because of the high percentage of international trade volume and Malacca is one of the most important straits in the world. Second, India does not have a naval power to enforce a blockage close to China as the PLAN is far superior in strength and in capacity to the Indian Navy though Smith opines that it is a possibility. Third, blocking or targeting Chinese oil tankers in the Malacca strait is not feasible for India as it would lead to a war. Given the rivalry for supremacy, future Chinese and Indian actions will likely unbalance the IOR peace and security.

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[61] Richardson and Dew, "Armed Groups at Sea," 189; Smith, "China-India Rivalry in the Twenty-First Century," 172.

[62] Smith, "China-India Rivalry in the Twenty-First Century," 172.

c. *Concerns of the United States and Other Countries*

Australia, the United States, India, and Japan (known as the Quad) turned toward an institutional security cooperation in 2018 to counter the rise of China and its strong relationship with Pakistan.[63] The goal of the Quad is to form a security partnership to safeguard the Indian Ocean and the Pacific Ocean. Since then, the Quad countries have conducted many bilateral and trilateral naval exercises, to the discomfort of China. Nonetheless, countries such as Pakistan and South Korea are playing second fiddle in the IOR. The United States is anxious about the systemic shift of the power structure in the Indian Ocean, and in recognition of power, it openly opined to keep "credible combat power … in the Indian Ocean (and elsewhere) for the foreseeable future."[64] James A. Russell notes that the presence of the United States in maritime security operations in the Indian Ocean combined with other international navies has maintained a regional balance of power, and "without the United States leadership, maritime security in the Indian Ocean would certainly be less robust and effective than it is today."[65]

At present, the United States finds itself in competition with China and in between the rivalry of China and India, and simultaneously fighting with Islamic terrorists while containing Iraq. Hence, the United States policy makers and senior military leaders ponder the composition of the exact force structure to support operations while maintaining supremacy.[66] Despite these issues and constraints, the presence of a strong United States naval force is essential in the IOR to counter rivalries. The following points highlight the U.S. interests in the IOR.

- Protecting freedom of seas and free access to oil with no unfriendly country dominating the IOR.

- Considering the IOR as a major maritime trading route.

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[63] Richardson and Dew, "Armed Groups at Sea," 182.

[64] Russell, "The Indian Ocean," 186.

[65] Russell, 202.

[66] Burns, "Naval Power in the Indian Ocean: Evolving Roles, Missions, and Capabilities," 52.

- Asserting greater power projection in the Indian Ocean.

- Serving as net security guarantor of the IOR.

- Containing China.

- Supporting operations in Afghanistan and containing terrorists through surveillance.

- Building a better alliance with India to counter China.

- Securing trade deals in defense manufacturing such as to replace MiG jets with the American F-16.

While the swing of the geopolitical power shifts to the Indian Ocean from the Atlantic and Pacific oceans, Pakistan is strategically in an important position. The strategic 990-kilometer-long coastline, its untouched resources, closeness to the strategic Strait of Hormuz, and access route to Central Asia and to China, make Pakistan an important partner in regional power and security. In the current power dynamics of the IOR, Pakistan's strong economic relationship with China affects the IOR's power balance. The construction of Chinese-aided Port of Gwadar and the CPEC, which connects Baluchistan with Xinjiang province in China, has resulted in the shifting of the geo-strategic picture in the region. China's String of Pearls concept has encircled India via Pakistan, and India is encircling Pakistan via Afghanistan and Iran.[67] Further, Pakistan's nuclear relations with China have nuclearized south Asia and increased maritime rivalries between India, Pakistan, and China.[68] In addition, border threats from Afghanistan, India, and Iran have hindered security and economic interests in the region.

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[67] Garver, "The Indian Ocean in Sino-Indian Relations," 282.

[68] Garver, 282.

4.   Sri Lanka's Role in the IOR, Especially in Relation to the United States, China, Pakistan, and India

The IOR has been experiencing influences and rivalries between powerful nations, threats to energy security, land acquisitions including port and infrastructure developments, debt crises, possible shifts of naval balance and the modernization of navies, and TOC. The Sri Lanka Navy, after helping the Army defeat the LTTE, is experiencing all these factors primarily because of the nation's strategic location, a weak national economy, a small navy, and political instability at the national level. Additionally, Sri Lanka must modernize its navy not least because the maritime area to cover is seven times the country's land area. However, transforming a navy requires a colossal amount of money. Hence, Sri Lanka must specifically identify its role because of simmering tensions in the IOR, and Sri Lanka needs cooperation with all maritime nations to provide effective security. At the same time, Sri Lanka does not have a visible enemy and has good relationships with the United States, China, India, and Pakistan. Thus, protecting the vital sea-lines and its non-aligned status has become a major issue considering the relationships among those four countries.

a.   Historical View

Historically, Sri Lanka has had close relationships with other countries. Examples that demonstrate this date from 245 BC, when the Indian Emperor Asoka sent his daughter and son to introduce Buddhism to Sri Lanka.[69] Sarath Wijesinghe notes, "There is ample historical evidence of Sri Lanka['s] … relationships with China, Myanmar, Afghanistan, Maldives Islands, Thailand, Pakistan, and many Western/Eastern and other countries."[70] One way Sri Lanka has been able to keep ties with such a variety of countries is through a non-aligned stance. After independence in 1948, Sri Lanka maintained a non-aligned status and joined the commonwealth. During this period, Sri Lanka developed close affiliations

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[69] Sarath Wijesinghe, "Foreign Policy in Sri Lanka: Is it Effective & Productive," *Colombo Telegraph*, August 5, 2015, https://www.colombotelegraph.com/index.php/foreign-policy-in-sri-lanka-is-it-effective-productive/.

[70] Wijesinghe.

with the United States and with its colonial father, the United Kingdom.[71] Wijesinghe further points out,

> Sri Lanka's foreign policy is based on the principle of friendly [ness] towards all and enmity towards none based on the principles of non-aligned foreign policy, without taking sides of any major power block.[72]

Most of the Sri Lankan governments maintained principles and concepts of non-alignment even during the Cold War. Chandana Arangalla notes, "Sri Lanka's foreign policy has aligned and realigned from the capitalist to the socialist bloc—with the United States, Soviet Union, China, and India."[73] In the meantime, Sri Lanka has maintained excellent relations with Pakistan under all governments, even after the change of government in 2015, because Pakistan has been an ardent supporter both militarily and financially during and after the civil war in Sri Lanka. Hence, Sri Lanka has had different policies toward neighboring countries and with super powers.

Prime Ministers DS Senanayaka and SWRD Bandaranaike maintained a non-aligned status. During President JR Jayawardena's term, however, Sri Lanka became pro-Western and had the lowest ebb in its friendship with India. Hence, India invaded and pressured Sri Lanka to sign the Indo-Lanka peace accord, which at the end was signed by the President of Sri Lanka in 1987 during the civil war.[74] Nonetheless, during the subsequent governments of Presidents R. Premadasa and Chandrika Kumaratunga, Sri Lanka maintained a non-alignment policy. Finally, with the aftermath of the civil war, under President Mahinda Rajapaksa, Sri Lanka became increasingly aligned with China.[75] Kithmina V. Hewage points out, "This growing allegiance to Chinese interests has created

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[71] Wijesinghe.

[72] Wijesinghe.

[73] Chandana Priyantha Arangalla, "Nonalignment to Balance China's Influence on Sri Lanka: Negotiating China's "String of Pearls" Strategy for the Pearl of the Indian Ocean" (master's thesis, Naval Postgraduate School, 2017), https://calhoun.nps.edu/bitstream/handle/10945/56751/17Dec_Arangalla_Chandana.pdf?sequence=1&isAllowed=y, 71.

[74] "Rajiv Gandhi's Sri Lanka Policy led to his Death: Natwar Singh," *Hindustan Times*, August 1, 2014, https://www.hindustantimes.com/india/rajiv-gandhi-s-sri-lanka-policy-led-to-his-death-natwar-singh/story-0JLTRSHTUF92n32q904rnL.html.

[75] Kithmina V. Hewage, "Sri Lanka's International Reset," *Diplomat*, January 27, 2015, https://thediplomat.com/2015/01/sri-lankas-international-reset/.

concerns for India and its allies."[76] Meanwhile, Chandana Priyantha Arangalla notes that Sri Lanka failed to maintain non-aligned status from 2008 to 2015 and had a close financial alignment with China, which at the end led to a debt trap.[77] Moreover, the foreign policy of a state represents how it conducts cordial relations with the world, and Sri Lanka's foreign policy has not been consistent.

During the 30-year civil war and thereafter, Sri Lankan foreign policy changed from non-aligned status to aligned status and vice versa. The present government that came to power in 2015 revised the foreign policy of Sri Lanka, favoring a more balanced posture. Table 3 summarizes the different foreign policies Sri Lanka has had with the United States, India, Pakistan, and China.

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[76] Hewage, "Sri Lanka's International Reset."

[77] Adapted from Arangalla, "Nonalignment to Balance China's Influence on Sri Lanka," 82.

Table 3. United National Party's and Sri Lanka Freedom Party's governments' alignment since independence.[78]

Duration	Government	Foreign Policy
1948–1956	United National Party (UNP)	Pro-British
1956–1959	Sri Lanka Freedom Party (SLFP)	Non-aligned status
1960	UNP	Non-aligned status
1960–1965	SLFP	Non-aligned status, but strong relations with China
1965–1970	UNP	Non-aligned status
1971–1977	SLFP led coalition government	Non-aligned status, but strong relations with China
1977–1994	UNP	Pro-United States and West
1994–2001	SLFP	Non-aligned status
2001–2004	UNP	Non-aligned status
2005–2015	SLFP led coalition government	Pro-China
2015 to date	UNP/SLFP coalition	Pro-United States and India, but strong relations with China

b.   Way Forward

Sri Lanka must build partnerships with likeminded nations to prosper economically and militarily to ensure security in the IOR. Wijesinghe opines: "Our country needs a Sri Lanka friendly foreign policy aiming at the developments and the prosperity of the Nation, not necessarily prompting any group or ideology."[79] Arangalla further recommends paying

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[78]Arangalla, "Nonalignment to Balance China's Influence on Sri Lanka."

[79] Wijesinghe, "Foreign Policy in Sri Lanka: Is It Effective & Productive."

the balance of Sri Lanka's debt to China and extending Chinese infrastructure projects such as the Hambantota port, Maththala Airport in Hambantota, Colombo harbor expansion, etc. to the rest of the world to make Chinese relations more transparent.[80] Also, Arangalla notes that Sri Lanka must involve the United States and India in future developments. And, not only with the United States and India, Sri Lanka must establish relations with everyone.

In addition to relations with present allies, Sri Lanka's foreign policy is very sensitive to its future relationships. Wijesinghe states that Sri Lanka should take Israel as an example because of its "correct foreign policy and vision."[81] Meanwhile, Dharmendra Wettewa, the Minister (Defense) of the Sri Lankan Embassy in Washington, D.C., opines that Sri Lanka should continue economic development with China because of its economy, and must understand how China operates to segregate good and bad out of it while having good relationships with the United States and regional countries.[82] Further, Wettewa points out that Sri Lanka must have transparent military agreements with regional countries and with super powers and make alliances with likeminded nations to ensure world peace and security.[83] In addition, Sri Lanka needs to support the U.S. and allied efforts to foster a safer maritime domain by eliminating terrorism, TOC, and non-state actors to have better SLOC.

The advent of the new government in 2015 revised Sri Lankan foreign policy, which shifted from alignment with China to a more stable non-aligned status, in turn leading both India and the United States to enhance security cooperation between them. Harsh V. Pant notes that both India and China are looking closely at how the new Sri Lankan government changes its policies despite the expanding Chinese footprint in the IOR.[84] Further, Pant points out, "China's support was crucial for Sri Lanka to confront the

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[80] Arangalla, "Nonalignment to Balance China's Influence on Sri Lanka," 83.

[81] Wijesinghe, "Foreign Policy in Sri Lanka: Is it Effective & Productive."

[82] Minister (Defense) Sri Lanka Embassy in Washington, DC, Rear Admiral Dharmendra Wettewa, E mail message to the author, June 6, 2018.

[83] Wettewa, Email message 06 June 2018.

[84] Harsh V. Pant, "China, India, and Sri Lanka's Change of Guard," *Diplomat*, January 12, 2015, https://thediplomat.com/2015/01/china-india-and-sri-lankas-change-of-guard/.

United States-backed resolutions at the UNHCR [after 2009]. As a result, two nations …
declared [a] strategic cooperation partnership."[85] The China-Sri Lanka partnership gave
China a foothold and entry into the Indian Ocean sphere of influence.

Alternatively, the new government change presents opportunities to India, the
United States, Japan, and to Europe. Jhinuk Chowdhury highlights that India-Sri Lanka
expanded bilateral trade recently, and India is taking steps to enhance investments in Sri
Lanka.[86] Chowdhury points out, however, that Sri Lanka's needs cannot alone meet by
India, and Sri Lanka needs alternative investments. Hence, Chowdhury suggests, "The
U.S., Japan, and Australia are the most important countries that Colombo [Sri Lanka] can
turn to. All three countries are highly interested in deepening their footprints in the IOR."[87]
Further, Japan is gearing up to donate a package of USD 110 billion to developments in
Asia to counter China's financial involvement in the IOR where Sri Lanka also could get
a portion of the Japanese aid.[88]

On the other hand, with the change of new government in Sri Lanka in 2015, Patrik
Mendis views the shift of Sri Lanka's foreign policy to non-aligned status as pragmatic.

> Shift with India—right equilibrium for autonomous but independent foreign
> policy to achieve a more sustainable, transparent, accountable, and
> mutually-beneficial development.
>
> Shift with China—to have win-win relationships between Beijing,
> Colombo, and New Delhi from Sri Lanka-centric New Silk Road.
>
> Shift with United States—to have deep close-ties with Washington as the
> U.S. is a philosophic empire of liberty, livelihood, and a better future.[89]

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[85] Pant, "China, India, and Sri Lanka's Change of Guard."

[86] Jhinuk Chowdhury, "Sri Lanka's New Foreign Policy Presents Opportunities for India," *Diplomat,*
August 24, 2015, https://thediplomat.com/2015/08/sri-lankas-new-foreign-policy-presents-opportunities-
for-india/

[87] Chowdhury.

[88] Chowdhury.

[89] Patrik Mendis, "Sri Lanka's Foreign Policy Under President Maithripala Sirisena," *Daily FT*, May
4, 2016, http://www.ft.lk/article/539559/Sri-Lanka-s-foreign-policy-under-President-Maithripala-Sirisena.

The change of government in Sri Lanka in 2015 can enable the government to maintain a balance in geopolitics in the IOR.

C. POTENTIAL EXPLANATIONS AND HYPOTHESES

This study begins with the hypothesis that maritime cooperation with regional navies and superpowers is the most important factor for the SLN to counter maritime security threats. If Sri Lanka had better bilateral and multilateral cooperation, the domestic war with the LTTE would not have taken almost three decades. With timely information and intelligence on the development of extremism received from international and domestic sources, the Sri Lankan military would have eradicated these extremist elements sooner. Further, evidence shows maritime cooperation with the regional navies and superpowers is essential for the SLN to counter TOC, especially the human smuggling and drug trafficking in the IOR. In addition, because maritime cooperation with regional navies and superpowers benefits the SLN, Sri Lanka should not align with a country or become entangled in powerful nations' strategies.

D. RESEARCH DESIGN

This study offers qualitative research based on analysis and evidence from case studies. The primary data comes from scholarly literature, reports, articles, books, newspaper articles, papers presented in maritime conferences, government statistics, previous studies, and other sources. This thesis makes various analyses: first, it identifies the possible factors affecting maritime security in the IOR and changes to maritime domain in the IOR after 9/11.

Specifically, this project focuses on examining extra regional power struggles and Sri Lanka's role in the IOR. Second, the study concentrates on issues and initiatives related to maritime security in the IOR, with an emphasis on most probable security threats and non-prevailing security threats in the IOR. Especially, the study identifies initiatives taken to strengthen maritime security in the IOR. Then the study concentrates on naval transformation and how the SLN is transforming after defeating terrorism in Sri Lanka in 2009. Additionally, the strategies and policies for small navies in war and peace are analyzed. The navies of Singapore, New Zealand, Mauritius, and the Seychelles model

transformations the SLN can adapt to transform into a conventional fighting unit from non-conventional practices. In sum, this study discovers some of the factors that all maritime nations should adopt to optimize their present fighting capability in the changing maritime domain.

E.   THESIS OVERVIEW

The thesis is divided into four chapters and an appendix. The first chapter has introduced the major research question, security concerns in the IOR, changes to the maritime domain after 9/11, the extra-regional power struggle in the IOR, Sri Lanka's role in the IOR, the significance of the study, as well as potential explanations and hypotheses, the research design, and this thesis overview. Chapter II discusses maritime security in the IOR, its issues, and initiatives. Chapter III examines how the SLN has been systematically transforming since 2009 with efficiency and effectiveness. Chapter IV contains analysis, the conclusion, recommendations, and areas for further study. Additionally, as an appendix, this thesis compares how smaller nations have transformed their navies.

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II.   MARITIME SECURITY IN THE INDIAN OCEAN REGION: ISSUES AND INITIATIVES

This chapter evaluates the potential conventional and non-conventional maritime threats in the Indian Ocean. The most important threats to counter are drug trafficking, interruption of sea lines of communication and trade, illegal unreported and unregulated fishing, maritime blindness, and disaster caused by environmental and climate changes. Further, although some threats are more or less latent today, they could reappear if maritime security and cooperation in the IOR deteriorate. These additional threats include maritime terrorism, piracy in the IOR, human smuggling, and arms smuggling. In this context, this chapter discusses initiatives of the United States and some of the regional countries to strengthen maritime security in the IOR. The discussion also considers how powerful countries have retooled their strategies to counter evolving threats.

A.   MARITIME THREATS IN THE INDIAN OCEAN REGION

Threats in the IOR morph and change based on their domain, nature, and effects. The Indian Ocean is home to 35 littoral states, 24 ocean territories, and 17 landlocked countries; it touches three continents.[90] Most of the traditional security threats are distinguishable while non-traditional threats are more complex because of their nature. This section traces several of the most prominent challenges in the Indian Ocean.

1.   Maritime Terrorism

After the destruction of the LTTE Sea Tiger wing by the SLN in 2009, maritime terrorist attacks have had less success. Nevertheless, the earlier attacks on the USS Cole in Yemen and another on the French tanker Limburg had destructive effects.[91] Most of the recent terrorists' attacks, for example, on the USS Sullivan, on the Japanese oil tanker M. Star, as well as rocket attacks on the USS Ashland and on the USS Kearsage while docked

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[90] Sri Lanka Navy, "Maritime Strategy 2025," 23.

[91] Russell, "The Indian Ocean," 199.

in the port Aqaba, and the Khaw al-Amaya and the Basra oil terminals failed.[92] The only recent successful maritime terrorist attack was conducted by the Lashkar-e-Taiba terrorist group in Mumbai on November 26, 2008.[93] The terrorists came in a large vessel, MV Alfa, and transferred to a Gemini craft off Mumbai to launch the Mumbai attacks.[94]

Meanwhile, the ongoing standoff between the international community and Iran over nuclear activities constitutes a potential threat, especially to Israel and to the United States, which would affect IOR trade and security. The most probable attack could easily be carried out by Iran in the Strait of Hormuz, which would directly affect the flow of energy in the IOR.

2. Drug Trafficking

Maritime terrorism and narco-trafficking are often analyzed together because the profit drug trafficking generates is significantly high and transfers into arms smuggling. PK Ghosh points out that "with profit margins running into hundreds of percent, drug trafficking is by far the most lucrative means of generating funds to fuel ever growing terrorist activities and insurgencies around the region."[95] Meanwhile, Sri Lanka has emerged as a key transit hub for drug trafficking from the Golden Crescent.[96] In addition, Tuticorine and Kochi in India, as well as Pakistan and Iran have emerged as main centers for drug trafficking centers into Sri Lanka and Maldives via sea routes using fishing boats.[97] Figure 3 depicts the main drug trafficking sea routes in the IOR.

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[92] Russell, 199.

[93] Shanthie Mariet D'Souza, "Mumbai Terrorist Attacks of 2008," Encyclopedia Britannica, https://www.britannica.com/event/Mumbai-terrorist-attacks-of-2008.

[94] Maseeh Rahman, "Officials Believe Militants Launched Dinghies from a Mothership to Arrive 'on a One-Way Ticket," *Guardian*, November 27, 2008, https://www.theguardian.com/world/2008/nov/27/mumbai-terror-attacks-terrorism-boats.

[95] P.K. Gosh, "Maritime Security Challenges in South Asia and the Indian Ocean: Response Strategies," Centre for Strategic and International Studies, January 2004, http://tamilnation.co/intframe/indian_ocean/pk_ghosh.pdf.5.

[96] *Golden Crescent* region of South Asia—comprising Afghanistan, Iran, and Pakistan—is a principal global site for opium production and distribution; Wijesooriya, "Churning Historic Waters: Maritime and National Security in the Palk Bay and Sri Lanka."

