

# STABLE SEAS:

## BAY OF BENGAL



one earth  
FUTURE

*Peace Through Governance*



**STABLE SEAS**

*a program of One Earth Future*



# STABLE SEAS: BAY OF BENGAL

## Authors:

| Jay Benson - Stable Seas

## Contributing Authors:

| Curtis Bell- Stable Seas

Gayathri Iyer- Observer Research Foundation

Lydelle Joubert- Stable Seas

Maisie Pigeon- Stable Seas

M J Rahman- World Fish

Asyura Salleh- Stable Seas

Michael Van Ginkel- Stable Seas

M A Wahab- World Fish

The report was also informed by the expertise of a wide variety of regional stakeholders who generously took the time to speak with the Stable Seas team.

January 2020

<http://dx.doi.org/10.18289/OEF.2020.044>

Design and layout by Liz Allen, One Earth Future.

# TABLE OF CONTENTS

<b>INTRODUCTION.....</b>	<b>01</b>
Chapter Outline.....	03
<b>BLUE ECONOMY .....</b>	<b>05</b>
Key Findings .....	06
Sri Lanka.....	07
India.....	09
Bangladesh .....	10
Myanmar .....	11
Thailand.....	11
Towards Realizing Blue-Economic Potential.....	12
<b>COASTAL WELFARE.....</b>	<b>14</b>
Key Findings .....	15
Economic Security.....	15
Climate Vulnerability, Resilience, and Coastal Welfare .....	17
Coastal Conflict .....	19
Conclusion .....	22
<b>RULE OF LAW .....</b>	<b>23</b>
Key Findings .....	24
Corruption .....	24
Services and Public Goods.....	26
Political and Economic Exclusion .....	27
Conclusion .....	30
<b>PIRACY &amp; ARMED ROBBERY AT SEA.....</b>	<b>31</b>
Key Findings .....	32
Robbery of Vessels at Ports and Anchorages in the Bay of Bengal .....	32
Piracy and Robbery of Vessels in the Bay of Bengal .....	34
Conclusion .....	39
<b>ILLICIT TRADES .....</b>	<b>41</b>
Key Findings .....	42
Contraband .....	43
Drugs.....	44
Small Arms and Light Weapons .....	47
Wildlife .....	47
Conclusion .....	49