[97] Pushpita Das, "Drug Trafficking in India: Case study for Boarder Security" (Occasional paper - IDSA) 34, http://www.idsa.in/system/files/OP_DrugTraffickinginIndia.pdf.
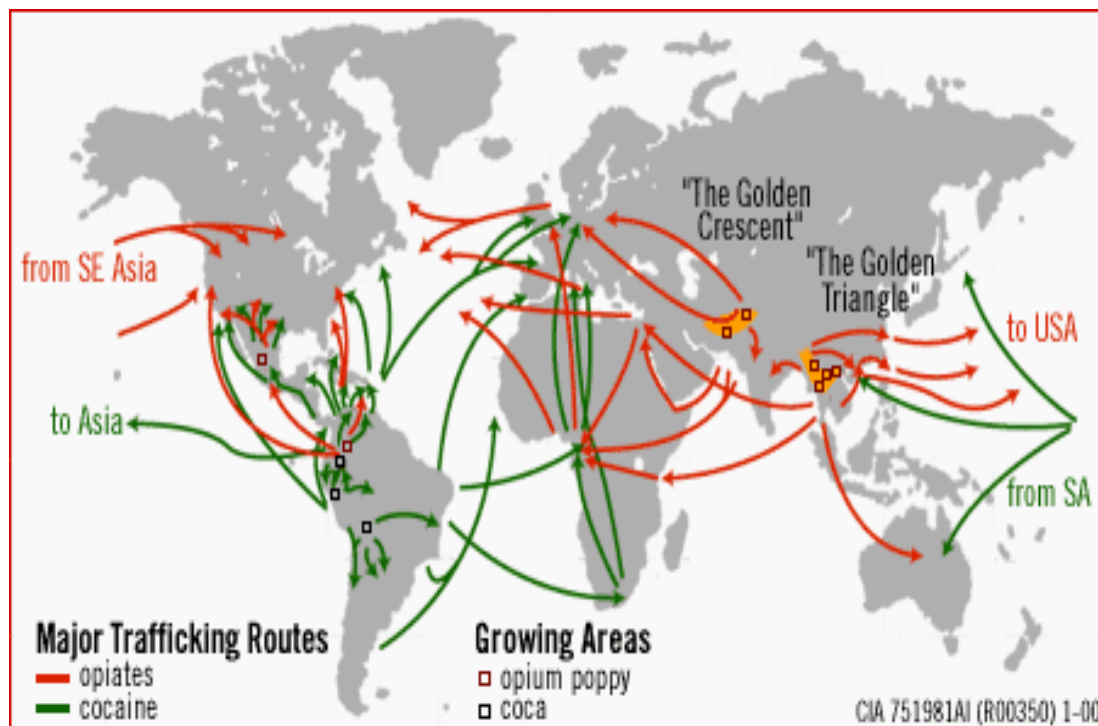
Figure 3. Popular drug trafficking sea routes in the Indian Ocean Region,
as of 2015.[98]

    Overall, statistics reveal that nearly 38 percent of drugs are smuggled via sea routes.[99] Even though Sri Lanka is now free from terrorism, drug trafficking is still being conducted by the drug cartels because of the profits it generates. Similarly, many of the maritime terrorist organizations and affiliated groups have become involved in this lucrative business as it generates approximately USD 200 billion to USD 300 billion in annual profits.[100] Further, other than its link with the terrorist organizations, Dubai is

[98] Source: "Popular Drug Trafficking Sea Routes in the Indian Ocean Region," Google Maps, accessed August 28, 2018, https://www.google.com/
search?q=drug+trafficking+routes+in+the+IOR&rlz=1C1GCEA_en&tbm=isch&source=iu&ictx=1&fir=Pa
oUCX8kFWFC5M%253A%252CWLWrBnfTfAL5YM%252C_&usg=AFrqEzfnm3KJLl8_WzoUnJ0_Gf-
4-
CWwvQ&sa=X&ved=2ahUKEwi2t9TztZDdAhXxHjQIHYV5AgEQ9QEwDHoECAEQCA#imgrc=PaoU
CX8kFWFC5M:

[99] Prasad Kariyapperuma, *A View from the International Maritime Boundary Line: India-Sri Lanka* (Colombo: S. Godage & Brothers (Pvt) Ltd, 2016), 34.

[100] Aparajita Biwas, *Small Arms and Drug Trafficking in the Indian Ocean Region* (Mumbai: University of Mumbai, 2008) 21.

emerging as a key drug money laundering country in the Gulf region.[101] Table 4 elaborates the drug-related arrests by the SLN from 2011 to 2017.

Table 4.   Drug-related arrests made by the SLN, 2011–2017.[102]

Year	Heroin	Kerala Cannabis	Local Cannabis	Opium	Hashish
2011	7.241396	116.84752			18.00
2012	2.780020	152.270	5.000		
2013		156.595	29.524		
2014	0.356870	381.689	20.683		
2015	0.000630	594.272	44.346		
2016	113.327860	1,669.092	7,235.960	15.39830	
2017	29.946825	1,476.119	3219.791		3.00
Total	153.653601	4546.885	10555.304	15.39830	21.00

Amounts in kilograms.

3.   Arms Smuggling

The vastness of the sea makes it very difficult to apprehend arms smugglers via sea routes without accurate intelligence and coordination. Further, small arms are easier to smuggle because they are readily available in the market. And, the profits generated from the drug trade can be used to buy them. Similarly, the LTTE in the past had a well-established arms smuggling network to the shore in small high-speed craft either from South India or from mid-sea transfer from bigger ships called 'floating armories' as they were pioneers in the drug trade. Nevertheless, the SLN, thanks to accurate intelligence, destroyed all these floating armories, which allowed the Sri Lanka Army to completely eliminate terrorism.

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[101] Biwas, 21.

[102] Adapted from the Senior Staff Officer Operations of the Sri Lanka Navy, Email message to the author, May 31, 2018.

Similar to the SLN, the Royal Thai Navy seized an arms consignment meant for the People's Liberation Army (Manipur) in 1997, and the Bangladeshis captured fishing boats laden with arms in 2009, which demonstrates the nexus between terrorists and insurgency groups with arms dealers. Dimuthu Gunawardena stated during the Defense seminar of the Sri Lanka Army,

> There is a greater connectivity between terrorist groups and cross border terrorist networks are operating across the Middle East, Central Asia, South Asia and South East Asia. Use of the sea coast by terrorists to gain access to land for asymmetric warfare against state actors is also quite prevalent and hence there is an imperative need to enhance the maritime and coastal security considering the proximity of SLOC to Sri Lanka.[103]

4.   Human Trafficking and Smuggling

Human trafficking is the trading of people for forced labor and sex slavery, and human smuggling involves people who voluntarily pay to migrate illegally for better job opportunities. Both activities are committed for economic reasons and have increased in the Indian Ocean. According to Pragya Pandey, "smuggling by sea is the cheapest and easiest form of illegal transportation of migrants."[104] Thus, countering illegal trafficking and human smuggling needs effective coordination, continuous surveillance, integration of navies and coast guards, and timely information sharing.

Australia has been the most popular destination for illegal migration by sea in the IOR, with 190,000 migrants entering Australia annually.[105] In response, Australia believes bilateral, regional, and multilateral cooperation has enabled it to control illegal migration, which has also saved the lives of the vulnerable migrants.[106] Other than human smuggling/

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[103] Dimuthu Gunawardena, "Sri Lanka Navy Outlines Importance of Maritime Hub in Seminar Sessions," Sri Lanka Army, August 19, 2014, http://www.defseminar.lk/media-centre/pres/ Rear%20Admiral%20C%20D%20Gunawardena%20RWP%20&%20Bar%20USP%20psc.docx.pdf.

[104] Pragya Pandey, "Emerging Security Environment in the Indian Ocean Region: Challenges and Responses" (Paper presented at the 23rd World Congress of Political Science, Montreal, Quebec, July 2014), 1, https://www.scribd.com/document/75991384/Ghosh-Maritime-Security-Challenges-in-SAsia-Indian-Ocean.

[105]"People Smuggling and Trafficking," Australia Government Department of Foreign Affairs and Trade, http://dfat.gov.au/international-relations/themes/people-smuggling-trafficking/Pages/people-smuggling-and-trafficking.aspx.

[106] "People Smuggling and Trafficking."

trafficking to Australia, another issue evolving is the mass migration of the Rohingyans from Myanmar to the rest of the regional countries, mainly to Bangladesh, by sea. Kathleen Newland, of the International Organization for Migration, has reported that some of these migrants are subjected to torture, rape, starvation, and dehydration or are pushed back to sea, drowning because of ill-fated fishing boats that are not suitable for passenger ferrying.[107] Hence, Australia with the cooperation of IOR countries has initiated countermeasures to illegal migration.

Some of the agents involved in illegal migration have networks with terrorist organizations, and a few analysts also believe that there is a nexus between terrorism and human trafficking. Elsie Gonzalez points out that the Taliban has abducted many young women for sex slavery and young men as fighters.[108] There is speculation that Al-Qaeda terrorists are engaging in human trafficking because of the demand and money involved in this industry for sex, child soldiers, exotic dancers, domestic servants, manual laborers, and for human organs.[109] Because of the involvement of Al-Qaeda, Pakistan, Afghanistan, and Central Asian countries are very vulnerable to human trafficking by terrorists. Figure 4 depicts the migration routes of illegal migrants.

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[107] Kathleen Newland, "Irregular Maritime Migration in the Bay of Bengal: The Challenges of Protection, Management and Cooperation," International Organization for Migration, July 2015, https://www.migrationpolicy.org/research/irregular-maritime-migration-bay-bengal-challenges-protection-management-and-cooperation.

[108] Elsie Gonzalez, "The Nexus between Human Trafficking and Terrorism/Organized Crime: Combating Human Trafficking by Creating a Cooperative Law Enforcement System," Seton Hall University, May 1, 2013, http://scholarship.shu.edu/cgi/viewcontent.cgi?article=1227&context=student_scholarship.

[109] Gonzalez, "The Nexus between Human Trafficking and Terrorism."
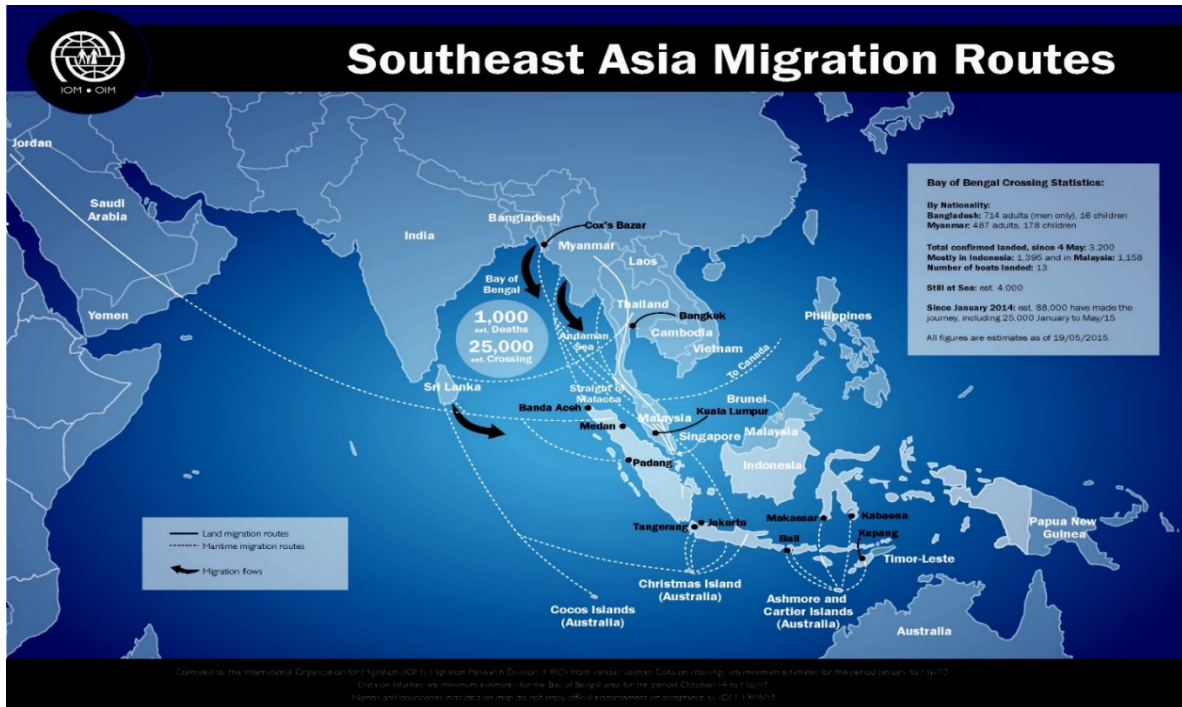
Figure 4. Migration routes involved in human smuggling/trafficking, as depicted
by the International Organization for Migration.[110]

Historically, the IOR has been known for human smuggling and Sri Lanka is a preferred hub for it. Kosala Wijesooriya notes that in the 1950s, immigrants came to Sri Lanka from India, and migration heavily commenced with the aftermath of the civil war in 2009, especially to Australia by boats.[111] Figure 5 depicts a summary of illegal migration apprehensions made by the SLN from 2009 to 2016.

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[110] Source: "Migration Routes of Human Smuggling/Trafficking Made by the International Organization for Migration," Google Maps, accessed August 28, 2018, https://www.google.com/search?q=Figure+4.+Migration+routes+of+human+smuggling/trafficking+made+by+the+International+Organization+for+Migration&rlz=1C1GCEA_en&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjv3fHcuJDdAhXMlVQKHYpdBw0Q_AUICygC&biw=929&bih=927#imgrc=rDovOqtavJuVwM.

[111] Kosala Wijesooriya, "Churning Historic Waters: Maritime and National Security in the Palk Bay and Sri Lanka" (master's thesis, Naval Postgraduate School, 2017), https://calhoun.nps.edu/handle/10945/56845,36.

APPREHENSIONS BY THE SLN
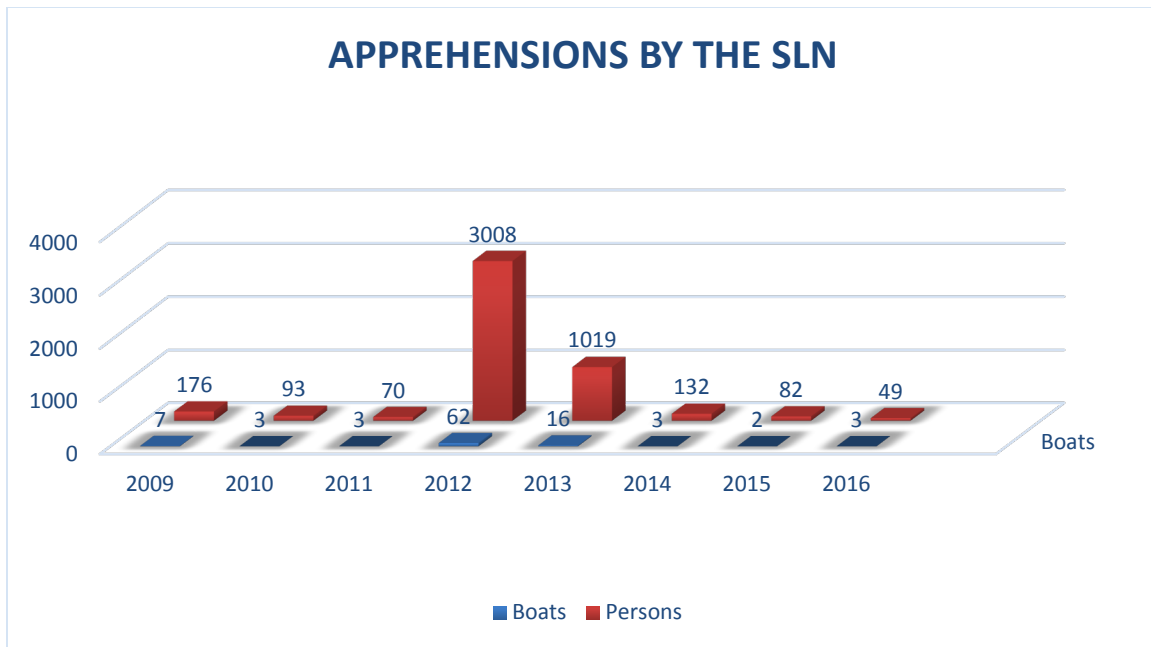
Figure 5. Details about apprehension of illegal immigrants to Australia by the SLN. Adapted from the SLN.[112]

5. Maritime Piracy

Modern-day piracy has shifted from stealing goods from ships to brazen violence, ransom in millions of dollars, hostage taking, and even the killings of ships' crew members. Figure 6 depicts a comparison of piracy and armed robbery from 2008 to 2017. These criminals are well organized and have links with TOC groups and terrorist groups.[113]

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[112] Adapted from the Deputy Director Naval Intelligence of the Sri Lanka Navy, email message to the author, June 1, 2018.

[113] Ghosh, "Maritime Security Challenges in South Asia and the Indian Ocean," 4.
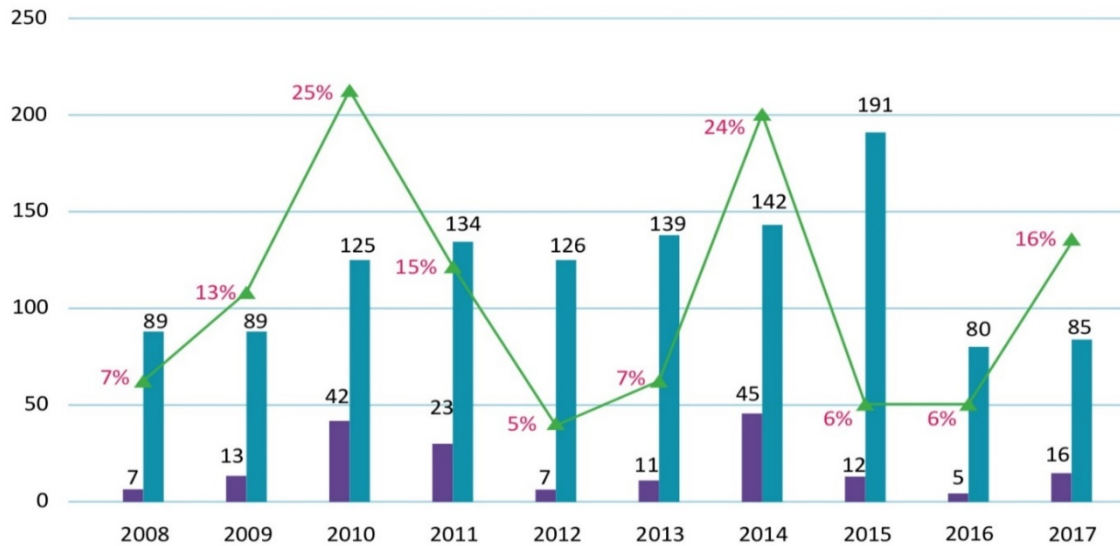
Chart 1 – Piracy vs Armed Robbery Against Ships (2008-2017)
● Piracy ● Armed Robbery ▲ Piracy (%)

Figure 6. Comparison chart of piracy and armed robbery, 2008–2017.[114]

The geographical area plays a prominent role in piracy attacks, especially at the choke points because of their restricted and narrow straits. In particular, in Somalia, piracy has become a curse to the shipping industry as it poses a serious threat and has heavily impacted trade routes connecting "Asia and the Persian Gulf with Europe through Gulf of Aden─North-South along the East African coast."[115] Meanwhile, piracy attacks have not been reported on the high seas as most pirates' boats cannot operate in high seas. Hence, merchant ships have begun to re-route to much longer routes, which affects transport costs and the world economy.

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[114] Source: Google Maps, accessed August 31, 2018, https://www.google.com/ search?rlz=1C1GCEA_en&biw=929&bih=927&tbm=isch&sa=1&ei=I5uJW9vNHafA0PEPoP-ikA4&q=piracy+and+armed+robbery+against+ships+%282008-2017%29&oq=piracy+and+armed+robbery+against+ships+%282008-2017%29&gs_l=img.3...9786.16536..17687...0.0..0.63.705.12......1....1..gws-wiz-img.......0i24.65MaU31MpXY#imgrc=dRjIbqSY8Dvo1M:

[115] Michele Vespe, "The Declining Impact of Piracy on Maritime Transport in the Indian Ocean: Statistical Analysis of 5-year Vessel Tracking Data," *Marine Policy*, March 2015, www.elsevier.com/ locate/marpol.

As a solution, the United Nations Security Council empowered world navies to protect merchant shipping off the coast of Somalia from the pirates. Multinational efforts in the Malacca strait, the Indian Ocean, the South China Sea, and off the Somalia coast are required to prevent numerous reported and unreported piracy attacks. Naval cooperation among Singapore, Malaysia, and Indonesia, known as MALSINDO, has prevented piracy in the Malacca and Singapore straits, but has subsequently shifted it toward the Horn of Africa.[116] In response, the United Nation Convention on the Law of the Sea has given the responsibility to foreign navies to deter piracy attacks.[117] Hence, the North Atlantic Treaty Organization (NATO) operation 'Ocean Shield,' the European Union naval force 'Atlanta,' and the Combined Maritime Force (CMF) consisting of 32 navies under the leadership of the United States naval forces Central Command in Bahrain launched anti-piracy operations.[118] On the other hand, India, Japan, South Korea, Iran, and China have not joined the CMF; rather, they operate on an individual basis to protect their merchant shipping.

Owing to the combined efforts of maritime counter-piracy operations, the Chinese navy began its first major naval operation outside its claimed territorial seas in 2008. Since then, the common Chinese formation of two destroyers and a tanker patrol off the coast of Somalia to safeguard Chinese ships and personnel.[119] In the meantime, China has used this opportunity to monitor Indian naval activities in the Indian Ocean. Recently, the Indian navy has spotted 14 Chinese naval ships including submarines, which India believes to be a serious threat to its national security.[120] Further, Sunil Lanba has pointed out that the Indian navy's monitoring has given details of the continuous presence of the Chinese naval

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[116] Gunawardena, "Sri Lanka Navy Outlines Importance of Maritime Hub in Seminar Sessions."

[117] Vespe, "The Declining Impact on Maritime Transport in the Indian Ocean."

[118] Vespe, "The Declining Impact on Maritime Transport in the Indian Ocean."

[119] Kaufman, "China's Participation in Anti-Piracy Operations off the Horn of Africa."

[120] Shaurya Karanbir Gurung, "14 Chinese Navy Ships Spotted in Indian Ocean, Indian Navy Monitoring Locations," *Economic Times*, July 12, 2018, https://economictimes.indiatimes.com/news/defence/14-chinese-navy-ships-spotted-in-indian-ocean-indian-navy-monitoring-locations/articleshow/61882634.cms.

ships in the Pakistani port of Gwadar.[121] In other words, while the combined effort is going on to curb the piracy actions, interested parties use this opportunity to their own advantage.

Counter-piracy has spawned a growth industry in Sri Lanka. Gradually, according to an SLN media release, "the SLN became specialized in providing Onboard Security Teams and earned sufficient foreign currency for the country."[122] The SLN news further notes, the "Sri Lanka Navy was entrusted the task of providing security to merchant vessels and supplying services to security firms involved in providing onboard security for merchant ships … [and] ensured that the security requirements of the merchant vessels which are frequenting the High Risk Area are provided … efficiently."[123] The number of operations and the details of the Onboard Security Team operations are as follows:

- Transits per month—500–600.

- Transits from November 2015 to July 2017—10,000.

- Total earnings—USD 20 million.[124]

6.   Protection of Sea Lines of Communication and Sea Lines of Trade

The SLOC/SLOT patrols can help to guarantee the free flow of shipping through maritime shipping lanes and at choke points. Hence securing SLOC/SLOT has become a priority of the regional countries. Yet, Indonesia and Malaysia oppose a combined United States and Indian navy coordinated patrol in the Malacca Strait to ensure a safer SLOC/ SLOT. Similarly, China is also concerned with Indian intentions and its development of the Andaman and Nicobar Command, the Tri-service theater command of the Indian Armed Forces, which China considers a threat to its energy trade. On the other hand, the Sri Lanka Navy has a coastline of 1,330 kilometers to cover, and on average, more than

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[121] Gurung, "14 Chinese Navy Ships Spotted in Indian Ocean, Indian Navy Monitoring Locations."

[122] "One Year into OBST Operations: Navy Earns over Rs. 2.3 Billion," Sri Lanka Navy Web News, November 14, 2016, http://news.navy.lk/eventnews/2016/11/14/201611141415/.

[123] "One Year into OBST Operations: Navy Earns over Rs. 2.3 Billion," Sri Lanka Navy Web News.

[124] "Navy Reaches Milestone in OBST Ship Movements," Sri Lanka Ministry of Defense, June 5, 2017, http://www.defence.lk/PrintPage.asp?fname=Navy_reaches_milestone_in_OBST_ ship_movements_20170605_01

250 ships transit the passage south of Sri Lanka daily, heading to the west and east. Fortunately, maritime terrorist attacks at sea have been remarkably reduced; the only recent terrorist attack on an oil tanker was reported in October 2001 off Sri Lanka when the LTTE attacked MV Silk Pride.[125] Even so, any disruption to the SLOC can adversely affect economic growth.

Although India and China lead the energy race in the Indian Ocean, concentrated and coordinated efforts have reduced security concerns to secure maritime highways. Despite increased navy and coast guard deployments, more than 60,000 merchant vessels in transit are still vulnerable to a terror attack at any time in narrow straits, waterways, and harbors. With this in mind, the U.S. Navy's Pacific Fleet reinforced its military presence in the Indian Ocean to make safer SLOCs for energy and trade.[126] Additionally, capacity building, integration, constructive engagement, and capability enhancements of a number of navies around the world also have ensured safer maritime highways.[127] Even roles of NATO, the Indian Ocean Naval Symposium (IONS), and the Association of South East Asian Nations have made considerable contributions to ensure safer SLOCs.

7.   Illegal Unreported and Unregulated Fishing

The marine environment of the IOR has been heavily damaged because of illegal unreported and unregulated fishing, mainly from bottom trawling, which is a banned means of fishing. In addition, some fishermen use explosives and illegal fishing nets to catch fish, which threatens the sustainability of fishery resources. Sri Lanka, which lies very close to India, is a key country in the Indian Ocean that suffers from such illegal fishing by Indian fishing trawlers. In addition, not only does illegal fishing bring unwanted economic and environmental consequences, but it puts Sri Lankan national security under a tremendous threat related to terrorist activities and TOC. Wijesooriya notes that Indian trawlers cross

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[125] "Tamil Tigers Claim Tanker Attack," BBC News, October 31, 2001, http://news.bbc.co.uk/2/hi/south_asia/1628218.stm.

[126] Richardson and Dew, "Armed Groups at Sea," 84.

[127] "Indian Navy 'Net Security Provider' in Indian Ocean Region: Sunil Lanba," *Financial Express*, February 15, 2017,https://www.financialexpress.com/india-news/indian-navy-net-security-provider-in-indian-ocean-region-sunil-lanba/551497/.

the International Boundary Line (IMBL) between India and Sri Lanka and come very close to the Sri Lankan shores for fishing longer durations, which threatens maritime security and sovereignty.[128] Hence, the smaller size fleet of the Sri Lanka Navy is facing a difficult task in preventing the Indian fishing trawlers from crossing the IMBL. Figure 7 demonstrates sightings of Indian fishing trawlers by the SLN from 2006 to 2015.

SIGHTING OF INDIAN TRAWLERS

— Trawlers

Year	Trawlers
2006	11246
2007	21845
2008	31780
2009	27604
2010	40820
2011	49462
2012	46243
2013	45167
2014	33824
2015	40544
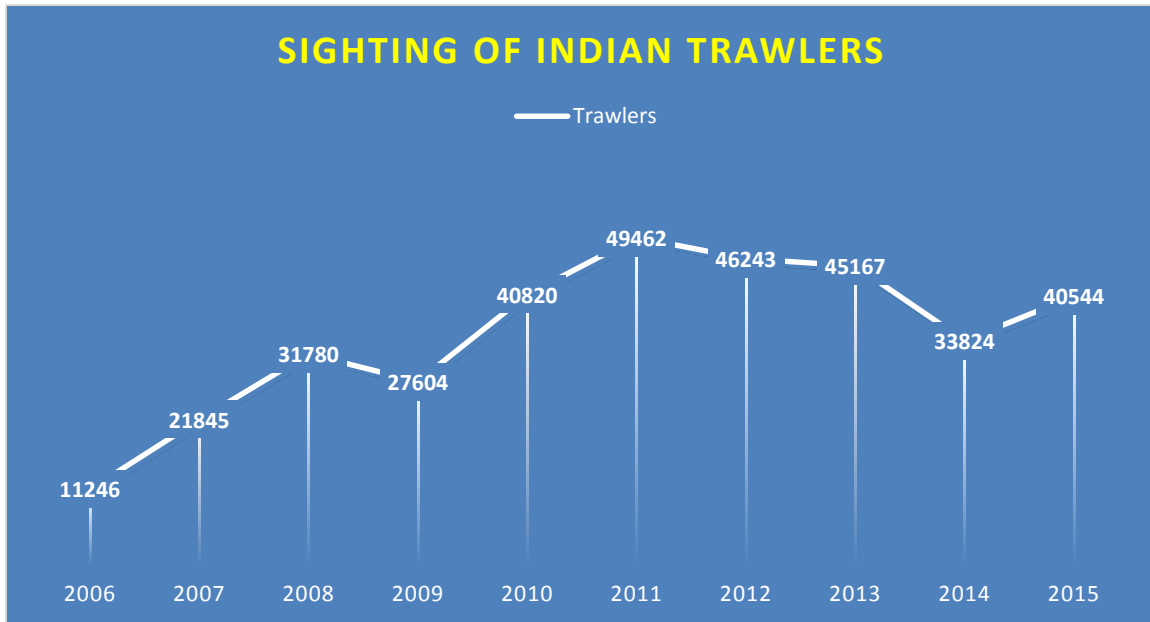
Figure 7. Indian trawler sightings in the territorial waters of Sri Lanka,
2006–2015.[129]

8.   Environmental Security and Climate Change

Timothy D. Hoyt describes two varieties of emerging threats—transnational and state-centric threats—in the IOR and notes, "Climate change, man-made or otherwise, significantly threatens the region in the future, as Island states may literally disappear and littoral states such as Bangladesh face significant threats to arable land through coastal

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[128] Wijesooriya, "Churning Historic Waters: Maritime and National Security in the Palk Bay and Sri Lanka," 19.

[129] Source: J. Scholtens, "Fishing in the Margins: North Sri Lankan Fishers' Struggle for Access in Transboundary Waters" (PhD diss., University of Amsterdam, 2016), 69.

flooding and salination."[130] Sea temperatures in the IOR are rising in the equatorial areas which can potentially lead to a change in monsoons and drought conditions. In addition, continued competition for resources such as resource extraction, energy development, and fish, as well as water disagreements, droughts, and floods will have geostrategic implications.

9.   Humanitarian Assistance and Disaster Relief Operations

Meanwhile, poor governance, population growth, and less economic development in the IOR contribute to geographic and climatic changes. According to some estimates there may be more than 200 million displaced persons, known as 'climate refugees,' by 2050.[131] Garofano and Dew further believe that China, India, Pakistan, and Bangladesh—states that heavily rely on water resources from the Himalayas—would compete for water, leading to political confrontations.[132] Hence, the need for humanitarian assistance and disaster relief (HADR) preparedness in the IOR is becoming one of the main concerns of the regional countries and of the United States.

HADR exercises have attracted global attention in recent years, and interoperability, building capabilities, and conceptual frameworks have progressed in the Indian Ocean. Sarabjeet Singh Parmar notes, "The Indian armed forces have a wide experience of disaster relief operations both at home and abroad, where they have been the core of relief operations. Due to its sub-continental size, geographical location and its vulnerability to disasters, India has kept its forces ready to render assistance at short notice."[133] Similarly, the U.S. military is also assisting regional countries in the IOR in HADR exercises to ensure preparedness in an emergency. Recently, the United States military conducted a symposium in Sri Lanka on HADR to "work collectively with host

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[130] Timothy D. Hoyt, "The Indian Ocean and US National Security Interests,"," in *Deep Currents and Rising Tides*, ed. John Garofano and Andrea J. Dew (Washington, DC: Georgetown University Press, 2013), 279.

[131] Hoyt, "Indian Ocean and US, 279.

[132] Hoyt, 279.

[133] Sarabjeet Singh Parmar, "Humanitarian Assistance and Disaster Relief (HADR) in India's National Strategy," *Focus*, January 2012, https://idsa.in/system/files/jds_6_1_SarabjeetParmar.pdf.

and partner nations to enhance regional interoperability and disaster response capabilities, increase stability and security in the region, and foster new enduring friendships across the Indo-Pacific Region."[134] The cooperation and coordination of the maritime nations in the IOR is progressing in the right direction to face disasters gainfully.

10.   Maritime Blindness

Because the maritime nations cannot monitor the entire sea mass, the seas are considered as a zone of danger and insecurity, a condition called maritime blindness. Many security violations occur under the radar. Admiral Scott H. Swift of the United States Navy has pointed out that "like minded allies, partners, and friends can reduce the impact of the sea blindness that comes with the tyranny of time and distance, through multilateral efforts like joint patrols and information sharing."[135] However, Admiral Abdul Aleem of the Pakistan Navy has said that the lack of sea visibility still prevails despite many technical advances, and it affects seafarers.[136] Therefore, as Admiral Stuart Mayer of the Royal Australian Navy observes, building shared awareness could counter sea blindness to enable sea visibility.[137] Considering the presentations made by the U.S. Navy's Pacific Fleet Commander, the Pakistan Navy's Commander Coast, and the Royal Australian Navy's Commander Australian Fleet during the Galle Dialogue Maritime Seminar in Sri Lanka in September 2017, facing real threats at sea requires information sharing and cooperation.

Consequently, because of maritime blindness and a lack of maritime cooperation, the one area of concern for many experienced maritime professionals is the threat of

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[134] Micah Blechner, "Pacific Partnership Leads Humanitarian Assistance and Disaster Relief Symposium in Sri Lanka," Commander, U.S. 7th Fleet, May 3, 2018, http://www.c7f.navy.mil/Media/News/Display/Article/1512021/pacific-partnership-leads-humanitarian-assistance-and-disaster-relief-symposium/

[135] Blechner, "Pacific Partnership Leads Humanitarian Assistance and Disaster Relief Symposium in Sri Lanka."

[136] Admiral Abdul Aleem, Galle Dialogue, Colombo, October 2017, Enhanced Maritime Visibility; Challenges and Way Forward, http://galledialogue.lk/assets/template/images/GD_2017/reasearch_papers/pdf/rear_admiral_abdul_aleem_hi_m.pdf.

[137] Admiral Stuart Mayer, Galle Dialogue, Colombo, October 2017, Strategic Significance of Developing Interoperability to Mitigate Sea Blindness: Challenges and Future Concerns, http://galledialogue.lk/assets/template/images/GD_2017/reasearch_papers/pdf/rear_admiral_stuart_mayer.pdf.

weapons of mass destruction (WMD). Although the theme of the Galle Dialogue Maritime Seminar 2017 was 'Greater Maritime Visibility for Enhanced Maritime Security,' the United States and its allies were particularly focused on the WMD threat as twofold: non-state actors having this capability, and rogue states obtaining the same.[138] Considering the present security situation where maritime visibility has limits, one could make a 'dirty bomb' that has devastating effects to the maritime domain. Controlling access and effective monitoring would be a solution to control enemies' actions, but one cannot guarantee the effectiveness of such measures. Hence, all the maritime countries' close collaboration and coalition are essential to avoid dangerous biological, nuclear, and chemical weapons falling into the hands of unwanted personnel or organizations. Maritime nations, including their navies, must cooperate with others to ensure a greater maritime visibility by eliminating maritime blindness.

B.   INITIATIVES TO STRENGTHEN MARITIME SECURITY

Because the ocean plays a very important role compared to land, many countries have strengthened their maritime strategies and navies to face the challenges. It is not easy, however, for a country to maintain a large navy because of the high costs involved in the maritime field. Further, it is equally difficult for a single maritime nation to ensure the security of its resources, much less the world's trade and security. Consequently, most of the countries in and around the IOR have retooled their maritime strategies while emphasizing maritime cooperation and other initiatives such as the MDA concept and the ISPS code to effectively counter evolving threats in the maritime domain.

1.   Retooling Maritime Strategy

Recently, maritime strategy changed after the 9/11 attacks mostly to face a more ruthless enemy and to ensure safer SLOCs. Sibapada Rath interprets Alfred Thayer Mahan's view, "Command of the sea meant overbearing power on the sea, which drives

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[138] Azhar Ahman, "Maritime Security Post- 9/11: Challenges and Response," ISSI, June 2014, issi.org.pk/wp-content/uploads/2014/06/1299824930_7936849.pdf.

the enemy's flag from it."[139] China's maritime strategy in the IOR mainly aims to secure its energy. To achieve this aim, China's aspiration is to employ an enduring naval presence in the IOR by building geopolitical and geostrategic influence.[140] Yoji Koda notes the following key points on China's new naval strategy in the 21st century.

- The establishment of Military base in Djibouti.

- Deployment of warships for anti-piracy task.

- Naval support facilities in Gwadar (Pakistan), Male (Maldives), Hambantota (Sri Lanka), Chittagong (Bangladesh), Kyaukpyu (Myanmar) to link 'string of pearls.'

- Maritime claims in South and East China Sea.

- Establishment of defense in depth/layered defense in near seas/IOR.

- Blunting the U.S. intervention and to keep it out of the region.

- New ship acquisitions by 2030.

  - Submarine force – 6.

  - Aircraft carriers – 3.

  - Surface force – 92.

  - Mobile logistic supply force – 12.

  - Amphibious force – 9.

  - Naval aviation – 60.[141]

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[139] Sibapada Rath, "Maritime Strategy of India and China: Influence of Alfred Thayer Mahan," Indian Navy, www.indiannavy.nic.in/sites/default/themes/indiannavy/images/pdf/resources/article_7.pdf.71.

[140] Abhijit Singh, "China's Military Base in Djibouti: Strategic Implications for India," War on the Rocks, August 21, 2017, https://warontherocks.com/2017/08/chinas-military-base-in-djibouti-strategic-implications-for-india/.

[141] Yoji Koda, "China's Blue Water Navy Strategy and its Implications," Center for a New American Security, March 20, 2017, https://www.cnas.org/publications/reports/chinas-blue-water-navy-strategy-and-its-implications.

Chinese and Indian naval strategies have opposite versions. From the expansion point of view, China's new maritime doctrine aims at competing with the U.S. Navy and supersedes the Indian navy to become a real blue water navy. In contrast, the new Indian maritime doctrine though it primarily concerns China, still addresses the TOC and maritime terrorism related issues. One of the main aims in India's naval strategy is to have nuclear and conventional deterrence against Asian states. As James R. Holmes, Andrew C. Winner, and Toshi Yoshihara declare, "Deterrence is poised as a mission against states in India's neighborhood—connoting a focus on Pakistan at a minimum, and possibly on China as well."[142] Nonetheless, the most important point in Indian maritime strategy doctrine is sea control at choke points, entry/exit points in the IOR, in order to exercise, "veto over Chinese actions, shutting China out of India's immediate maritime neighborhood."[143] Thus, India's strategy at sea is mainly centered on control of nautical access.

On the other hand, Pakistan, the United States, and the United Kingdom naval strategies do not have similar versions. The Pakistani navy is developing its doctrine to rise up to the challenging environment in the IOR. Retired Commander Muhammad Azam Khan notes, "Pakistan is developing its maritime doctrine in response to 'disturbing developments' in the IOR to protect its maritime interests and respond to conventional and sub-conventional threats emerging there."[144] Because the IOR is affected by TOC, maritime terrorism, and political instability, the Pakistan Navy has to ensure maritime security while developing good relationships with allied navies.[145] Like Pakistan's maritime strategy, the new United States' strategy doctrine also addresses evolving 21st century maritime security threats. Wang Baofu points out that the United States' maritime strategy has superiority in information, forward presence, land assaults, and information warfare.[146] The United Kingdom's national strategy focuses on maritime security to

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[142] Holmes, Winner, and Yoshihara, "Indian Naval Strategy in the Twenty-First Century," 64.

[143] Holmes, Winner, and Yoshihara, 75.

[144] "Pakistan Developing Maritime Doctrine," *Dawn*, September 6, 2016, https://www.dawn.com/news/1282336.

[145] "Pakistan Developing Maritime Doctrine."

[146] Wang Baofu, "The U.S. Military's 'Maritime Strategy' And Future Transformation," *Study Times*, January 2008, www.lianghui.org.cn.

protect its national interests through risk management to strengthen its prosperity, security, and resilience for a stable world.[147] By contrast, the Russian navy intends to demonstrate its superiority over other powerful navies such as the U.S. Navy and the up-and-coming Chinese navy.[148]

The SLN in 2016 published its first-ever maritime strategy aiming at 2025 in order to meet present and future threats to safeguard Sri Lanka's interests. The SLN maritime strategy 2025 identifies the importance of developing the navy considering Sri Lanka's geographic location and connectivity to maritime energy and trade in the IOR. Moreover, the SLN maritime strategy 2025 illustrates,

> Sri Lanka even though a small island nation has to chart the course of its future navy looking not only at the domestic threats and challenges, but also regional developments in a broader sense.[149]

The future maritime interests, threats, and challenges anticipated in 2025 are economic security and regional cooperation, and how to counter non-traditional security threats, to ensure a secure and resilient Sri Lanka, and to shape a stable IOR and world. In addition, the key salient points illustrated in the SLN maritime strategy 2025 are defense policy, security from internal/external aggression, maritime security in the Sri Lankan domain, regional/international engagements, and national development.[150] Further the navy's strategy 2025 identifies the future SLN fleet as a 20-ship navy involving: influence events at a distance, freedom of seas, joint enabler, wide range of operations, being versatile and combat capable, alliances and coalitions, and interoperability.[151]

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[147] "The UK National Strategy for Maritime Security," Williams Lea Group, May 2014, www.gov.uk/government/publications.

[148] Dmitry Gorenburg, "Russia's New and Unrealistic Naval Doctrine," War on Rocks, July 26, 2017, https://warontherocks.com/2017/07/russias-new-and-unrealistic-naval-doctrine/.

[149] "Maritime Strategy 2025," Sri Lanka Navy, 23.

[150] "Maritime Strategy 2025," 23.

[151] "Maritime Strategy 2025," 23.