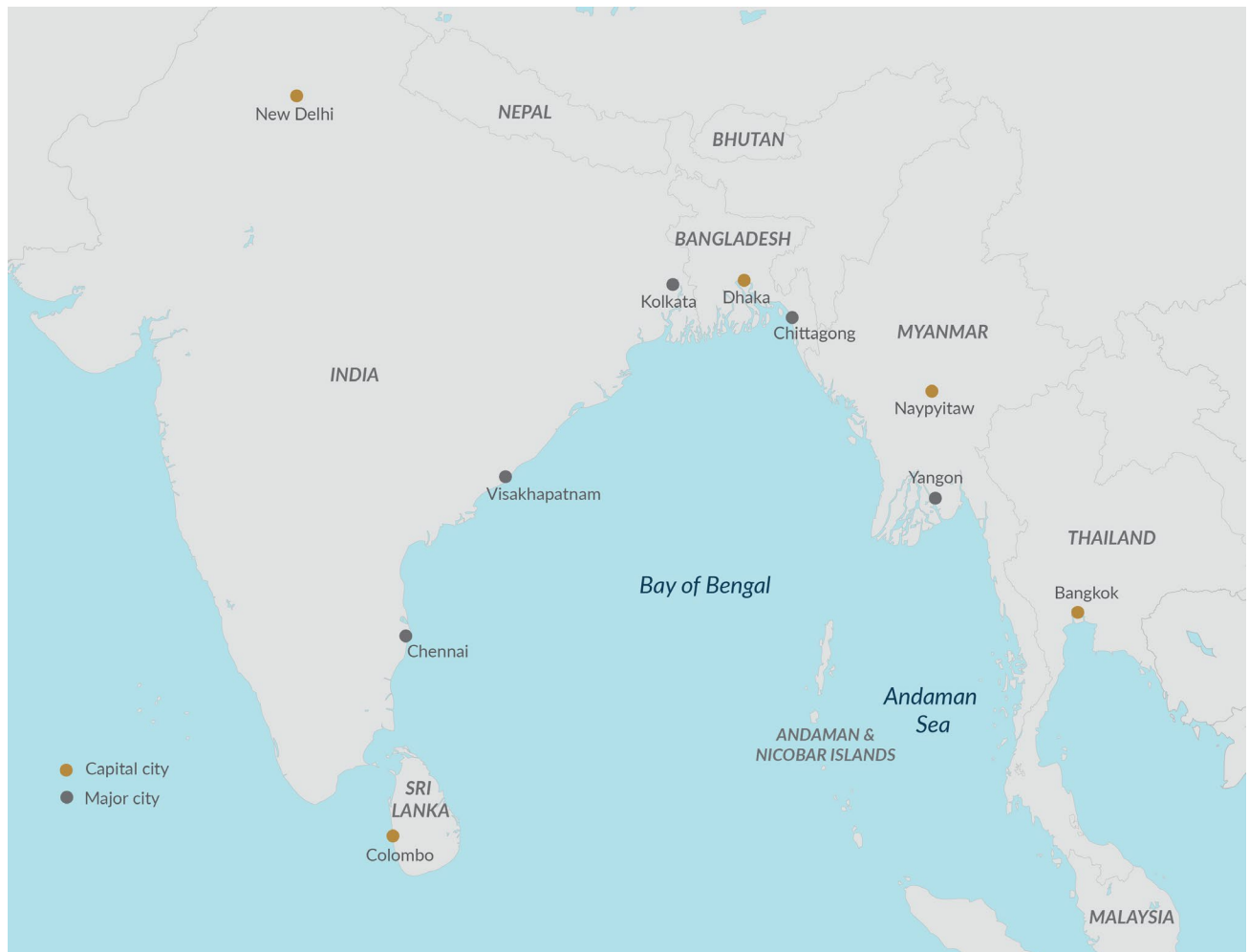
<b>MARITIME MIXED MIGRATION.....</b>	<b>50</b>
Key Findings .....	51
Forms of Maritime Migration in the Bay of Bengal.....	51
Mitigation Efforts and Legal Protections.....	55
Conclusion .....	57
<b>FISHERIES .....</b>	<b>58</b>
Introduction.....	59
Key Findings .....	59
Fisheries Health .....	60
Fisheries Management.....	62
Challenges Ahead for Fisheries and Fishing Communities.....	64
Conclusion .....	65
<b>MARITIME ENFORCEMENT CAPACITY .....</b>	<b>67</b>
Key Findings .....	67
India.....	67
Sri Lanka.....	69
Bangladesh .....	69
Myanmar .....	70
Thailand.....	71
Expanding Maritime Security Collaboration.....	72
Conclusion .....	73
<b>INTERNATIONAL COOPERATION.....</b>	<b>75</b>
Key Findings .....	76
Reviving a History of an Integrated Bay of Bengal.....	76
International Maritime Treaties .....	77
Existing Frameworks for Regional Cooperation .....	77
Bilateral Maritime Cooperation .....	81
The Path Forward.....	82
Conclusion .....	84
<b>CONCLUSION .....</b>	<b>85</b>
<b>ENDNOTES.....</b>	<b>88</b>