2.   MDA Initiatives

The United States initiated MDA, which relates to oceans or waterways including people, ships, cargo, and infrastructure. More broadly, the International Maritime Organization defines MDA as "the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment."[152] Further, "information collection and information sharing"[153] are the main elements of MDA. In terms of information collection, nearly 121,000 merchant ships above 300 gross tonnage could be tracked and monitored on a minute-to-minute basis.[154] Chris Rahman et al. note MDA's essential task list as:

1.   Persistently monitor in the global maritime domain:

Vessels and craft

Cargo

Vessel crews and passengers

All identified areas of interest

2.   Access and maintain data on vessels, facilities, and infrastructure.

3.   Collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding.

4.   Access, develop and maintain data on MDA-related mission performance.[155]

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[152] "Maritime Domain Awareness," IADC, http://www.iadclexicon.org/maritime-domain-awareness/.

[153] Chris Rahman et al., "The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy," *Papers in Australian Maritime Affairs No.24* (National Library of Australia, 2008), http://www.navy.gov.au/sites/default/files/documents/PIAMA24.pdf,27.

[154] Rahman, 27.

[155] Rahman, 29.

Because of the increased MDA, modern powerful navies joined to begin round-the-clock monitoring of the domain, which has enhanced maritime security and cooperation among nations. Important data is collected from cargos, crews, commercial and customs. Further, via a 24/7 advanced electronic cargo information system, Customs and Border Protection is receiving the cargo manifest information 24 hours prior to loading where an Automated Targeting System (ATS) identifies "potentially high-risk cargos."[156] In addition to the ATS, a plethora of sensors and platforms such as satellites, unmanned aerial vehicles, satellite-based long range information and tracking systems, which is an Automatic Identification System, coastal surveillance radars, ships, and aircraft integrate to make oceans transparent.[157]

Similar to the U.S. initiatives, India is also expanding MDA to map all activities at sea in the Indian Ocean. Venugopal B. Menon and Joshy M. Paul note,

> India has also entered into an agreement with 24 countries to share white shipping information on merchant ships, their cargo and crew. The idea is to nab rouge ships carrying suspicious cargo or crew to ports of participating nations including Seychelles, Mauritius, Maldives, and Sri Lanka before they can strike.[158]

Further, through the Coastal Surveillance Radars network, India seeks to link Seychelles, Mauritius, Maldives, and Sri Lanka with its Joint Operation Centers at Port Blair, Mumbai, and Kochi, and Vishakhapatnam would contribute to enhance MDA in the IOR.[159] Despite these key initiatives, some vulnerabilities and threats to the maritime domain still exist because it is difficult to incorporate a wide range of data and navies cannot fully cover the maritime domain.[160]

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[156] Rahman, 30.

[157] Venugopal B. Menon and Joshy M Paul, *Sub-regional Cooperation in South Asia: India, Sri Lanka and Maldives* (New Delhi: Vij Books India Pvt Ltd, 2017), 160.

[158] Menon and Paul, 161.

[159] Menon and Paul, 161.

[160] Maritime blindness is a maritime term for ignoring the critical importance of the oceans around the world.

3. ISPS Code

The establishment of the ISPS code in 2004 enhanced the security of merchant ships, ports, crew, passengers, and other agencies, and soon deterred terrorist activities. Terrorists succeeded in attacking only two ships after the establishment of the ISPS code, which means that these new measures are successful in thwarting terrorists' intentions. The ISPS code imposes security responsibilities on governments, port authorities, shipping companies, and on the captain of a ship.

Meanwhile, the security levels of the harbors have increased, but the expenditures have also risen for the shipping industry with the implementation of the ISPS code. The biggest threat the maritime industry faces today is the use of a ship as a WMD or to smuggle such a device, which could destruct another ship (especially a warship), port facilities, and bridges, or block harbor entrances and narrow sea routes, or even attack a passenger vessel.[161] So far, though, the implementation of the ISPS code has ensured safer SLOCs and protection of shipping and trade

C. CONCLUSION

Despite new security measures, non-traditional security threats may occur. Drug trafficking, illegal unreported and unregulated fishing, climate change, and environmental security have become key non-traditional security threats in the IOR. Retooling of strategies, implementation of the ISPS code, and the launching of MDA initiatives have strengthened security in the maritime domain where sea lines, choke points, and harbors are protected. To have an even better maritime security environment and to overcome threats, however, maritime nations in the IOR must find a methodology to address the issue of a lack of naval resources.

Further, most of the regional countries, including Sri Lanka, have not implemented sufficient initiatives to address security issues relating to climate change, ocean resource management, and environmental security, which will become one of the main issues in the

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[161] Arsham Mazaheri, "How the ISPS Code Affects Port and Port Activities" (master's Thesis, Aalto University School of Engineering, February 2008), http://bada.hb.se/bitstream/2320/3579/1/Arsham%20Mazaheri.pdf.

future. Hence, future naval transformations, mainly the SLN's transformation, should be geared up to address these emerging non-traditional issues.

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III.   THE NAVAL TRANSFORMATION

This chapter evaluates why small navies must depend on large navies by way of cooperation. Such larger navies as the U.S. Navy have power projection all over the ocean and are now transitioning to littoral ships and non-conventional tactics because of terrorism and other TOC activities, —and this shift benefits small navies. On the other hand, India and China are competing with their naval capabilities in the IOR. Despite these differences, most small maritime nations have a big maritime domain to cover that they cannot effectively do with their resources. Hence, smaller navies depend on large navies for effective surveillance to counter maritime threats, to improve professional training and interoperability, to bolster disaster preparedness, and to share information to promote a safe maritime domain. While the SLN, after using non-conventional warfare for decades, is gradually transforming into a professional force by establishing partnerships with allies, expanding professional training, strengthening its fleet with new ships, and managing available resources. Within this context, this chapter highlights the tasks and transformation of the SLN after it defeated terrorists in 2009.

A.   COOPERATION BETWEEN LARGE AND SMALL NAVIES

The gap in resources and capabilities between a smaller navy and a powerful navy is quite large, particularly after the post-9/11 initiatives. A smaller navy cannot acquire modern equipment because of the high cost, and it cannot operate on the high seas for extended periods. Over the longer term, Michael Mulqueen and Terry Warburton observe, "Small navies are vulnerable to politics of austerity in particular ways. Many do not possess a supply chain large enough to create noticeably significant economic growth."[162] Hence, a smaller navy must depend on a larger navy to face the evolving security threats in a dynamic environment where a single navy finds it difficult to counter them.

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[162] Michael Mulqueen and Terry Warburton, "Transforming Small Navies by Systematic Innovation: A Framework for Productivity, Efficiency and Effectiveness," in *Small Navies*, ed. Michael Mulqueen, Deborah Sanders, Ian Speller (Ashgate: Surrey, 2014), 54.

At the same time, Bruce B. Stubbs argues that major naval combat operations (conventional) will significantly decline over the next few decades, and non-military, non-traditional asymmetric threats will likely take their place.[163] As per Stubbs, the United States Navy and the United States Coast Guard must be prepared to face unconventional threats with a faster, more agile and smaller navy. Thus, Mike Mullen's concept of the Proliferation Security Initiative elaborates on new heights of maritime cooperation along with command, control, and communications and new MDA technologies that are aimed at irregular and unrestricted warfare.[164]

Moreover, as modern warfare shifts from conventional to non-conventional warfare, cooperation between navies will grow despite their different sizes. The current events between China and Vietnam in the South China Sea have caused China and Vietnam to deploy such non-conventional forces as civilian trawlers and non-military state ships. This situation is a good example for why modern navies want to shift to non-conventional warfare.[165] Chris Rawley notes that "the employment of forces in non-traditional ways to accomplish operational goals," and the utilization of partners gives massive advantages over conventional naval operations.[166] Even though the maritime security initiatives in recent years have increased, modern navies today are changing their maritime strategies to enhance maritime cooperation. The ability of navies to reinforce operational level and tactical level cooperation is a very important aspect today in maritime security enhancements between nations, agencies, and resources. Additionally, the naval defense measures of super powers, regional powers, and other powerful navies have changed.

One of the key initiatives of modern navies is to have ships capable of operating in littorals with precise firepower, speed, agility, and high maneuverability to counter the asymmetric tactics of the enemy. The 1000-ship U.S. Navy concept identifies a conceptual

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163 Stubbs, "Smarter Security for Smaller Budgets," 1.

164 Rahman, "The Global Maritime Partnership Initiative," 3.

165 Alex Calvo, "Small Wars and Non-Lethal Force at Sea: The Wave of the Future?," *Small Wars Journal*, July 17, 2014, http://smallwarsjournal.com/author/alex-calvo-0.

166 Chris Rawley, "Naval Unconventional Warfare: Supporting GWOT on the CHEAP," *Small Wars Journal*, February 2017, http://smallwarsjournal.com/documents/swjmag/v7/rawley-swjvol7.pdf.

framework for maritime cooperation that seeks to enhance and leverage maritime partnerships with all allied navies, including the smaller navy countries.[167] This U.S. Navy concept calls for collaborative patrols in the oceans to face evolving maritime challenges by identifying four levels of cooperation, including "Cooperation at the alliance level, in coalitions, on-coalition naval cooperation, and more general maritime cooperation"[168] Together with the aforementioned framework for naval cooperation, global and regional security networks require naval and related agencies' cooperation, and overcome cultural barriers to ensure an effective outcome.

Mullen further notes that many maritime security issues take place in the waters around or approximately around countries with small navies because of their inability to effectively patrol in their waters.[169] But here, cooperation acquires a double-edge. Geoffrey Till writes that "small navies, and more precisely, small countries they help defend, are likely to have only limited independence of strategic decision when up against, or operating in the presence of, much larger ones with incongruent national interests."[170] Smaller nations, thus, have a difficult choice to determine whether alignment with powerful nation's strategies serves their national interest or otherwise. Nations such as Sri Lanka, which emphasizes sovereignty as the cornerstone of its foreign policy, would rather avoid entanglement and maintain neutrality through intimidation and coercion.

B.   TRANSFORMATION OF THE SLN TO MEET FUTURE CHALLENGES

The SLN must surveil and secure a coastline of 1340 kilometers, an EEZ of 200 nautical miles, and a maritime Search and Rescue Region (SAR) of 1,712,452 square kilometers. However, a lack of resources, especially bigger ships, has resulted in weak maritime surveillance in the Sri Lankan maritime domain.[171] Additionally, a fleet of more

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[167] Rahman, "The Global Maritime Partnership Initiative," 3.

[168] Rahman, 35.

[169] Rahman, 2.

[170] Geoffrey Till, "Are Small Navies Different?," in *Small Navies*, ed. Michael Mulqueen, Deborah Sanders, and Ian Speller (Surrey: Ashgate, 2014), 23.

[171] "Maritime Strategy 2025," Sri Lanka Navy, 7–13.

than 200 fast attack craft, a large number of non-sea going personnel in the SLN, along with a weak national economy have made transformation even more difficult. Furthermore, duplication of security measures between sister forces and other maritime agencies is also another concern.

1.   The SLN

The Sri Lanka Navy was established in 1972, having grown out of the erstwhile Royal Ceylon Navy. The Royal Ceylon Navy had around 100 personnel. The initial ships acquired by the SLN were gifted by China. The former United Soviet Socialist Republic had donated a ship, which at that time, was Sri Lanka's biggest ship. Additionally, the SLN acquired patrol boats from the United Kingdom and China. The Colombo Dockyard also constructed two medium-sized offshore patrol vessels to enhance the SLN fleet.[172] The SLN fleet was tasked mainly with patrolling in the Palk Bay to counter smuggling and illegal immigration between the south of India and the north of Sri Lanka.

At the start of the civil war in the early 1980s, the SLN had a total strength of about 4,000 personnel.[173] During the early years of the Tamil youth insurgency, the SLN expanded military bases despite the shortage of personnel to contain terrorists as the army and police also found it difficult to cover areas of insurgency because of personnel shortages. The only training establishment at that time was the Naval and Maritime Academy in Trincomalee, which annually trained a batch of approximately ten cadet officers and 100 sailors. Hence, the training facilities in the SLN expanded to cater to new demands. The role of the SLN changed to counter insurgency patrols in early 1980s because of arms and insurgency smuggling from India, mostly in fishing trawlers.[174] To achieve its new mission, the SLN acquired fast attack craft (FAC) to detect, counter, chase, and destroy terrorist logistic boats. Because of the SLN's new offensive advances, the LTTE also turned to form an offensive naval wing.

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[172] "Re-building the Fleet," Sri Lanka Navy, http://navy.lk/history.html.

[173] "Sri Lanka Navy," Global Security, https://www.globalsecurity.org/military/world/sri-lanka/navy.html.

[174] "Sri Lanka Navy," Global Security.

2.   The LTTE Connection

The LTTE started its naval wing in 1984 under the leadership of Thillaiyampalam Sivanesan, also known as Colonel Soosai. Despite the successes of the SLN at sea, the LTTE produced a few fast-moving fiberglass boats to transfer logistics, including personnel, mainly from and to India. Initially, the SLN failed to identify the LTTE's intentions, broader objectives, and strategies. Gradually, the LTTE dominated the small sized SLN out at sea. Further, the SLN took several years to modernize its fleet with further acquisitions of FAC from Israel and South Korea. By this time, the LTTE developed into a fighting unit with swarming tactics combined with suicide boats.[175] This rapid development of the LTTE into an effective fighting unit—with an advanced international shipping network that bought illegal weapons, ammunitions, and military hardware to fight against the Sri Lankan military—compelled the SLN to rethink its strategy.

Hence, the SLN also changed its naval warfare methods to better counter its threats. The SLN acquired thermal imaging surveillance systems, stabilized automated weapons, and increased firepower and the number of onboard weapons. These new warfare advancements of accuracy, speed, and penetration destroyed the LTTE fleet quite successfully, despite the LTTE's use of asymmetric warfare tactics to counter the SLN. The small boat concept of the SLN led to success in war because these boats were maneuverable at high speeds and had rapid firepower. Further, both the SLN and the LTTE continued to advance their asymmetric tactics and concepts with improved firepower against each other. The number of small boats in the SLN reached to almost 200 during the final stage of war as a result of the visionary leadership of Vice Admiral Wasantha Karannagoda. The increase of small attack craft with swarming tactics resulted in the SLN's counterinsurgency against the LTTE Sea Tigers in addition to the destruction of terrorists' floating arsenals in the deep seas.

While the SLN posted successes in naval battles, the naval land-warfare role also increased in support of counterinsurgency operations. When the Sri Lankan Army (SLA)

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[175] Martin N. Murphy, "The Blue, Green, and Brown: Insurgency and Counter-Insurgency on the Water," *Contemporary Security Policy* 28, no. 1(April 29, 2008): 63–79.

started taking over LTTE-controlled territory since 1998, the SLN filled in on land, as well, as the army at that time was short of manpower. As a consequence, the SLN became and remains oriented more toward land warfare than toward sea-going missions, particularly in supporting counterinsurgency operations, despite their many successes at sea. Sailors were tasked to do the duties of soldiers to support the SLA. While the establishment of naval bases around the coast has enhanced naval coastal defense, the interior deployment away from the coast has been difficult for the SLN, as mastering land warfare is not an easy concept. Figure 8 depicts the land bases of the SLN, which includes 41 bases, 54 naval establishments, 2 naval deployments, and 20 Coast guard stations around the country.

Figure 8. Present land deployment of the SLN.[176]

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[176] Source: Senior Staff Officer Operation of the Sri Lanka Navy, Email message to the author, July 25, 2018.

With the end of the war in 2009, the SLN faced the dilemma of having an unbalanced force with more small craft, being heavy on land deployments, and having fewer large vessels capable of patrolling deep seas. Nevertheless, littoral and asymmetric warfare experience gained by the SLN officers and sailors has proved and will prove useful in future. The expertise in land warfare by officers and sailors could also be utilized gainfully. With 200 small attack craft and only four to five offshore patrol vessels, the SLN has struggled to protect the seas around Sri Lanka. To be sure, the postwar SLN, with its available assets, has captured many boats involved in drug trafficking and human smuggling. Still, the SLN struggles to dominate the entire maritime domain of Sri Lanka effectively to ensure peace and stability in the region and to prevent illegal activities.

3.   The Transformation of the SLN

The strategic vision of the navy has been changed from a ceremonial navy in 1972 to a fighting force reckoned with success during counter-insurgency operations. The postwar navy is looking into how it wants to recast itself in the evolving maritime picture by anticipating future threats. It also must consider the approach of the whole Sri Lankan government to maritime security "to ensure a secure and resilient Sri Lanka … to shape a stable region/world … [and] to adopt an adaptable security posture"[177] is needed to address during transformation.

The SLN should address two questions: What can the navy do best with what is available? How can Sri Lanka do well with its potential to confront threats, preserve its values, and advance the state's interests? To achieve this, the SLN and Sri Lanka must:

- Improve professionalism by training and recruiting well educated personnel.

- Build an operationally versatile navy.

- Have interoperability with alliances, coalitions, sister forces, and other government agencies.

- Establish regional deployments and enduring presence in littorals.

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[177] "Maritime Strategy 2025," Sri Lanka Navy, 27.

- Improve technological innovations and use of information advantages.

- Use current operational knowledge for future operations.

- Plan for the optimal expansion of men and materials.

- Provide appropriate leadership.

- Establish strategic partnerships.

- Prepare to face future threats through innovative asymmetric warfare tactics.[178]

The optimal expansion of manpower and material is very important to the SLN considering Sri Lanka's gross domestic product (GDP) is about $ 93.45 million in U.S. dollars.[179] Right-sizing human resources would enable the SLN to utilize its budget to acquire new ships/craft and surveillance equipment. Table 5 shows the present cadre of the SLN and Sri Lanka Coast Guard (SLCG).

Table 5. Present cadre of the SLN and SLCG.[180]

SLN Officers	3,143
SLN Reserve Officers	32
SLN Sailors	50,565
SLCG Officers	87
SLCG Sailors	1,216
Total	55,043

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[178] "Maritime Strategy 2025," 41–42.

[179] "Sri Lanka's Economy," Asian Development Bank, 2018, https://www.adb.org/countries/sri-lanka/economy.

[180] Adapted from Personal Secretary to Commander of the Sri Lanka Navy, Email message to the author, July 15, 2018.

On the one hand, the budget of the SLN is increasing; on the other hand, the SLN cadre has been the same size even after its victory in the civil war. Figure 9 depicts the budget of the SLN in Sri Lankan currency (1 USD = 161 rupees) after defeating the terrorists in 2009.
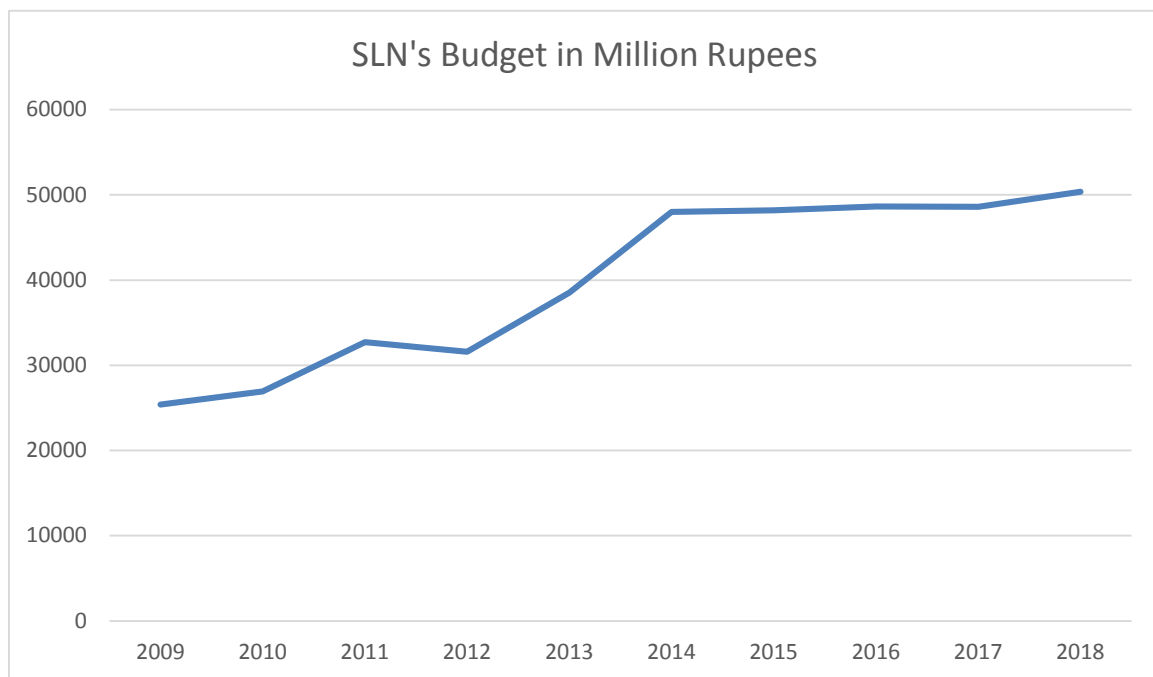
Figure 9. The SLN's budget from 2009 to 2018.[181]

Hence, it could be assumed that the addition of a few ships to the naval fleet has affected the SLN's budget. Still, the SLN needs a large budget to maintain the ground forces even more than the fleet.

The SLN accessioned only five ships after 2009, two of which are 'Bay Class' patrol craft gifted by Australia.[182] In addition, the SLN purchased two Offshore Patrol Vessels (OPV) from Goa shipbuilders in India: the SLCG received one used OPV from the

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[181] Adapted from the Director General Logistics of the Sri Lanka Navy, Email message to the author, June 23, 2018.

[182] "Tony Abbott Confirms Bay-Class Patrol Boats Gift to Sri Lanka to Combat People Smuggling," ABC News, November 17, 2013, http://www.abc.net.au/news/2013-11-17/abbott-confirms-sri-lanka-boats-deal/5097580.

Indian Coast Guard in 2017 at no cost, and the navy is also expecting the ex-U.S. Coast Guard Cutter 'Sherman' in 2019. Only a small number of SLN personnel serve onboard ships and craft. As per percent records only 370 officers and 4,620 sailors, which is 10 percent of the overall cadre, are deployed onboard ships whereas approximately 90 percent of the total cadre has been tasked for administration, training, and land warfare roles, which places an additional burden on the country's economy.

Russia and China have offered OPVs to the SLN, and the plan of the navy is to have a 20-ship fleet in 2025 with the "acquisition of a minimum of two Frigates and Corvettes by 2025 … [which] will enhance the surveillance depth and reach to a greater new high."[183] Table 6 shows the SLN's 20-ship fleet strategy.

Table 6. The proposed 20-ship fleet of the SLN.[184]

Ship	2016	2018	2020	2022	2025	Total
Frigates	--	01	--	01(02)	--	02
Corvettes	--	01	--	01(02)	--	02
OPVs	04	01(05)	01(06)	01(07)	01(08)	08
Fast Missile Vessels	02	01(03)	--	01(04)	--	04
Fast Patrol Boats	02	--	01(03)	--	01(04)	04
Total						20

[183] "Maritime Strategy 2025," Sri Lanka Navy, 48.

[184] Adapted from the SLN Maritime Strategy 2025.

One shortcoming in the new 20-ship navy is the lack of amphibious landing platforms. The SLN still has plans to use available resources, especially small attack craft. The SLN's small craft consists of 57 fast attack craft, 11 fast gunboats, 160 arrow boats, and 73 inshore patrol craft with the amphibious landing ships squadron.[185] The navy's elite attack squadron, however, now has a much less central role to play as compared with its role before 2009. Hence, Admiral Ravindra Wijegunaratne, the former navy commander and the present Chief of Defense Staff, plans to form a 'Hybrid Navy' for year 2020 comprising frigates, OPVs, FGBs, FACs, arrow boats, and Inshore Patrol Craft. The former navy commander has proposed the establishment of a naval aviation capability or a Sri Lankan Air Force fleet air arm with surveillance equipment. Wijegunaratne has stated, "I strongly believe that the littoral navies will be greatly benefitted if they could bring in smaller vessels to their fleets in order to increase the maneuverability, fire power, penetration capabilities, flexibility and agility in the face of modern maritime security challenges."[186]

The former vice admiral also reiterated, "The concept of combining smaller fleet units with the bigger vessels will give the Sri Lanka Navy the ability to utilize our own small boats tactics to address present and future emerging maritime security issues with agility and flexibility. And importantly, we are ready to share our experiences with the rest of the world."[187] The new concept aims to put together large, slow-moving naval vessels and high-speed attack craft with maneuverability and fire power to face non-conventional warfare. The SLN used hybrid tactics during the final phase of the Eelam war to destroy the LTTE ships carrying arms and ammunitions, which the navy called "floating warehouses." Admiral Jayanath Colombage explains how the SLN countered its limitations during the battle,

> To supplement these, the OPVs carried boats of the Small Boats Squadron
> (SBS). The SBS boats would be sent to take on the LTTE ships. Getting

[185] Ravindra C. Wijegunaratne, "Sri Lanka - The Littoral State: Its Significance and Role in Maritime Security in the Indian Ocean" (General Deshamannya Denis Perera Oration, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka, August 11, 2015).

[186] Wijegunaratne, "Sri Lanka- The Littoral State."

[187] Wijegunaratne.

close to the LTTE vessel, the SBS men would get into Combat Rubber Raiding Craft (CRRC) and fire Rocket Propelled Grenades (RPGs) to sink the targeted vessels.[188]

In addition to putting together large and small naval ships, with the already available small boat squadrons, concepts, and tactics, the SLN would be a force to counter illegal activities in the maritime domain—ideally as part of a larger, collaborative effort.

4.   Foreign Cooperation of the Sri Lanka Navy

The SLN established the Directorate of Naval Foreign Cooperation (DNFC) to maintain relations with other navies and international organizations on maritime affairs, to liaise with the Ministry of External Affairs and Ministry of Defense in Sri Lanka on maritime issues, to represent and promote maritime interests of Sri Lanka, and to organize and support foreign naval events concerned with the SLN.[189] Since then, the DNFC has been conducting maritime conferences, symposia, fleet exercises, training, staff talks, and visits of foreign naval ships. One of the key events of the DNFC has been organizing the annual Galle Dialogue International Maritime Conference in Sri Lanka, which discusses all maritime-related issues among the regional navies/coast guards and with powerful world navies and maritime organizations.

Further, the DNFC has a membership with such regional organizations as the IONS, the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAP), and the Western Pacific Naval Symposium (WPNS) to improve maritime cooperation.[190] In addition, the SLN participates in international naval exercises, as depicted in Figure 10, to enhance regional cooperation and interoperability.

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[188] "Ex- Sri Lankan Navy Chief Describes How U.S. Helped Destroy LTTE Floating Armories," *News in Asia*, February 10, 2017, https://newsin.asia/ex-sri-lankan-navy-chief-describes-us-helped-destroy-ltte-floating-armories/

[189] Staff Officer Foreign Cooperation of the Sri Lanka Navy, email message to the author, June 5, 2018.

[190] Staff Officer Foreign Cooperation of the Sri Lanka Navy.

INTERNATIONAL NAVAL EXERCISES

- AMAN — Pakistan
- LIMA — Malaysia
- IMDEX — Singapore
- IMMSAREX — Bangladesh
- DOSTHI — Maldives
- MILAN — Andaman and Nicobar
- SLINEX — Alternatively in India & Sri Lanka
- KAKADU — Australia
- KOMODO — Indonesia
- IFR — India, Thailand

Figure 10. The international naval exercises in which SLN participates.[191]

Moreover, many foreign naval and coast guard ships visit Sri Lanka, which justifies its non-aligned status. Soon after the end of civil war in 2009, 406 foreign naval and coast guard ships visited Sri Lanka, including 66 foreign ships in 2017 alone, which further confirms its non-aligned status.[192] In addition, visits of foreign naval and coast guard ships help the SLN to share its own experiences on littoral warfare and to exchange interoperability programs with them. Moreover, frequent fleet exercises with much larger navies enhance the professional aspects of the SLN personnel. Figure 11 illustrates the number of foreign naval and coast guard ship visits to Sri Lanka—especially the increase in visits after the change of the Sri Lankan government in 2015.

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[191] Adapted from the Power Point presentation of the DNFC, received from the Staff Officer Foreign Cooperation of the Sri Lanka Navy, email message to the author, June 5, 2018.

[192] Staff Officer Foreign Cooperation of the Sri Lanka Navy, email message to the author, June 5, 2018.

Current Cooperation

Yearly Ship Visits
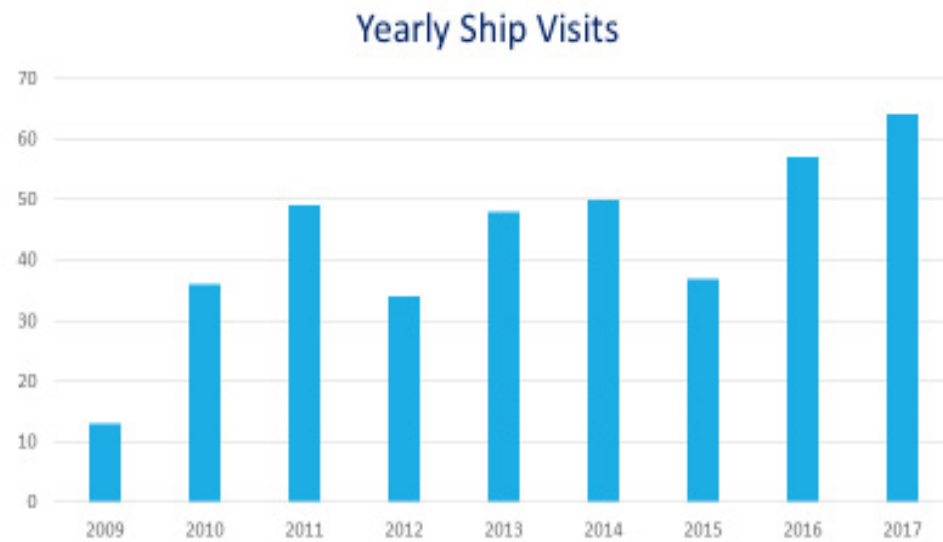
Figure 11. Number of foreign naval/coast guard ship visits to Sri Lanka from 2009 to 2017.[193]

As visits of foreign navies and coast guards have been increasing since 2009, Sri Lanka has become a familiar hub for naval replenishment, crew change, and training in the region. A summary of ship visits made by friendly countries to Sri Lanka reveals that Indian and Japanese ships have visited Sri Lanka even more often than Chinese naval ships. Table 7 depicts the top six countries' navy/coast guard ship visits to Sri Lanka from 2009 to 2017.

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[193] Adapted from the Power Point presentation of the DNFC, received from the Staff Officer Foreign Cooperation of the Sri Lanka Navy, email message to the author, June 5, 2018.

Table 7. Six most frequent foreign naval/coast guard ships visiting Sri Lanka
from 2009 to 2017.[194]

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
India	05	16	09	03	08	01	08	11	14	75
Japan	0	0	08	11	11	11	10	12	05	68
China	02	02	0	03	01	13	0	04	06	31
Pakistan	01	02	03	01	03	03	03	02	08	26
Bangladesh	01	04	02	01	01	04	03	05	05	26
United States	0	01	01	0	0	0	0	05	11	18

Currently, the SLN conducts staff talks with the militaries of Australia, China, India, Japan, Maldives, Pakistan, and the United States to strengthen cooperation to foster an effective maritime security environment and safer SLOC. Table 8 illustrates SLN's cooperation in recent years with these seven countries.

Table 8. SLN's cooperation with regional countries and with
powerful nations.[195]

Country	Events
Australia	- Developed SAR capabilities under Search and Rescue Capability Partnership Program with Australian Maritime Safety Authority. - Counters human smuggling efforts.
China	- Offers training opportunities in China for officers and sailors. - Makes frequent ship visits and naval exercises. - Foresees gifting a large naval ship.
India	- Makes frequent ship visits, training squadron exchanges. - Offers training opportunities in India for officers and sailors in Indian training establishments. - Conducts bilateral naval exercise SLINEX.

194 Adapted from the Power point Presentation of the DNFC, received from the Staff Officer Foreign Cooperation of the Sri Lanka Navy, email message to the author, June 5, 2018.

195 Adapted from the PowerPoint presentation of the DNFC, received from the Staff Officer Foreign Cooperation of the Sri Lanka Navy, email message to the author, June 5, 2018.

Country	Events
	- Offers Staff Talks such as IMBL (biannually), Navy to Navy (annually), and India - Sri Lanka defense dialogue (annually). - Offers SLN participation in MILAN naval exercise in Andaman and Nicobar. - Gifted an Offshore Patrol Vessel to the SLCG.
Japan	- Offers frequent training assistance on HADR and oil spill management for SLN and SLCG. - Extends training opportunities onboard Japanese Maritime Self Defense Force ships. - Offers training opportunities for SLN and SLCG officers in Japan.
Maldives	- Participates in Tri Lateral exercise DOSTI with Indian, Sri Lanka, and Maldives Coast Guards. - Accepts training and assisting of Maldivian defense forces by the SLN.
Pakistan	- Offers considerable number of training berths to SLN. - Hosts annual defense staff talks. - Encourages Navy to Navy staff talks. - Proposes to gift a floating dock to SLN. - Makes regular ship visits to Sri Lanka. - Invites SLN participation in AMAN naval exercise in Pakistan. - Participates in instructor exchange programs.
United States	- Strengthened cooperation with SLN greatly after 2015 elections in Sri Lanka. - Hosted two Pacific Partnership programs in Sri Lanka, most recent being in May 2018. - Held NOLES (Non-Lethal Weapons Executive Seminar) in Sri Lanka. - Held CARAT (Cooperation Afloat Readiness and Training) in Sri Lanka. - Allowed visit of Nimitz Carrier Strike Group. - Transferred a U.S. Coast Guard ship to the SLN. - Provides more training opportunities to SLN. - Helped to establish first battalion of the SLN Marine Corps.

All in all, the SLN plays an important role in addressing regional maritime security concerns and as an interface between adversaries for interoperability aiming to maintain secure seas. The SLN contributes to global maritime security by way of participation in all regional seminars, through capability and capacity building with friendly navies and coast

guards. Further, sound maritime cooperation is pivotal in forming and continuing strong relationships among countries.

a.   The United States and SLN Defense Cooperation

U.S. support in the defense field to SLN is very important to the small island's way forward. The relations between the United States and Sri Lanka grew stronger after the 2015 Presidential and General elections in Sri Lanka. The Minister Defense of the Sri Lankan Embassy in Washington, DC, Rear Admiral Dharmendra Wettewa states that SLN needs capacity and capability building with the United States as the initial step forward so that the navy can enhance its requirements and mitigate its shortcomings by way of cooperation and information sharing.[196] Wettewa further argues that the SLN must enhance its capacities by acquiring ships, craft, equipment, and sensors that ideally suit the modern warfare of the United States and other friendly nations. Additionally, the SLN has to pay more attention to the field of human capital through proper training of the present cadre and enlisting qualified personnel with strong technological backgrounds.[197]

The SLN has the knowledge gained from the United States in vessel board search and seizure operations and small boat operations. It also has expertise in littoral warfare tactics and asymmetric warfare tactics. Nevertheless, efficient use of this expertise and the sharing of it with allies is very important for the SLN's way forward.[198]

Another important development that the SLN has already taken is the military-to-military cooperation with the United States in doctrine development, concept development, subject matter expert development, sharing of knowledge, and joint exercises to enhance interoperability.[199] Presently the U.S.-Sri Lankan military cooperation, especially with the SLN, is happening in the following fields, according to Wettewa:

- Pacific partnerships.

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[196] Wettewa, Interview by author, June 6, 2018.

[197] Wettewa, Interview by author.

[198] Wettewa, Interview by author.

[199] Wettewa, Interview by author.

- Cooperation Afloat Readiness and Training.

- Non-Lethal Weapons Executive Seminar.

- Rim of the Pacific Exercise.

- Defense partnership.

- Intelligence sharing.

- Technology sharing.

- Maritime cooperation.

- Networking of coastal radar

- Interoperability exercises and naval exercises.[200]

b.   *The Indian and SLN Defense Cooperation*

Ankit Panda reports that India has stepped up defense cooperation with the Maldives and Sri Lanka, primarily for capacity building of the armed forces.[201] The Indian and Sri Lankan navies have been interacting to enhance maritime search and rescue, HADR, marine pollution response, and anti-piracy operations to strengthen bilateral cooperation.[202] The Navy-to-Navy staff talks between principle staff officers have been aimed at "developing a comprehensive MDA and strengthening the ongoing engagement of both navies at the operational level as well as in the field of training and information exchange."[203]

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[200] Wettewa, Interview by author.

[201] Ankit Panda, "India Steps Up Defense Cooperation with Sri Lanka and Maldives," *Diplomat*, October 21, 2014, https://thediplomat.com/2014/10/india-steps-up-defense-cooperation-with-sri-lanka-and-maldives/.

[202] "India,Sri Lanka,Maldives to Begin Sea Exercise," *Pakistan Defense*, October 25, 2016, https://defence.pk/pdf/threads/india-sri-lanka-maldives-to-begin-sea-exercise-from-today.457765/

[203] "Indian, Sri Lanka Navies Talk Cooperation," *Naval Today*, August 14, 2014, https://navaltoday.com/2014/08/14/indian-sri-lanka-navies-talk-cooperation/.

In addition, the SLN purchased its two most advanced OPV from India, the Indian navy chief visited Sri Lanka to hold bilateral discussions, and the Sri Lankan navy chief and senior navy officers visited India to further strengthen defense cooperation. The biannual IMBL meeting can further strengthen operational readiness and solve the illegal fishing issue by way of cooperation and coordination. Similarly, the Operational Review meeting between navies and coast guards of Sri Lanka and India would yield good results to solve maritime security concerns if properly followed.[204]

c.   The China and the SLN Defense Cooperation

China has been Sri Lanka's main military hardware supplier since independence. China has supplied naval ships to the SLN, and most of the weapons carried onboard the SLN are Chinese products. Though SLN officers and sailors train more in India and Pakistan, recently China has offered more training berths to the SLN to enhance cooperation. As a legacy matter, Chinese support and influence during the final phase of the civil war in Sri Lanka was extremely important.

The Chinese strategy changed after the end of civil war in 2009, shifting to major investments in infrastructure development in Sri Lanka. The construction of the strategic port of Hambantota, an airport, a sports stadium, highways, and an expansion to the port of Colombo based on a massive reclamation project are some of the highest-profile China's investments in Sri Lanka. Chinese influence in Sri Lanka also has increased, as with the intended entry of a Chinese navy submarine into the port of Colombo and the use of the Chinese part of the port Hambantota for military purposes. The PLAN sought diplomatic clearance to dock one of its submarines in the Colombo Harbor in May 2017, to which the Sri Lankan government did not give clearance.[205] The SLN and the government, however, have maintained a transparent policy to everyone by allowing the port Hambantota to be used not only by China but also by other navies when the government announced that the

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[204] "Sri Lanka, India Navies Discuss Maritime Issues at 29th IMBL Meeting in Northern Seas," *Colombo Page*, May 4, 2018, http://www.colombopage.com/archive_18A/May04_1525456462CH.php.

[205] "Sri Lanka Refuses Port Call for Chinese Submarine after Indian Leader Modi's Visit," *South China Morning Post*, May 12, 2017, https://www.scmp.com/news/asia/diplomacy/article/2094093/sri-lanka-refuses-port-call-chinese-submarine-after-indian.

SLN is to move its southern command to Hambantota..[206] Nonetheless, defense cooperation with China is not identical to what the SLN has with the United States and India. The PLAN and the SLN have only recently been improving maritime cooperation, information sharing, integration, and interoperability.

5.   Establishment of the Sri Lanka Coast Guard

The SLCG was established with the enactment of the Coast Guard Act No. 14 of 2009 on July 9, 2009, soon after the end of the 30-year war against LTTE terrorism. The action was the result of the long-standing government effort to establish a department to look after matters related to maritime law enforcement. The SLCG was established under the Ministry of Defense, and operational activities of the department were ceremonially inaugurated on March 4, 2010.[207] Initially, the Sri Lanka Navy provided naval assets with a skeleton SLN staff seconded to the new force, appointing Rear Admiral LD Dharmapriya as Director General, while retired and ex-naval personnel filled other positions. At present, 95 officers and 1,246 sailors are seconded from the SLN.[208] Similar to the cooperation between the U.S. Navy and Coast Guard, the SLN and the SLCG are also in a process of slow integration so that the navy can concentrate on homeland and maritime security.

The SLCG has defined the following key functions with anticipation to achieve its purpose:

- To deter piracy and armed robbery at sea.

- To prevent trans-boundary movement of narcotics, by sea.

- To co-operate with the law enforcement agencies and the armed forces by taking necessary measures for the suppression of terrorist and destructive activities occurring in the maritime zones of Sri Lanka.

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[206] "Sri Lanka to Base Navy's Southern Command at Chinese-run Hambantota Port," *South China Morning Post* , June 30, 2018, https://www.scmp.com/news/china/diplomacy-defence/article/2153246/sri-lanka-base-navys-southern-command-chinese-run.

[207] Sri Lanka Coast Guard, "Sri Lanka Coast Guard - Home page," accessed August 26, 2018, http://www.coastguard.gov.lk/.

[208] Regional Director, Southern Region of Sri Lanka Coast Guard, email message to the author, July 18, 2018.

- To conduct search-and-rescue operations for human beings in times of distress and natural catastrophes and to assist and conduct in salvage operations in relation to vessels and other goods after such catastrophes and other accidents at sea.

- To prevent illegal fishing in the maritime zones of Sri Lanka and the protection of fisherman, including rendering assistance at sea.

- To prevent and assist in the preservation and protection of maritime and marine environment.

- To assist the relevant authorities in the implementation and monitoring of measures required for the prevention and control of marine pollution and other disasters that occur at sea.

- To assist the customs and other relevant authorities in combating smuggling and illegal immigration operations.

- To assist the relevant authorities in ensuring safety of life and property at sea.

- To assist in the conservation of marine species.

- To disseminate information including warning by radio or any other means in times of natural catastrophes.

- To perform other functions conferred on or assigned to it by the government from time to time.

- To deploy life savers for the safety of the public using beaches for recreational activities.[209]

6.   Establishment of the Navy Marines

The close collaboration with the United States Marine Corps (USMC) resulted in the forming of a new marine battalion in 2016, including six officers and 158 sailors.[210] This new addition aims to enhance the capabilities and operational efficiency of the SLN. Additionally, it allows the effective transfer of the large number of land-warfare oriented sailors back to naval warfare.