## INTRODUCTION

The Bay of Bengal and adjoining Andaman Sea comprise a massive maritime area covering nearly 3 million square kilometers, a space larger than the land area of India. This “Greater Bay of Bengal” region is also immense and diverse in terms of demographics. The five countries surrounding the Greater Bay of Bengal littoral—India, Sri Lanka, Bangladesh, Myanmar, and Thailand—had a combined population of 1.7 billion in 2018, constituting more than one in every five people on earth.<sup>1</sup> Myanmar has 135 recognized ethnic groups. India mentions 22 languages in its constitution, and hundreds of other languages and dialects are also spoken.<sup>2</sup> The region features majority Buddhist, Hindu, and Muslim states, with significant populations of religious minorities in several countries. Finally, the regional economy is huge and growing. These states have a combined GDP of \$3.7 trillion,<sup>3</sup> and feature some of the world’s fastest-growing economies.<sup>4</sup> The Greater Bay of Bengal clearly has immense demographic and economic potential. In order for that potential to be fully realized, effective policies will be needed to mitigate threats and capitalize on opportunities in their shared maritime space.

### THE GREATER BAY OF BENGAL REGION



## GEOGRAPHIC SCOPE OF THE REPORT: THE GREATER BAY OF BENGAL REGION

While states such as Malaysia and Indonesia could be considered part of the greater Bay of Bengal region, their maritime security interest in the Bay of Bengal and Andaman Sea is often overshadowed by concerns in other maritime regions. For that reason, throughout the report we use the term “Bay of Bengal” to refer to the greater region which is comprised of the Bay of Bengal and Andaman Sea and the islands they contain, as well as the proximate coastal areas of Sri Lanka, India, Bangladesh, Myanmar, and Thailand, for which the Bay of Bengal and Andaman Sea areas are more central to their maritime strategy. All of these states have significant exclusive economic zones in and coastlines along the Bay of Bengal.

The Bay of Bengal region is impacted by a variety of maritime security and governance challenges. Armed robbery and kidnapping for ransom in the north of the bay threaten vessels at anchorage and impact the safety of fisherfolk. Poverty and conflict drive members of vulnerable communities to set out along dangerous maritime migration routes, enriching criminal networks involved in human smuggling and trafficking. Illegal, unreported, and unregulated (IUU) fishing threatens the marine ecosystem and the livelihoods of fishing communities. Small vessels are used to avoid detection in the trafficking of drugs and contraband. Climate vulnerability is a looming challenge with the potential to drive increased maritime migration, degrade coastal welfare, and undermine the potential of the “blue economy.”

These challenges are serious but far from insurmountable, and regional states and multilateral organizations are working hard to build the basis for a secure, well-governed, and prosperous Bay of Bengal. This report seeks to supplement these regional efforts by providing detailed, rigorous, and impartial analysis of the challenges to maritime security across nine issue areas in the Bay of Bengal, synthesizing the progress which has already been made and identifying opportunities which could help build on those efforts. Special attention is paid to the interconnected nature of both the challenges and opportunities in the maritime space. By providing this analysis we hope to highlight the importance of the maritime space to the future of the region and facilitate a shared understanding of the path towards a more collaborative, secure, and prosperous Bay of Bengal, both at sea and on shore.

*Stronger maritime governance requires enacting solutions to complicated and interconnected problems of armed robbery and kidnapping for ransom, maritime migration driven by conflict and poverty, illegal fishing, trafficking of drugs and contraband, and looming climate vulnerability.*

The report is the product of extensive desk research into academic work, reports from international organizations and NGOs, and global and regional data on maritime issues in the region, as well as field research and interviews with regional experts across academia, government, think tanks, and international organizations. We owe immense gratitude to all of the experts who took the time to provide their expertise for the report, as it gave a much more nuanced understanding of the regional maritime security dynamics than could have otherwise been achieved.

*With this report, we hope to highlight the importance of the maritime space to the future of the region and facilitate a shared understanding of the path towards a more collaborative, secure, and prosperous Bay of Bengal, both at sea and on shore.*

## Chapter Outline

The report is organized into nine chapters that examine different issue areas of relevance to maritime security and governance in the Bay of Bengal. These issues are inherently overlapping and each chapter seeks to highlight the interconnected nature of the issues.