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[209] Regional Director, Southern Region of Sri Lanka Coast Guard, Email message to the author, July 18, 2018 (adapted from www.coastguard.gov.lk, www.kdu.ac.lk, and www.dailynews.lk).

[210] "First Ever Marines of the Sri Lanka Navy Pass Out," *Colombo Page*, February 27, 2017, http://www.colombopage.com/archive_17A/Feb27_1488210963CH.php.

Since its inception, the SLN's marine battalion has been making rapid progress in training with the USMC. The editor of *The Daily Mirror* newspaper has stated, "The U.S. Marines and Sailors of the 11th Marine Expeditionary Unit embarked aboard amphibious transport dock 'USS Somerset' … for an exchange programme on Theater Security Cooperation [in Sri Lanka]."[211] During the exchange program, the USMC conducted training and demonstrations for its counterparts in Sri Lanka, which enhanced the skills of the newly formed mariners in the SLN. In addition, the forming of the marine battalion will enable the SLN to contribute to the security of maritime highways and fight against terrorism, illegal trafficking of drugs, and piracy. Ultimately, the forming up of the new marine battalion in the SLN has enabled the navy to utilize its large number of small boats to yield better results and to employ substantial land-warfare oriented troops for operational necessities such as HADR operations.

7.   Establishment of the Navy Hydrographic Unit

The SLN re-established its Hydrographic Wing in 2012, under the leadership of Rear Admiral Sisira Jayakody, the Chief Hydrographer of the Navy. As the first step, the SLN's hydrographic unit joined, together with the National Aquatic Resources Research and Development Agency in June 2016, and with the hydrographic branch of the Indian Navy. This joint venture enabled all parties to "enhance nautical charting scheme in a more effective and efficient manner, through the use of advanced technological solutions."[212] More specifically, according to a Sri Lanka Ministry of Defense online news report, protecting "the Sri Lankan territorial waters [is] in keeping with the Safety of Life at Sea Convention."[213] The re-established SLN's hydrographic unit will ensure navigational safety of ships passing around the country.

Until today, the British have had the responsibility of drafting and updating navigational charts for maritime nations including Sri Lanka. The hydrographic unit will

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[211]"US Marines Train Recently Formed SLN Marine Corps," *Daily Mirror*, November 23, 2016, http://www.dailymirror.lk/article/US-Marines-train-recently-formed-SLN-Marine-Corps-119584.html.

[212] "New Navy Hydrographic Office Established," Sri Lanka Ministry of Defense, August 11, 2017, http://www.defence.lk/new.asp?fname=New_Navy_Hydrographic_Office_established_20170811_01.

[213] "New Navy Hydrographic Office Established," Sri Lanka Ministry of Defense.

take over this task for Sri Lanka, putting the effort in the nation's own hands. The drafting and updating of Sri Lanka's nautical charts by the SLN will also generate much needed foreign exchange and can increase awareness of the strategic picture on the sea bed, which would be beneficial during undersea warfare. So far, the hydrographic unit has earned 1.69 million rupees (10,700 USD) through providing professional consultancy and surveys.[214] Additionally, as per the vision of the hydrographic service, it "expects to provide quality Hydrographic data in support of decision making toward sustainable development, protection and safe use of Sri Lanka's maritime domain."[215] Moreover, the SLN's hydrographic unit jointly conducts surveys with its Indian counterpart around the Sri Lankan waters without compromising national security

C. CONCLUSION

Despite the struggles of transformation, the SLN is heading in the right direction. The new government in Sri Lanka has enabled the SLN to cooperate more with the United States, India, and other countries without only aligning to China. The SLN, so far, has received ships from the United States, India, and Japan, which have enhanced its operational capability in deep seas. New initiatives for the SLN's transformation include fleet exercises; crew exchange programs; overseas training for officers and sailors in the United States, India, Pakistan, China, and Japan; a new naval strategy; staff talks; defense talks; the annual Galle Dialogue International Maritime Conference; overseas goodwill visits for SLN ships; membership and close collaboration with the IONS, ReCAP, WPNS; and interaction with the United States on HADR operations, partnerships, and programs. The establishment of the first-ever SLN marine battalion and the hydrographic unit has slightly eased up the large non-seagoing personnel dilemma. Despite new changes, the SLN has to "right size" and cooperate with every maritime nation to achieve maritime security in its domain.

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[214] "Navy Hydrographic Service Generates Rs. 1.6 m Income," *Daily News*, July 16, 2018, https://www.dailynews.lk/2018/07/16/local/156955/navy-hydrographic-service-generates-rs-16-m-income.

[215] "New Navy Hydrographic Office Established," Sri Lanka Ministry of Defense.

IV. RECOMMENDATIONS FOR THE SLN AND FOR FURTHER STUDIES

This thesis explores answers to the research question of how the SLN can effectively face its maritime security challenges by using its available resources according to its strategy to ensure peace and stability in the region. In the process, the study has identified the threats and security concerns in the IOR and the initiatives to improve maritime security. In particular, the study focuses on how smaller countries ensure effective maritime security, as well as the initiatives the SLN should take in order to ensure effective maritime security in its domain. Although the SLN has been transforming gradually since helping to defeat terrorism in Sri Lanka in 2009, it still faces an array of emerging challenges—the influence of China, less deep-sea–capable ships, budget constraints, a high percentage of non-seagoing personnel, and a shifting of maritime cooperation with the change of governments. In addition, the SLN cannot address these emerging challenges and accumulating threats in isolation.

Hence, the government of Sri Lanka and its navy should face the evolving threats and challenges by addressing security concerns, maintaining non-aligned status, enhancing cooperation, and utilizing SLN and Sri Lankan military/maritime agencies' resources gainfully. Against this backdrop, this study gives several recommendations.

A. RECOMMENDATIONS FOR THE GOVERNMENT AND THE SLN

The following recommendations have been derived from this study to deal with the complexities identified, thus achieving a sustainable solution for the SLN to effectively face maritime security challenges in the IOR.

(1) Effect security measures in the IOR:

a. Implement strict Sri Lankan maritime laws.

b. Implement strict bi-lateral agreements with India and, consequently, increase punishment for illegal actions by Indians in Sri Lankan waters.

c. Commence constabulary services such as assisting in HADR operations, protection of harbors, and protection of fisheries and the environment.

d. Enhance coastal surveillance by combined SLN and foreign maritime patrols in the territorial seas, EEZ, and beyond.

e. Establish a permanent Sri Lankan foreign policy.

(2) Maintain non-aligned status with every nation:

a. Create a plan to settle the debt owed to China in order to avoid Chinese economic and military influences, especially the exclusive use of the Chinese-leased port of Hambantota for PLAN purposes, so it can be open for port calls by other nations.

b. Obtain the support of the United States to balance the support of India and China without losing Sri Lanka's autonomy.

c. Allow the use of Sri Lankan ports and airfields for peaceful purposes.

d. Share the SLN knowledge on asymmetric warfare with others.

(3) Build interoperability and capacity building with sister forces, maritime agencies, foreign navies, and coast guards:

a. Use intelligence and information sharing to identify and break underground networks of terrorists and TOC groups.

b. Facilitate HADR operations by extending Mil–Mil cooperation to Mil–Mil political cooperation in order to reduce diplomatic constraints with the United States and its allies.

c. Create a fusion center in the south of Sri Lanka to acquire timely information and intelligence, improve MDA capabilities for effective surveillance, and save depleting resources from illegal exploration.

d. Send more naval personnel for overseas training.

e. Conduct more bi-lateral and multi-lateral naval exercises and naval symposia to build trust and professionalism.

f.   Obtain support of maritime air arms of regional countries and allies to cover Sri Lanka's maritime domain as a solution to maritime blindness.

g.   Design and implement an efficient mechanism to protect SLOC/SLOC from TOCs.

h.   Educate citizens on the consequences of—drug addiction, the risk to the lives of those illegally migrating on boats , the failure to protect the environment—to deter participation in non-traditional security threats and to protect limited SLN's assets.

(4)   Collaborate on research and development with sister forces, other navies, and maritime agencies:

a.   Introduce innovative measures to improve operational capability.

b.   Enhance endurance at sea.

c.   Improve sustainability of machinery.

d.   Reduce manpower by way of integration.

e.   Cut down expenses and protect assets.

f.   Merge equipment and sensors of army, air force, and coast guard to avoid duplication and to have optimum utilization.

g.   Concentrate more on indigenous products to save foreign expenditure.

h.   Introduce more viable sensors, weapons, and other equipment to better suit the SLN.

(5)   Effectively use SLN resources and expertise:

a.   Right size the SLN from 55,000 personnel to a manageable size considering the role of the SLN and the size of national budget.

    (i)   Hand over land bases obtained from the Sri Lanka Army.

    (ii)   Reduce the number of land-warfare oriented sailors.

    (iii)   Re-distribute freed-up budget to acquire new ships and equipment.

        (iv)   Use available resources in the SLN gainfully.

    b.   Implement a hybrid navy by combining the available large vessels, new acquisition of OPVs, and a flotilla of fast attack craft to improve operational capability.

    c.   Integrate operational capacity and responsibility of the army, air force, police, coast guard, and other security/maritime agencies.

    d.   Share battle experience especially littoral warfare and asymmetric tactics with friendly navies to ensure safer seas.

B.   RECOMMENDATIONS FOR FURTHER STUDY

This thesis recommends a twofold approach for future research: consider SLN's role and the national economy to right size the SLN and develop research and development expertise to properly utilize the remaining equipment and technology from the end of the war in 2009. These future studies should also take into account duplicate roles and underutilization of resources in the Sri Lankan military.

C.   CONCLUSION

Sri Lanka's biggest security issues—the influences of China due to heavy debt, handing over Port Hambantota to China for a 99-year lease, and the PLAN presence, including submarines in the Sri Lankan maritime domain—could be solved with non-aligned status and effective means of paying the debt back. On the other hand, cooperation with the United States, India, and other powerful and regional countries will enable the SLN to address the issues of a shortage of resources to create a better security environment. Reducing SLN personnel from more than 55,000 to a more effective strength in line with the national budget will enable the navy to save money that could be utilized more gainfully to acquire new ships and sensors. Additionally, effective management of resources through more viable research and developments to enhance capabilities and possibly merging with the Sri Lanka Army and Air Force to utilize resources gainfully will further solve the lack of resources in the SLN. Finally, forming of a hybrid navy by utilizing a large flotilla of attack craft, a few big ships—along with those ships due to be acquired as per the 20-ship

concept—will enhance the present operational capabilities of the SLN to become an effective navy in the region, capable of addressing security challenges.

Additionally, these changes cannot have much impact if Sri Lanka's domestic and international policies align heavily to one party or if strict laws are not enacted targeting TOC and other related offenses that affect Sri Lanka's sovereignty. Historically, Sri Lanka's foreign policy has changed with the change of governments. Regardless of subsequent changes in government, Sri Lanka should not go backward after achieving great successes after the end of civil war in 2009 and since forming a new government in 2015.

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APPENDIX. COMPARATIVE CASE STUDIES OF TRANSFORMATION IN NAVIES OF SMALL ISLAND NATIONS

A. CASE STUDIES ON THE TRANSFORMATION OF SMALLER ISLAND NAVIES

This case study compares how four small island nations—Seychelles, Mauritius, New Zealand, and Singapore—have transformed their navies to face evolving maritime threats. It finds how these small navies have countered their shortages effectively to address evolving threats where the SLN can take lessons from them. Geoffrey Till writes, "a small navy is one with both limited means and aspirations."[216] Further, Till argues that to categorize a small navy automatically as a weak navy, or a large navy as a powerful one, is inaccurate; for example, the Republic of Singapore Navy, while small, is much more powerful than some blue-water navies such as the Australian Navy. Hence, Till suggests considering the geographic range, function, size of the fleet, capacity, advances in high technology, and reputation as indicators to determine whether a navy is powerful or weak, regardless of size.[217]

The transformation of small navies must be carried out systematically with efficiency, effectiveness, and productivity. Michael Mulqueen and Terry Warburton argue, "Systematic innovation … provides to small navies a coherent framework to more closely align their mission, strategy and operational achievements to needs and skills … while enhancing military capability."[218] With a nod to real-world economic constraints, Mulqueen and Warburton note that governments should carefully profile expenditure cuts without hampering national security and for "small navies operating [under] modest … defense budgets while facing imminent fleet replacement … the challenge is especially onerous."[219] Further to the systematic transformation, small island nations face a variety of security issues that need prompt counter actions. In hindsight, countries with high

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[216] Geoffrey Till, "Can Small Navies Stay Afloat?" *Jane's Navy International*, May 2003.

[217] Mulqueen, Sanders, and Speller, *Small Navies*, 6.

[218] Mulqueen and Warburton, "Transforming Small Navies by Systematic Innovation," 53.

[219] Mulqueen and Warburton, 53.

economic stability can focus on transforming their navies, whereas countries with slow economic growth must carefully balance their defense budgets and threat perceptions to achieve maritime objectives.

1.   Seychelles and Mauritius

Seychelles and Mauritius are small island nations with small navies. Both nations have been plagued with TOC for years, mainly maritime piracy. These two maritime nations have had serious challenges because of the large EEZ, troubled territorial waters, tiny islands, the geostrategic environment, national interests, and security imperatives. In addition, Seychelles and Mauritius heavily depend on their blue economy (sustainable use of ocean resources for economic growth), and the small navy/coast guard in each country has a major role to play in ensuring maritime security, which directly affects blue economy. Similarly, the navies/coast guards of Seychelles and Mauritius are critical in combating maritime threats to ensure regional security as well as their national security.

The issue of Somali piracy, in particular, affects Seychelles and Mauritius. Both these countries are politically very stable and prosperous countries with good governance and effective law enforcement—unlike in Somalia. The lack of a government and a proper judicial system in Somalia have put additional burdens on Seychelles and Mauritius as they have undertaken prosecution and jailing of pirates in their countries.[220]

At the same time, Seychelles and Mauritius lack sufficient resources to combat security issues. James A. Malcolm and Linganaden Murday elaborate, "They lack the capacity to improve their maritime domain awareness and effectively respond to insecurity."[221] In addition, the small population, large coastline, and a weak GDP, as illustrated in Table 9, highlight some of key factors affecting Seychelles' and Mauritius' security.

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[220] James A. Malcolm and Linganaden Murday, "Small Islands Understanding of Maritime Security: The Cases of Mauritius and Seychelles," *Journal of the Indian Ocean Region* 13, no.2 (2007):235, doi:10.1080/19480881.2017.1328018.

[221] Malcolm and Murday, 235.

Table 9. Comparison between Seychelles and Mauritius.[222]

Area	Seychelles	Mauritius
Population	84,700	1.3 million
Total land area	451 km²	2040 km²
EEZ	1.3 m km²	1.9 m km²
GDP	USD 1.56 billion	USD 13.55 billion

Nonetheless, Seychelles and Mauritius have managed to overcome maritime security challenges. Both Seychelles and Mauritius have turned to sustainable economic development efforts, especially in the blue economy, as they believe sustainability could increase or would be a central route to maritime security if they have stable economies.[223] To counter Chinese influence, Seychelles and Mauritius have good regional cooperation, especially with India. By contrast, Sri Lanka and Maldives have failed to counter Chinese influence. Maldives failed to maintain a balanced relationship with both India and China recently in February 2018 and became the latest country to become heavily dependent on Chinese financial aid after Sri Lanka. Though Sri Lanka had to lease the Chinese constructed port Hambantota for 99 years, it should follow the example of Seychelles and Mauritius and maintain good relations with India as well.

Seychelles and Mauritius have implemented "a combination of development and implementation of new strategies, the establishment or reform of security structures, embracing multinational partnerships, alongside the implementation of a variety of networking practices."[224] These networking practices are an important element these small nations have implemented as can be seen through collaborating in capacity-building

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[222] Adapted from Malcolm and Murday, 235.

[223] Malcolm and Murday, 236.

[224] Malcolm and Murday, 236.

initiatives, membership and active participation in International Small Island Developing States (SIDS) working groups, and maritime partnerships with regional countries.[225]

a.   Seychelles' Response to Maritime Security Issues

Seychelles has many organizations under the Seychelles People's Defense Forces (SPDF) to ensure maritime security. Under the SPDF, the Seychelles Coast Guard fights against piracy, the air force provides maritime surveillance, and the elite anti-piracy unit of the army is combating TOC groups.[226] To regulate maritime activities, Seychelles has a Maritime Safety Administration (SMSA), which operates independently from the Maritime Police Investigation Unit that handles safety and security issues at sea.[227] This combined organization structure under SPDF has enabled easy command and control. Figure 12 depicts the Seychelles anti-piracy structure.

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[225] Malcolm and Murday, 236–239.

[226] Malcolm and Murday, 240.

[227] Malcolm and Murday, 241.

Figure 12. Seychelles' key anti-piracy governance structure.[228]

At the same time, the Seychelles' government has introduced new strategies domestically and internationally to further strengthen security. First, the reform of the Seychelles judiciary resulted in a reduction of corruption. Second, international mobilization, support of the Indian Ocean Commission, maritime cooperation, and maritime partnerships with such neighbors such Comoros, Madagascar, and Mauritius have

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[228] Source: Malcolm and Murday, 241.

helped to ensure maritime security. Third, the establishment of two regional centers for fusion and operational coordination has also enhanced cooperation.

b. *Mauritius' Response to Maritime Security Issues*

Similar to the initiatives of Seychelles' security forces and other agencies to ensure maritime security, the Mauritius government has taken various measures to ensure establish effective maritime security. The establishment of an Anti-Drug and Smuggling Unit (ADSU) to coordinate with the Mauritius National Coast Guard brings easy command and control. Similarly, integration of the Maritime Air Squadron, the Patrol Vessel Squadron, and the Marine Special Force to combat TOC creates a dynamic operational environment.[229] The Mauritius Revenue Authority and the ADSU's joint operations have enabled the capture of drugs, which revealed a need for regional strategy.[230] The establishment of the Police Helicopter Squadron, the acquisition of fast interceptor craft, and getting a medium-sized OPV and Dornier maritime patrol aircraft from India, and a Radar network with AIS facility further strengthened detection capabilities.[231] Sri Lanka could follow Mauritius' model as drug trafficking has been a concern to the entire country.

The practice of close cooperation with the United States, India, and with neighboring countries has also resulted in improved capacity building in the maritime domain.[232] To gainfully utilize resources, Mauritius conducted a maritime capability audit in the IOR and presiding over sub-regional organization to increase development of the nexus between maritime safety and security.[233] In conclusion, Malcolm and Murday point out, "Capacity is a particular structural constraint on enhancing capabilities … [but] small states can play an active leading role in regional security policy … with increased

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[229] Malcolm and Murday, 242.

[230] Malcolm and Murday, 248.

[231] Malcolm and Murday, 250.

[232] Malcolm and Murday, 250.

[233] Orbital Admin, "Mauritius; Why We Need a Maritime Strategy in the Indian Ocean," Stop Illegal Fishing, June 11, 2010, https://stopillegalfishing.com/press-links/mauritius-why-we-need-a-maritime-strategy-in-the-indian-ocean/.

capacity."[234] Like the Seychelles' anti-piracy structure, Mauritius has also introduced a new structure for anti-drug trafficking as shown in Figure 13.

Figure 13. Mauritius' key anti-drug trafficking governance structure.[235]

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[234] Malcolm and Murday, "Small Islands Understanding of Maritime Security: The Cases of Mauritius and Seychelles," 251.

[235] Source: Malcolm and Murday, 242.

## 2.	The Royal New Zealand Navy

New Zealand is an inherently maritime island nation with one of the largest EEZ. The Royal New Zealand Navy (RNZN) has 11 major vessels and has set an exquisite "goal of being the best small nation navy in the world."[236] Though small in size, the RNZN is capable of operating throughout the Asia-Pacific Region, including the Southern Ocean. It also interoperates with the United States and Australia to mitigate its limited resources.

The primary role of the RNZN involves customs patrols and combat surveillance in the EEZ. Steven Paget also notes, "The RNZN is central to both its [the EEZ's] security and prosperity. It is essential that further investment is committed to the RNZN in order to enable it to fulfill all tasks expected of it."[237] The challenges to the RNZN include an EEZ that is 15 times the total land area; the world's ninth-longest coastline; and the fact that 99 percent of its trade is via sea.[238] The great distance to its nearest ally, Australia (1,609 kilometers) and to major international trade markets also makes it even more difficult for the RNZN to achieve its missions—to say nothing of its ambition to be the best small navy on Earth.

In response, the RNZN has increased its combat force by upgrading its fleet with the USD296 million project.[239] The two Anzac class frigates of the RNZN have vertical launch missile systems, high caliber guns, torpedoes, sonars, missile defense systems, shipborne helicopters, and the endurance to remain at sea for long periods. In addition to the Anzac class frigates, the RNZN has two OPVs, which can remain in sea for much longer periods, and four inshore patrol vessels (IPV) that operate close to the coast. The IPVs conduct boarding operations and have a crew of 20 with four additional government agency personnel.[240] Induction of a littoral warfare support force further strengthens the

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[236] Steven Paget, "The Best Small Nation Navy in the World: The Twenty-First Century Royal New Zealand Navy," *Australian Journal of Maritime & Ocean Affairs 8*, no.3 (2016): 230, doi:10.1080/18366503.2016.1217385.

[237] Paget, 230.

[238] Paget, 231.

[239] Paget, 233.

[240] Paget, 233.

RNZN fleet, which conducts mine clearance, diving operations, survey, search and rescue/ recovery operations, underwater explosives ordinance disposal, and workshop facilities.[241] To support its fleet at sea, the RNZN has two logistic ships capable of sea lift/amphibious support; a command and control center; additional crew, logistics, medical facilities including a self-contained hospital with surgical facility, carrying vehicles, cargo, and tanks; and conventional port infrastructure.[242] This increased force structure has enabled the RNZN to face evolving maritime challenges in its domain.

The protection of New Zealand's maritime resources is another primary role of the RNZN. Commercial fishing harvests USD1 billion NZD of fish each year, and the Quota Management System (QMS) prevents depletion of fish stocks. Under the QMS, the commanding officer of any RNZN ship is considered a fishery officer with legal powers under New Zealand's fishery act.[243] In addition, the RNZN conducts combined maritime patrols with other nations, especially with Australia, to improve maritime security. The implementation of the Western Pacific Fisheries Convention has also provides an additional protection for the marine environment as Pacific Islanders are obliged to respect prevention of marine resources.[244] Similarly, Sri Lanka can apply this same approach in addition to its current domestic efforts by collaborating with India to counter Indian fishermen poaching illegally in Sri Lankan waters.

Another initiative implemented by the RNZN is maritime cooperation domestically and internationally in countering evolving threats to New Zealand. The Quadrilateral Defense Cooperation Group consisting of the United States, France, Australia, and New Zealand further contributes to fisheries surveillance and law enforcement in the South Pacific Region.[245] The 2016 defense white paper of the New Zealand government specifies,

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[241] Paget, 234.

[242] Paget, 234.

[243] Paget, 236.

[244] Paget, 236.

[245] Paget, 237.

New Zealand will continue to protect and advance its interests by maintaining strong international relationships, with Australia in particular, and with its South Pacific partners, with whom it maintains a range of important constitutional and historical links. While New Zealand has an array of international relationships, it makes independent policy decisions consistent with its values, interests and size.[246]

Additionally, the RNZN gets support from the Royal New Zealand Air Force for surveillance in the region to augment its limited capabilities. Similarly, New Zealand's agencies maintain sufficient reserve personnel to provide support in customs and bio-security operations, HADR, and in response to natural disasters with sufficient equipment. Further, the RNZN and other maritime agencies like customs and border protection combine to counter human smuggling and drug/fire arms trafficking into New Zealand. Maritime diplomacy and partnerships, including the Pacific partnerships, are "designed to strengthen multilateral relationships with regional friends, partners and allies, and to maintain and enhance regional security and stability."[247] Apart from the Pacific partnerships, the RNZN has participated in many multilateral exercises, multinational operations, and support efforts to counter challenges, safety operations to protect trade and SLOCs, and counter piracy and maritime security operations.[248] Similarly, the SLN can cooperate with maritime nations in the IOR to enhance HADR activities with the support of the United States and India.

To further enhance cooperation, the establishment of the Joint Task Force enables effective, efficient, credible, and increased combat utility.[249] The close defense cooperation with the U.S. Navy, with the RAN, and with other navies has brought successes in enhancing operating environment capability. To sum up, Paget notes, "increased collaboration with the RAN, the USN [U.S. Navy] and other navies engaged in

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[246] "The Defense White Paper 2016," New Zealand Government, *www.nzdf.mil.nz/downloads/pdf/public-docs/2016/*Defence-White-Paper**.**

[247] Paget, "The Best Small Nation Navy in the World," 239.

[248] Paget, 240.

[249] Paget, 240.

the region, as well as enhancing the capacity of the Pacific Islands to protect their own resources"[250] would manage pressure on the RNZN.

3.   The Republic of Singapore Navy

The Republic of Singapore Navy (RSN) is a powerful navy though small in size. In 1999, U.S. defense analysts rated the RSN above much larger Southeast Asian giants as the "number one naval force in the region."[251] The RSN has a unique ability for force projection into distant waters, though limited in size, because of its fleet of submarines, and its "deft use of technology, human capital and diplomacy."[252] The RSN has only 4,500 naval personnel and 30 ships, dedicated to upholding Singapore's five foreign policy principles: the good-neighbor policy, relevance and usefulness, sense of community, multilateralism, and defense.[253] The close geographical proximity to neighbors, as well as its traditional and non-traditional security threats, have made Singapore emphasize more interstate cooperation via strict implementation of international law in dealing with challenges.[254]

The RSN aligns with regional and international security partnerships as its secondary focus while its primary focus centers on protection of SLOCs and seaward defense. When moving toward multilateralism, Singapore became a maritime regional hub of security cooperation, hosting the WPNS, the Multilateral Tactical Training Centre Exercise, the 17th Proliferation Security Initiative Exercise Deep Sabre, and the ReCAP meeting on Regional Cooperation Agreement on Combating Piracy and Armed Robbery against ships in Asia, where the SLN is also a partner.[255] Figure 14 shows how Singapore inclined toward multilateralism from bilateral initiatives.

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[250] Paget, 250.

[251] Swee Lean Collin Koh, "Best Little Navy in Southeast Asia: The Case of the Republic of Singapore Navy," in *Small Navies*, ed. Michael Mulqueen, Deborah Sanders, and Ian Speller (Surrey: Ashgate, 2014), 117.

[252] Koh, "Best Little Navy in Southeast Asia," 117.

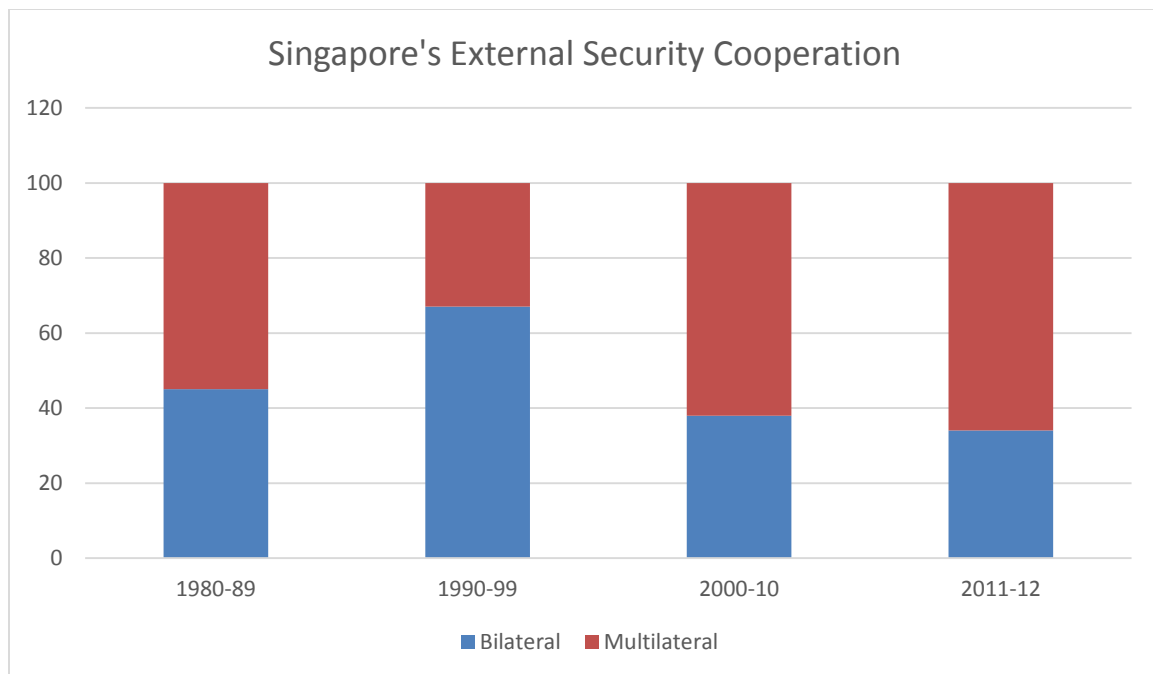[253] Koh, 118–119.

[254] Koh, 120.

[255] Koh, 127.

Figure 14. Scope of Singapore's external security cooperation.[256]

Another key initiative made by the RSN is to depend more on technology as a force multiplier without compromising overall operational effectiveness to offset its limitations. Swee Lean Collin Koh points out, "For example, through extensive shipboard automation the Endurance-class landing platform docks are manned by a crew of 65 as opposed to 130 onboard in the old Country-class landing ship tanks."[257] Acquiring eight new littoral mission vessels from Australia, the RSN combined integrated bridge systems and a lean crew to counter their manpower shortage as a key strategy.[258] Similarly, the development of the unmanned surface vessel to improve homeland defense and maritime security is also another achievement by the RSN.[259] The enhancement of offensive and defensive missile systems onboard the RSN ships—the supersonic anti-ship cruise missile, and the land-

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[256] Adapted from Koh, 126.

[257] Koh, 121.

[258] Mike Yeo, "Singapore Navy Takes Quantum Jump in Adding 2 More Ships to Service," Defense News, November 14, 2017, https://www.defensenews.com/naval/2017/11/14/singapore-navy-takes-quantum-jump-in-adding-2-more-ships-to-service/.

[259] "Singapore Navy Developing New USVs," *Naval Technology*, March 12, 2018, https://www.naval-technology.com/news/singapore-navy-developing-new-usvs/.

attack cruise missile, for example—are known to be the best in the region. Additionally, the RSN's network-centric integrated knowledge command and control, unmanned technologies, and air-independent submarine propulsion are also new technological advances of the RSN.

In addition to these innovative technological solutions, indigenous developments and cost cuttings have enabled the RSN to compensate for other shortcomings. The RSN not only optimized available capabilities but reduced expenditure of the defense dollar. Before deciding on acquiring new defense equipment, the RSN think tanks explore the feasibility to upgrade the existing equipment through indigenous solutions instead.[260] The development of an indigenous climate-optimized ship paint scheme that lasts longer than the previous old non-tropical version is one good example. The RSN has not only saved money but also manpower by merging two separate landing squadrons as a single unit, combined maritime security task force with civilian agencies, the coast guard, the police, and the port authority.[261] These innovations greatly contribute to overall operational effectiveness of the RSN.

Along with security cooperation, partnerships with other maritime nations, technological advances, the RSN's ability "to punch above its weight, through deft utilization of technology, human capital and diplomacy, as well as selective contributions to niche areas of multilateral security,"[262] allowed it to overcome physical limitations. Overall, Singapore is contributing purposefully to ensure international and regional security.

B.   COMPARISON OF THE CASE STUDIES

After the discussion of how smaller island nations and smaller countries with weak economies have and are transforming into more dependable sea units with the capability to address evolving security issues, findings from these case studies can be beneficial to figure

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[260] Koh, "Best Little Navy in Southeast Asia," 121.

[261] Koh, 121.

[262] Koh, 130.

out a suitable model for the SLN. Table 10 compares the common features of Seychelles, Mauritius, Singapore, and New Zealand from the case studies.

Table 10. Comparison of common features of Seychelles, Mauritius, Singapore, and New Zealand navies/coast guards.[263]

Specifics	Seychelles	Mauritius	Singapore	New Zealand
Population	84,700	1.3 million	5.54 million	4.69 million
GDP	USD 1.56 billion	USD 13.55 billion	USD 296.98 billion	USD 184.97 billion
Strength- Navy	Nil	Nil	4,500	2200
Strength – Coast Guard	250	500	1000	2442
Coastal area	491 km	330 km	193 km	15,134 km
EEZ	1,336,559 km²	1,284,997 km²	1,067 km²	4,083,744 km²
Ships over Frigates	Nil	Nil	9	2
Ships below Frigates	7	6	19	9
Submarines	Nil	Nil	6	Nil
Maritime air arm	4	2	Nil	Nil
Helicopters	Nil	4	8	6

The comparison of the four countries' navies/coast guards reveals that Seychelles and Mauritius can be categorized as smaller nations with only a small coast guard. Because Singapore and New Zealand are bigger than Seychelles and Mauritius not only in size but also in GDP, they can be considered as capable of supporting much more powerful navies.

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263 Created by the author from the four case studies in this appendix.

Though Singapore has a smaller coastline than New Zealand, its navy is more powerful than the RNZN. Singapore is the only of the four to have submarines and is superior in GDP, too. The naval and air assets and manpower of the RSN are well above the RNZN's, but both Seychelles and Mauritius have smaller coast guard forces with fewer personnel. Though the GDP of Mauritius is higher than that of Seychelles, there is not much difference between the two countries in maritime assets.

These nations demonstrate that close collaborations make a huge difference to a maritime nation's capabilities. Table 11 summarizes strategies adopted by Seychelles, Mauritius, Singapore, and New Zealand in order to have an effective maritime security environment regardless of resources.

Table 11. Analysis of the four case studies prepared by the author.[264]

Strategy	Seychelles	Mauritius	New Zealand	Singapore
Issues	* Piracy. *Illegal fishing. *Small population. *Small coast guard. *Large coastline.	*Drug trafficking. *Piracy. *Illegal fishing. *Small population. *Small coast guard. *Large coastline.	*Largest EEZ. *Limited resources. *Small navy. *99% maritime trade. * 1,609 kilometers to nearest ally.	*Limited population. * Small navy/ coast guard
Initiatives	*Reformed security structures. *Multinational partnerships. *Capacity building. *Active participation in SIDS working groups. *Emphasis to increase blue economy.	*Reformed security structures. *Multinational partnerships. *Capacity building. *Active participation in SIDS working groups. *Emphasis to increase blue economy.	*Quota management system of fishing. *Strict on Illegal fishing. *Counter TOC initiatives. *Maritime diplomacy enhancements. *Multilateral relationships. *Enhanced regional security	*Force projection into distant waters. *Practicing foreign policy principles. *Focus on deterrence and defense principles. *Interstate cooperation. *Implementation of international

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[264] Created by the author from analysis of the four case studies in this appendix.

Strategy	Seychelles	Mauritius	New Zealand	Singapore
	*Strengthened judiciary. *Reduced corruption.	* Anti-drug smuggling unit. *Created Marine Special Force. *Joint operation between law enforcement agencies.	and stability. *Safety operations. *Enhanced capacity of pacific islands.	law.
Maritime cooperation /partnerships	* Regional countries.	*With U.S. and India. * Regional countries.	*With U.S. and Australia. *Combined maritime patrols. *Pacific partnerships.	*Multilateralism and security cooperation. *Alignment with regional and international security partnerships.
Capacity building	*Regional countries.	*With Indian Navy and the United States Navy.	*Defense cooperation with U.S., France, and Australia.	*Defense cooperation with the United States and ASEAN. *Symposia, workshops, regional Recap centers.
Defense enhancements	*Regional centers for fusion and operational cooperation. *New anti-piracy structure.	*New Police Helicopter squadron. *New interceptor craft. *MPA. *New OPV. *Radar network with AIS. *New anti-drug trafficking structure.	*Increased combat force capabilities. *Ships with more endurance to remain in sea. *Less crew onboard ships. *New littoral warfare support force. *New logistic vessels to support other sea units. *Upgrade of fleet. *Reserve personnel for bio security.	*Use of technology as a force multiplier. *Extensive shipborne automation. *Integrated systems. *Development of USVs. *Reduction of crew. *Indigenous developments. *Innovative technical developments.

Strategy	Seychelles	Mauritius	New Zealand	Singapore
			*HADR operations. *Established joint task force. *More emphasis on electronic lines of communications.	*Optimization of available resources. * Feasibility of upgrading existing equipment before importing. *Merging units/ forces/task groups, etc. *C2 systems. *Missile systems. *Air-independent propulsions.

The transformation of small navies must be conducted systematically without hampering operational effectiveness and national security. Countries with good economies may acquire new equipment and ships. But for those countries with weak GDP, careful planning and optimizing available resources are very important factors. Seychelles and Mauritius have leaned toward sustainable economic development as a tool for greater maritime security advances. The RNZN has concentrated more on regional and international cooperation while the RSN has mainly relied on technological advances. The SLN is on the verge of transformation and needs to apply these aspects to counter a weak GDP, a small navy, a large maritime domain, active TOC, illegal fishing, and a large naval force with more land-warfare oriented sailors. It is recommended, from the four case studies, the SLN apply maritime cooperation initiatives, capacity building measures, defense enhancements, optimum utilization of resources, innovations, integrations, and right sizing of manpower in order to transform itself into a more powerful navy.

Also noteworthy is the example of Singapore, a nation that has successfully mitigated tensions between neighbors through its foreign policies. Singapore has been practicing five foreign policy principles—the good-neighbor policy, relevance and usefulness, sense of community, multilateralism, and defense—with its neighbors and

superpowers without aligning with a single country. If Sri Lanka adopts a similar approach, it can be neutral if there is a war between China and India. Other than non-aligned status, Sri Lanka can take a lesson from how Seychelles and Mauritius are overcoming their limitations. Both these countries have implemented new strategies such as the reduction of corruption, effective law enforcement and proper judiciary systems, good governance, prioritization of a sustainable blue economy, multinational partnerships, and active participation in International Small Island Developing States' working groups to have better relations with the IOR countries.

Other than foreign policy initiatives, the initiatives by the Singapore Navy to enhance maritime security is a good example for all small developing navies to counter probable security concerns in the IOR. The RSN overcomes its limitations to have a better maritime security in its waters through the use of submarines for power projection, deft use of technology as a force multiplier, strict implementation of international law, regional and international security partnerships, memberships in maritime organizations, indigenous developments, reduction of expenditure by optimizing available resources, and cost cutting by reducing manpower. These initiatives summarize the basis of the recommendations for the SLN and on which it can improve.

LIST OF REFERENCES

ABC News. "Former Customs Patrol Boats Gifted to Sri Lanka." Last modified November 17, 2013. http://www.abc.net.au/news/2013-11-17/abbott-confirms-sri-lanka-boats-deal/5097580.

Ahman, Azhar. "Maritime Security Post- 9/11: Challenges and Response." Institute of Strategic Studies Islamabad. Accessed June 3, 2018. http://issi.org.pk/wp-content/uploads/2014/06/1299824930_7936849.pdf.

Aleem, Abdul. "Enhanced Maritime Visibility; Challenges and Way Forward." Presentation, Galle Dialogue International Maritime Conference, Sri Lanka Navy, Colombo, October 2017.

Arangalla, Chandana P. "Nonalignment to Balance China's Influence on Sri Lanka: Negotiating China's 'String of Pearls' Strategy for the Pearl of the Indian Ocean." Master's thesis, Naval Postgraduate School, 2017. https://calhoun.nps.edu/bitstream/handle/10945/56751/17Dec_Arangalla_Chandana.pdf?sequence=1&isAllowed=y.

The Asian Development Bank. "Sri Lanka: Economy." Last modified June 20, 2018. https://www.adb.org/countries/sri-lanka/economy.

Australia Government Department of Foreign Affairs and Trade. "People Smuggling and Trafficking." Last modified October 1, 2014. http://dfat.gov.au/international-relations/themes/people-smuggling-trafficking/Pages/people-smuggling-and-trafficking.aspx.

Bajaj, Vikas. "India Worries as China Builds Ports in South Asia." *New York Times*. Last modified February 15, 2010. https://www.nytimes.com/2010/02/16/business/global/16port.html.

Baofu, Wang. "The U.S. Military's 'Maritime Strategy' And Future Transformation." *Sunday Times*. Last modified January 22, 2008. http://www.lianghui.org.cn.

BBC News SouthAsia. "Tamil Tigers Claim Tanker Attack." Last modified October 31, 2001. http://news.bbc.co.uk/2/hi/south_asia/1628218.stm.

Biswas, Aparajita. "Small Arms and Drug Trafficking in the Indian Ocean Region." University of Mumbai. Accessed June 3, 2018. http://archive.mu.ac.in/arts/social_science/african_studies/biswaswp.pdf.

Blechner, Micah. "Pacific Partnership Leads Humanitarian Assistance and Disaster Relief." Commander, U.S. 7th Fleet. Last modified May 3, 2018. http://www.c7f.navy.mil/Media/News/Display/Article/1512021/pacific-partnership-leads-humanitarian-assistance-and-disaster-relief-symposium.

Bose, Saheli. "Can an India-China 'Reset? Help BCIM?" *Diplomat*. Last modified June 9, 2018. https://thediplomat.com/2018/06/can-an-india-china-reset-help-bcim.

Burns, Rupert H. "Energy in the Indian Ocean Region: Vital Features and New Frontiers." In *Indian Ocean Rising: Maritime Security and Policy Changes*, edited by David Michel and Russell Sticklor, 87–101. New York: Stimson, 2012.

Calvo, Alex. "Small Wars and Non-lethal Force at Sea:The Wave of the Future?,." *Small Wars Journal*. July 17, 2014. Accessed November 3, 2018. http://smallwarsjournal.com/author/alex-calvo-0.

Chaudhury, Dipanjan R. "Maritime Security an Important Dimension of India's Bilateral Relations: Foreign Secretary Jaishankar." *Economic Times*. Last modified November 7, 2017. https://economictimes.indiatimes.com/news/defence/maritime-security-an-important-dimension-of-indias-bilateral-relations-foreign-secretary-jaishankar/articleshow/61549143.cms.