The first chapter, **BLUE ECONOMY**, explores the state of economic development in the maritime space in each country of the region, including shipping and ports, fisheries, tourism, and offshore hydrocarbons. The region has placed increased emphasis on the development of the blue economy in recent years. Regional shipping, coastal tourism, and hydrocarbons are all well placed for expansion which can, if responsibly managed, contribute to macroeconomic growth and coastal welfare and facilitate trade. In order to realize this potential, significant financial investment will be required. Steps to improve the investment environment and encourage public–private partnerships will help facilitate this.

The second chapter, **COASTAL WELFARE**, examines the economic and physical security of coastal communities across the Bay of Bengal littoral. The region has seen a dramatic improvement in socioeconomic welfare in recent decades, and coastal communities in the region generally fare better than their inland compatriots. However, there remain pockets of coastal poverty, often impacted by conflict, where communities have been left behind. Political violence in the region is largely in inland areas, but a few ongoing conflicts in coastal areas of the bay threaten the physical security of coastal communities.

The third chapter, **RULE OF LAW**, focuses on the roles that onshore corruption, public service provision, and issues of economic and political exclusion play in maritime security and governance. Corruption, particularly in regional ports, hampers shipping and trade efficiency, which are key to the development of the blue economy. Illicit networks engaged in maritime crime such as human trafficking, kidnapping for ransom, and armed robbery of vessels have also occasionally relied on corrupt officials to shield their operations. The region also exhibits pockets of inequitable service provision and socioeconomic exclusion which threaten to isolate certain coastal communities. One particularly prominent form of exclusion in the region is the presence of large stateless communities, which can contribute to coastal conflict and maritime mixed migration.

The fourth chapter, **PIRACY AND ARMED ROBBERY**, provides an analysis of trends in kidnapping for ransom and armed robbery of vessels in the Bay of Bengal. While such incidents have declined from peaks in previous years, isolated pockets of activity remain. One is the prevalence of robbery and kidnapping for ransom near the Sundarbans mangrove delta; criminal gangs target fishermen, threatening the livelihood of fishing communities. Another is robbery at anchorage. Some of the region's major ports are extremely congested, leading to long waiting times for vessels in anchorage; this allows criminals time to observe the patterns onboard, facilitating armed robbery.

The fifth chapter, **ILLICIT TRADES**, examines the use of the maritime space for the transit of illicit goods. The Bay of Bengal is not a major destination for illicit maritime trades, but it is often used as a transit point. Drugs, primarily cannabis and a locally produced methamphetamine called yaba, present the biggest challenge to regional enforcement authorities. The common use of small fishing vessels for transportation of various illicit goods in the region exploits a recognized gap in maritime domain awareness (MDA), taking advantage of the difficulty of tracking small vessels.

The sixth chapter, **MARITIME MIXED MIGRATION**, looks at the complex factors that drive maritime migration in the Bay of Bengal and the various forms such activity takes. Poverty, conflict, and, increasingly, climate vulnerability all have the potential to drive future maritime migration. Irregular maritime migration in the region takes many forms, including irregular economic migration, conflict-induced migration, and forced labor of various types. It is important to note here that all migrants, even those who set out voluntarily, are extremely vulnerable once they enter migratory routes run by criminal networks. Regional strategies which provide alternative legal pathways for migrants and orient responses towards protection rather than deterrence could help mitigate the threats to migrants.

The seventh chapter, **FISHERIES**, explores the state of fisheries health and management in the region. Millions of people in communities across the Bay of Bengal littoral depend on sustainable fisheries in the bay for economic and food security. However, the health of fisheries is threatened by environmental degradation and illegal, unreported, and unregulated (IUU) fishing practices. The transboundary nature of the fisheries resource necessitates regional cooperation; however, no effective joint management plan has yet been formulated and implemented. To ensure the maximum sustainable utilization of resources in the Bay of Bengal, a holistic and comprehensive Ecosystem Approach to Fisheries Management (EAFM) needs to be put in place.

The eighth chapter, **MARITIME ENFORCEMENT**, discusses the capabilities of regional states to respond to illicit activity in the maritime space. The maritime enforcement capacities of the Bay of Bengal countries are undermined by domestic political tensions, procurement gaps, and limited funding. Despite these constraints, maritime enforcement agencies in the Bay of Bengal continue to share a common desire to tackle illicit activities by continuing to pursue long-term progress in building maritime domain awareness. To offset gaps in the maritime enforcement capabilities of weaker countries, a more cohesive and coordinated institutionalized mechanism should be adopted to achieve a regional operational approach to tackling maritime security threats.

The final chapter, **INTERNATIONAL COOPERATION**, explores the ways in which the individual states of the Bay of Bengal can find cooperative solutions in their shared maritime space. The prospects for multilateral action on regional maritime security appear strong as such efforts are increasingly aligned with the stated foreign and domestic policy goals of the individual states. However, regional organizations such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and the Indian Ocean Rim Association (IORA), which are of particular relevance to maritime cooperation in the Bay of Bengal, are still developing and require additional financial and human resources to drive the agenda and implement substantive initiatives. As the region's predominant economic and security power, India could build upon its current efforts to push maritime cooperation in the region.

The report ends with a brief **CONCLUSION** that summarizes both the challenges and opportunities facing maritime security and governance in the Bay of Bengal and suggests several entry points at which incremental progress can lead to improvements across a variety of issue areas. While there are many paths forward, these entry points may serve as useful priorities to make the most of finite resources and catalyze a self-reinforcing cycle of progress.

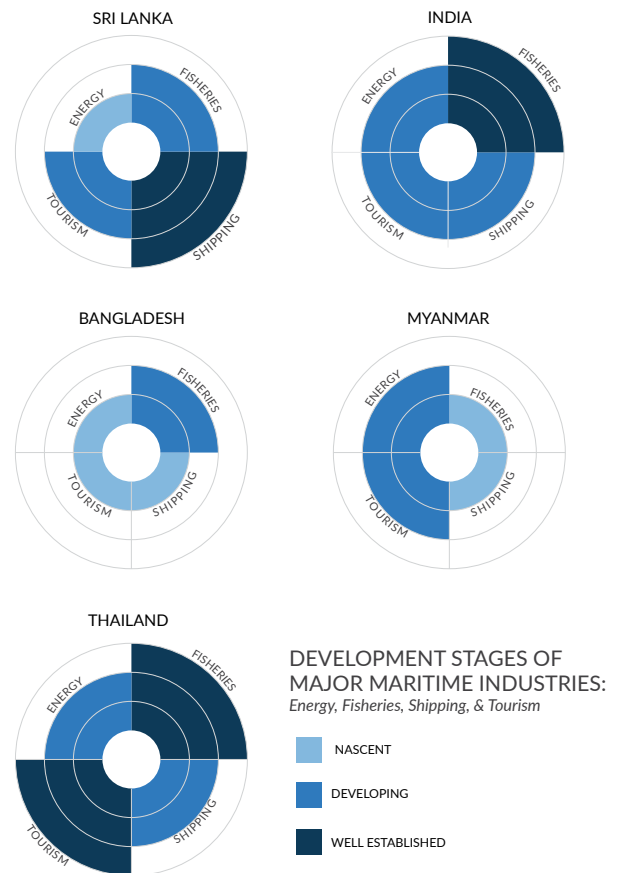
# BLUE ECONOMY



## BLUE ECONOMY

The maritime space contributes to economic development through numerous “blue economy” sectors, which include fishing, offshore energy, shipping, coastal tourism, seabed mining, and many other marine industries. This chapter explores the efforts regional states are making in these areas, the challenges to sustainable development of the blue economy, and the immense economic potential the region holds. Recent attention to the potential of the Bay of Bengal’s blue economy has led to large investment plans,<sup>5</sup> the creation of blue economy-related government bodies,<sup>6</sup> and new regional initiatives.<sup>7</sup>