Chowdhury, Jhinuk. "Sri Lanka's New Foreign Policy Presents Opportunities for India." *Diplomat*. Last modified August 24, 2015. https://thediplomat.com/2015/08/sri-lankas-new-foreign-policy-presents-opportunities-for-india.

Dabas, Maninder. "Here Is All You Should know about 'String of Pearls,' China's Policy to Encircle India." *India Times*. Last modified June 22, 2017. https://www.indiatimes.com/news/india/here-is-all-you-should-know-about-string-of-pearls-china-s-policy-to-encircle-india-324315.html.

Daily Mirror. "US Marines Train Recently Formed SLN Marine Corps." Last modified November 23, 2016. http://www.dailymirror.lk/article/US-Marines-train-recently-formed-SLN-Marine-Corps-119584.html.

Daily News. "Navy Hydrographic Service Generates Rs. 1.6 M Income." Last modified July 16, 2018. https://www.dailynews.lk/2018/07/16/local/156955/navy-hydrographic-service-generates-rs-16-m-income.

Das, Pushpita. "Drug Trafficking in India: Case Study for Boarder Security." Institute for Defence Studies and Analyses. Accessed June 3, 2018. http://www.idsa.in/system/files/OP_DrugTraffickinginIndia.pdf.

Dawn News. "Pakistan Developing Maritime Doctrine." Last modified September 6, 2016. https://www.dawn.com/news/1282336.

D'Souza, Shanthie M. "Mumbai Terrorist Attacks of 2008." Encyclopedia Britannica. Accessed June 3, 2018. https://www.britannica.com/event/Mumbai-terrorist-attacks-of-2008.

Dutta, Prabhash K. "Can China Really Encircle India with Its String of Pearls? The Great Game of Asia." *India Today*. Last modified June 15, 2017. https://www.indiatoday.in/india/story/china-encircle-india-string-of-pearls-982930-2017-06-15.

Financial Express. "Indian Navy 'Net Security Provider' in Indian Ocean Region: Sunil Lanba." Last modified February 15, 2017. https://www.financialexpress.com/india-news/indian-navy-net-security-provider-in-indian-ocean-region-sunil-lanba/551497.

Garver, John. "The Indian Ocean in Sino- Indian Relations." In *Protracted Conquest*, 278–282. Seattle, WA: University of Washington Press, 2001.

Ghosh, P. K. "Chinese Nuclear Subs in the Indian Ocean." *Diplomat*, April 2015. https://thediplomat.com/2015/04/chinese-nuclear-subs-in-the-indian-ocean/.

———. "Maritime Security Challenges in South Asia and the Indian Ocean: Response Strategies." Centre for Strategic and International Studies. Last modified January 2004. http://tamilnation.co/intframe/indian_ocean/pk_ghosh.pdf.

Global Security. "Sri Lanka Navy." Accessed October 4, 2018. http://www.globalsecurity.org/military/world/sri-lanka/navy.html.

Gonzalez, Elsie. "The Nexus between Human Trafficking and Terrorism/Organized Crime: Combating Human Trafficking by Creating a Cooperative Law Enforcement System." Seton Hall University. Accessed June 3, 2018. http://scholarship.shu.edu/cgi/viewcontent.cgi?article=1227&context=student_scholarship.

Gorenburg, Dmitry. "Russia's New and Unrealistic Naval Doctrine." War on the Rocks. Last modified July 25, 2017. https://warontherocks.com/2017/07/russias-new-and-unrealistic-naval-doctrine.

Gunaratna, Gamini. "Sri Lanka: First Ever Marines of Sri Lanka Navy Pass out." *Colombo Page*. Last modified February 27, 2017. http://www.colombopage.com/archive_17A/Feb27_1488210963CH.php.

———. "Sri Lanka: Sri Lanka, India Navies Discuss Maritime Issues at 29th IMBL Meeting in Northern Seas." *Colombo Page*. Last modified May 4, 2018. http://www.colombopage.com/archive_18A/May04_1525456462CH.php.

Gunawardena, Dimuthu. "Sri Lanka Navy Outlines Importance of Maritime Hub in Seminar Sessions." Presentation, Defense Seminar, Sri Lanka Army, Colombo, August 19, 2014.

Gurung, Shaurya K. "14 Chinese Navy Ships Spotted in Indian Ocean, Indian Navy Monitoring Locations." *Economic Times*. Last modified December 1, 2017. https://economictimes.indiatimes.com/news/defence/14-chinese-navy-ships-spotted-in-indian-ocean-indian-navy-monitoring-locations/articleshow/61882634.cms.

Hewage Kithmina V. "Sri Lanka's International Reset." *Diplomat*. Last modified January 27, 2015. https://thediplomat.com/2015/01/sri-lankas-international-reset.

Hindustan Times. "Odd That China Has Submarines in Indian Ocean for Anti-piracy Ops: Navy Chief." Last updated December 1, 2017. https://www.hindustantimes.com/india-news/odd-that-china-has-submarines-in-indian-ocean-for-anti-piracy-ops-navy-chief/story-eUwmKlcyYOWIGrZckvyoHJ.html.

———. "Rajiv Gandhi's Sri Lanka Policy Led to His Death: Natwar Singh." Last updated August 1, 2014 https://www.hindustantimes.com/india/rajiv-gandhi-s-sri-lanka-policy-led-to-his-death-natwar-singh/story-0JLTRSHTUF92n32q904rnL.html.

Holmes, James R., Andrew C. Winner, and Toshi Yoshihara. *Indian Naval Strategy in the Twenty-First Century*. London: Routledge, 2010.

Hoyt, Timothy D. "The Indian Ocean and U.S. National Security Interests." In *Deep Currents and Rising Tides: The Indian Ocean and International Security*, edited by John Garofano and Andrea J. Dew, 279. Washington: Georgetown University Press, 2013.

IADC Lexicon. "Definition of Maritime Domain Awareness." Last modified November 1, 2013. http://www.iadclexicon.org/maritime-domain-awareness.

Institute of Security Studies. "Maritime Security in the Indian Ocean: Strategic Setting and Features." Accessed October 4, 2018. https://issafrica.s3.amazonaws.com/site/uploads/Paper236.pdf.

Iqbal, Khaled M. "Maritime Trade Security in IOR: Scope of Multilateral Cooperation." IONS 2016, Symposium presented at Bangladesh Navy, Chittagong, August 31, 2016.

Isheeta.Sumra. "India: Building Capacities to Prevent and Counter Terrorism." United Nations Office on Drugs and Crime. Accessed October 4, 2018. http://www.unodc.org/southasia//frontpage/2014/August/india-building-capacities-to-prevent-and-counter-terrorism.html.

Kariyapperuma, Prasad. *A View from the International Maritime Boundary Line: India-Sri Lanka*. Colombo: S. Godage & Brothers, 2016.

Kaufman, Alison A. "China's Participation in Anti-Piracy Operations off the Horn of Africa: Drivers and Implications." Center for Naval Analysis. Accessed June 8, 2018. https://www.cna.org/CNA_files/PDF/D0020834.A1.pdf.

Khan, Sidra. "Indian Ocean Power Struggle: Pakistan Responding India." *Voice of Journalists*. Last modified May 30, 2018. https://www.voj.news/indian-ocean-power-struggle-pakistan-responding-india.

Koda, Yoji. "China's Blue Water Navy Strategy and Its Implications." Center for a New American Security. Accessed June 8, 2018. https://www.cnas.org/publications/reports/chinas-blue-water-navy-strategy-and-its-implications.

Koh, Swee Lean Collin. "Best Little Navy in Southeast Asia: The Case of the Republic of Singapore Navy." In *Small Navies: Strategy and Policy for Small Navies in War and Peace*, edited by Michael Mulqueen, Deborah Sanders, and Ian Speller, 117. Surrey: Ashgate, 2016.

Kommenda, Niko. "What is China's Belt and Road Initiative?" *Guardian*. Accessed October 16, 2018. https://www.theguardian.com/cities/ng-interactive/2018/jul/30/what-china-belt-road-initiative-silk-road-explainer.

Krishnan, Ananth. "China Defends Deployment of Submarines in Indian Ocean." *India Today*. Accessed June 8, 2018. https://www.indiatoday.in/world/story/china-defends-submarines-deployment-indian-ocean-283460-2015-07-20.

Malcolm, James A., and Linganaden Murday. "Small Islands' Understanding of Maritime Security: The Cases of Mauritius and Seychelles." *Journal of the Indian Ocean Region* 13, no. 2 (2017), 234–256. doi:10.1080/19480881.2017.1328018.

Mayer, Stuart. "Strategic Significance of Developing Interoperability to Mitigate Sea Blindness: Challenges and Future Concerns." Presentation, Galle Dialogue International Maritime Conference, Sri Lanka Navy, Colombo, October 2017.

Mazaheri, Arsham. "How the ISPS Code Affects Port and Port Activities." Borås Academic Digital Archive (BADA). Last modified February 2008. http://bada.hb.se/bitstream/2320/3579/1/Arsham%20Mazaheri.pdf.

Mendel, William, and Peter McCabe. *SOF Role in Combating Transnational Organized Crimes*. MacDill Air Force Base: JSOU Press, 2016.

Mendis, Patrik. "Sri Lanka's Foreign Policy under President Maithripala Sirisena." *Daily FT*. Last modified May 4, 2016. http://www.ft.lk/article/539559/Sri-Lanka-s-foreign-policy-under-President-Maithripala-Sirisena.

Menon, Venugopal B., and Joshy M. Paul. *Sub-Regional Cooperation in South Asia: India, Sri Lanka and Maldives*. New Delhi: Vij Books India Private Limited, 2017.

Michel, David, and Russell Sticklor. "Indian Ocean Rising: Maritime and Security Policy Challenges." Stimson. July 2012. https://www.stimson.org/content/indian-ocean-rising-maritime-security-and-policy-challenges.

Mourdoukoutas, Panos. "Modi Is Getting Ready to Stop China, As the Indian Economy Booms." *Forbes*. Last modified March 5, 2018. https://www.forbes.com/sites/panosmourdoukoutas/2018/03/04/modi-is-getting-ready-to-stop-china-as-the-indian-economy-booms/#5a24a4ba79db.

Mulqueen, Michael, and Terry Warburton, "Transforming Small Navies by Systematic Innovation." In *Small Navies: Strategy and Policy for Small Navies in War and Peace*, edited by Mulqueen, Michael, Deborah Sanders, and Ian Speller, 53. Surrey: Ashgate, 2016.

Murphy, Martin N. "The Blue, Green, and Brown: Insurgency and Counter-insurgency on the Water." *Contemporary Security Policy* 28, no. 1 (2007): 63–79. Doi: 10.1080/13523260701240351.

Nagao, Satoru. "The Role of Japan-India-Sri Lanka Maritime Security Cooperation in the Trump Era." *Maritime Affairs: Journal of the National Maritime Foundation of India*. Last modified May 2017. http://www.tandfonline.com/loi/rnmf20.

Naval Technology. "Singapore Navy Developing New USVs." Last modified March 12, 2018. https://www.naval-technology.com/news/singapore-navy-developing-new-usvs/.

Naval Today. "Indian, Sri Lanka Navies Talk Cooperation." Last modified August 14, 2014. https://navaltoday.com/2014/08/14/indian-sri-lanka-navies-talk-cooperation/.

Newland, Kathleen. "Irregular Maritime Migration in the Bay of Bengal: The Challenges of Protection, Management, and Cooperation." Last modified October 27, 2015. https://www.migrationpolicy.org/research/irregular-maritime-migration-bay-bengal-challenges-protection-management-and-cooperation.

News in Asia. "Ex-Sri Lankan Navy Chief Describes How U.S. Helped Destroy LTTE Floating Armories." Last modified February 10, 2017. https://newsin.asia/ex-sri-lankan-navy-chief-describes-us-helped-destroy-ltte-floating-armories/.

New Zealand Government. "NZDF - New Zealand Defense Force." Accessed August 26, 2018. http://www.nzdf.mil.nz/downloads/pdf/public-docs/2016/Defence-White-Paper.Orbital Admin. "Mauritius: Why We Need a Maritime Strategy in the Indian Ocean." Stop Illegal Fishing. Accessed August 26, 2018. https://stopillegalfishing.com/press-links/mauritius-why-we-need-a-maritime-strategy-in-the-indian-ocean/.

Orbital Admin. "Mauritius: Why We Need a Maritime Strategy in the Indian Ocean." Stop Illegal Fishing. Accessed November 3, 2018. https://stopillegalfishing.com/press-links/mauritius-why-we-need-a-maritime-strategy-in-the-indian-ocean/.

O'Sullivan, Meghan L. *Windfall: How the New Energy Abundance Is Changing Global Politics*. New York: Simon & Schuster, 2017.

Paget, Steven. "The 'Best Small Nation Navy in the World'? The Twenty-First Century Royal New Zealand Navy." *Australian Journal of Maritime & Ocean Affairs* 8, no. 3 (2016), 230–256. doi:10.1080/18366503.2016.1217385.

Pakistan Defence. "India, Sri Lanka, Maldives to Begin Sea Exercise from Today." Last modified October 25, 2016. https://defence.pk/pdf/threads/india-sri-lanka-maldives-to-begin-sea-exercise-from-today.457765/.

Panda, Ankit. "India Steps Up Defense Cooperation with Sri Lanka and Maldives." *Diplomat*. Last modified October 21, 2014. https://thediplomat.com/2014/10/india-steps-up-defense-cooperation-with-sri-lanka-and-maldives/.

Pandey, Pragya. "Emerging Security Environment in the Indian Ocean Region: Challenges and Responses." Presentation, 23rd World Congress of Political Science, Montreal, Quebec, July 2014.

Pant, Harsh V. "China, India, and Sri Lanka's Change of Guard." *Diplomat*. Last modified January 12, 2015. https://thediplomat.com/2015/01/china-india-and-sri-lankas-change-of-guard.

———. "India-Iran Cooperation at Chabahar Port: Choppy Waters." Center for Strategic and International Studies. Accessed June 2, 2018. http://www.csis.org/analysis/india-iran-cooperation-chabahar-port-choppy-waters.

Parmar, Sarabjeet S. "Humanitarian Assistance and Disaster Relief (HADR) in India's National Strategy." Institute for Defense Studies and Analyses. Last modified January 2012. https://idsa.in/system/files/jds_6_1_SarabjeetParmar.pdf.

Rahman, Chris. "The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy." *Australian Maritime Affairs* 24 (2008). http://www.navy.gov.au/sites/default/files/documents/PIAMA24.pdf.

Rahman, Maseeh. "Witnesses Describe Mumbai Attackers' Arrival by Sea." *Guardian*. Last modified November 27, 2008. https://www.theguardian.com/world/2008/nov/27/mumbai-terror-attacks-terrorism-boats.

Rath, Sibapada. "Maritime Strategy of India and China: Influence of Alfred Thayer Mahan." Indian Navy. Accessed June 8, 2018. https://www.indiannavy.nic.in/sites/default/themes/indiannavy/images/pdf/resources/article_7.pdf.

Rawley, Chris. "Naval Unconventional Warfare: Supporting GWOT on the CHEAP." *Small Wars Journal*. Accessed November 3, 2018. http://smallwarsjournal.com/documents/swjmag/v7/rawley-swjvol7.pdf.

Richardson, Michael, and Andrea J. Dew. "Armed Groups at Sea: Maritime Terrorism in the Indian Ocean Region." In *Deep Currents and Rising Tides: The Indian Ocean and International Security*, edited by John Garofano and Andrea J. Dew, 84. Washington, DC: Georgetown University Press, 2013.

Russell, James A. "The Indian Ocean." In *Maritime Strategy and Global Order: Markets, Resources, Security*, edited by Moran Daniel and James A. Russell, 184. Washington, DC: Georgetown University Press, 2016.

Satake, Tomohiko. "Japan and Australia Ramp Up Defense Engagement in the South China Sea." East Asia Forum. Last modified April 25, 2016. http://www.eastasiaforum.org/2016/04/26/japan-and-australia-ramp-up-defence-engagement-in-the-south-china-sea/.

Scholtens, J. "Fishing in the Margins: North Sri Lankan Fishers' Struggle for Access in Transboundary Waters." PhD diss., University of Amsterdam, 2016.

Siddique, Sabeena. "Comparing Gwadar and Chabahar Ports: Rivals or 'Sisters'?" *Asia Times*. Last modified December 7, 2017. http://www.atimes.com/comparing-gwadar-chabahar-port.

Singh, Abhijit. "China's Military Base in Djibouti: Strategic Implications for India." War on the Rocks. Last modified September 15, 2017. https://warontherocks.com/2017/08/chinas-military-base-in-djibouti-strategic-implications-for-india.

Smith, Cody T. "Century of the Seas: Unlocking Indian Maritime Strategy in the 21st Century." Master's thesis, Naval Postgraduate School, 2017. http://hdl.handle.net/10945/56178,21.

Smith, Jeff M. *Cold Peace - China-India Rivalry in the Twenty-First Century*. Lanham, Maryland: Lexington Books, 2015.

South China Morning Post. "Sri Lanka Refuses Port Call for Chinese Submarine after Modi Visit." Last modified August 17, 2018. https://www.scmp.com/news/asia/diplomacy/article/2094093/sri-lanka-refuses-port-call-chinese-submarine-after-indian.

———. "Sri Lanka to Base Navy's Southern Command at Chinese-run Port." Last modified August 15, 2018. https://www.scmp.com/news/china/diplomacy-defence/article/2153246/sri-lanka-base-navys-southern-command-chinese-run.

Sri Lanka Coast Guard. "Sri Lanka Coast Guard - Home." Accessed August 26, 2018. http://www.coastguard.gov.lk/.

Sri Lanka Ministry of Defense. "Navy Reaches Milestone in OBST Ship Movements." Last modified July 2017. http://www.defence.lk/PrintPage.asp?fname=Navy_reaches_milestone_in_OBST_ship_movements_20170605_01.

———. "New Navy Hydrographic Office Established." Accessed August 26, 2018. http://www.defence.lk/new.asp?fname=New_Navy_Hydrographic_Office_established_20170811_01.

Sri Lanka Navy. "One Year into OBST Operations: Navy Earns over Rs. 2.3 Billion." Last modified November 14, 2016. http://news.navy.lk/eventnews/2016/11/14/201611141415.

———. "Sri Lanka Navy." Accessed October 4, 2018. http://navy.lk/history.html.

———. *Sri Lanka's Maritime Strategy-2025*. Colombo: Sri Lanka Navy Press, 2016.

Sutton, Mitchell, and Serge DeSilva-Ranasinghe. *Transnational Crime in Sri Lanka: Future Considerations for International Cooperation*. Canberra: Australian Strategic Policy Institute, 2016.

Thompson, Jean L. "US Maritime Security Sustainability Challenges." Master's thesis, Naval Postgraduate School, 2011.

Till, Geoffrey. "Are Small Navies Different?" In *Small Navies: Strategy and Policy for Small Navies in War and Peace*, edited by Michael Mulqueen, Deborah Sanders, and Ian Speller. Surrey: Ashgate, 2016.

———. "Can Small Navies Stay Afloat?" *Jane's Navy International*, May 2003.

Times of India. "India Has Asked China to Stop Construction in PoK: Govt." Last modified August 9, 2018. https://timesofindia.indiatimes.com/india/india-has-asked-china-to-stop-construction-in-pok-govt/articleshow/65341741.cms.

Unjhawala, Yusuf. "Sino-India Rivalry in the Indian Ocean." *Swarajya*. Last modified June 12, 2015. https://swarajyamag.com/world/sino-india-rivalry-in-the-indian-ocean.

Vespe, Michele. "Marine Policy." Elsevier. Last modified March 2015. http://www.elsevier.com/locate/marpol.

Wettewa, Dharmendra. "Importance of Increasing Maritime Shared Awareness in the Indian Ocean: An Analytical View on Challenges and Way Forward." Presented at Galle Dialogue International Maritime Conference, Sri Lanka Navy, Colombo, October 2017.

Wickramasekara, Ajith. "Transnational Organized Crime and New Terrorism in Sri Lanka: A Nexus." Master's thesis, Naval Postgraduate School, 2017. https://calhoun.nps.edu/handle/10945/56778.

Wijegunaratne, Ravindra C. "Sri Lanka - The Littoral State: Its Significance and Role in Maritime Security in the Indian Ocean." Speech, Kotelawala Defence University, Ratmalana, August 11, 2015.

Wijesinghe, Sarath. "Foreign Policy in Sri Lanka: Is It Effective & Productive?" *Colombo Telegraph*. Last modified August 5, 2015. https://www.colombotelegraph.com/index.php/foreign-policy-in-sri-lanka-is-it-effective-productive.

Wijesooriya, Kosala. "Churning Historic Waters: Maritime and National Security in the Palk Bay and Sri Lanka." Master's thesis, Naval Postgraduate School, 2017. http://calhoun.nps.edu/handle/10945/56845.

Williams Lea Group. The UK National Strategy for Maritime Security." UK Government Publications. May 2014. Accessed June 8, 2018. http://www.gov.uk/government/publications.

Yeo, Mike. "Singapore Navy Takes 'Quantum Jump' in Adding 2 More Ships to Service." Defense News. Last modified November 14, 2017. https://www.defensenews.com/naval/2017/11/14/singapore-navy-takes-quantum-jump-in-adding-2-more-ships-to-service/.

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