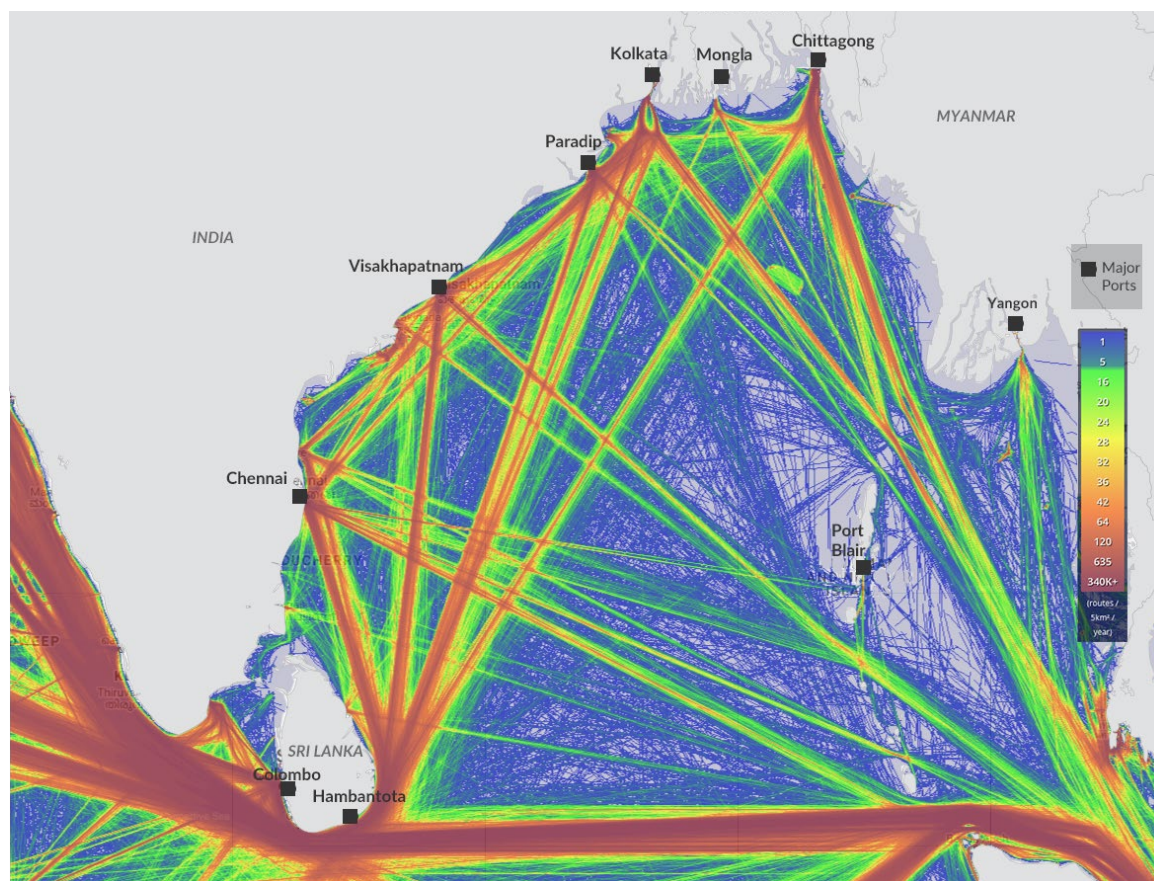
This recent reorientation of the region’s economy towards the blue economy does not represent a major pivot towards ocean industries, which have long been central to regional economies. Rather, these developments recognize and invest in the vital role the blue economy has always played in the region. Healthy fisheries are critical to the wellbeing of communities across the bay. Shipping and port infrastructure facilitate the rapid growth of coastal cities while also enabling greater globalization and integration with foreign markets throughout the region. Emergent tourism and hydrocarbon industries, if managed appropriately, have the potential to be new catalysts for economic growth in the maritime space. The development of a sustainable blue economy in the Bay of Bengal region will be critical to continued macroeconomic growth and improvements in socioeconomic welfare.



### Key Findings

- **STATES ACROSS THE BAY OF BENGAL ARE REFOCUSING POLICY ON BLUE ECONOMY DEVELOPMENT**, but the degree to which this catalyzes the growth of marine industries will depend on the financial commitments accompanying this focus.
- Blue economy development is capital-intensive. Projects often have extended timelines for return on investment. These factors have contributed to a significant gap in financing. **ENGAGING THE PRIVATE SECTOR THROUGH PUBLIC-PRIVATE PARTNERSHIPS WILL BE IMPORTANT FOR ACCESSING THE CAPITAL NECESSARY FOR THE DEVELOPMENT OF MARINE INFRASTRUCTURE AND INDUSTRIES.**
- Blue economy development represents a massive opportunity for the region, but if the benefits are to be sustained, **IMMEDIATE ATTENTION MUST BE PAID TO PRESSING MARINE ENVIRONMENTAL THREATS.** Failure to address environmental damage could undermine the economic potential of maritime industries like fisheries and coastal tourism.

## MAJOR PORTS AND SHIPPING DENSITY IN THE BAY OF BENGAL REGION



Shipping density imagery from maritimetraffic.org

## Sri Lanka

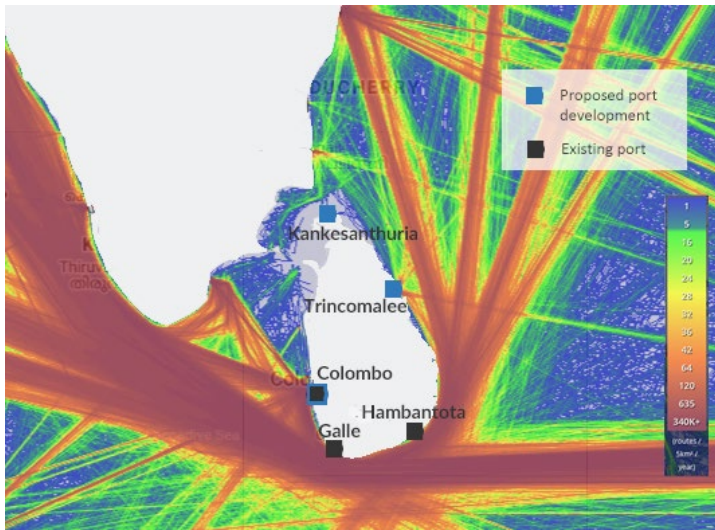
As an island nation with an exclusive economic zone (EEZ) roughly eight times the size of its land area,<sup>8</sup> Sri Lanka's blue economy has incredible potential to drive the country's economic development. Tourism, fishing, hydrocarbons, and particularly shipping all contribute significantly to this development.

### Emerging Shipping Hub

Sri Lanka stands out as an emerging global hub and regional leader in shipping. No state in the central Indian Ocean is as geographically well placed to benefit from international shipping. Located in the center of the Indian Ocean, Sri Lanka is a growing hub for transshipment between the Middle East, East Africa, and Southeast Asia, as well as for imports and exports into and out of fast-growing South Asian economies. The point south of Sri Lanka is one of the busiest shipping lanes in the world.

The shipping industry is already well-established and expanding quickly. Colombo is the world's 22<sup>nd</sup> largest port by throughput and was the world's fastest-growing port in container traffic in the first half of 2018.<sup>9</sup> What's more, Sri Lanka stands out as a leader in port efficiency, meaning ships spend less time waiting to berth, unload, and continue. Between 2000 and 2010 Colombo cut average turnaround time in half, in large part due to private sector involvement. It is now among the most efficient ports in the region.<sup>10</sup> Continued port development has the potential to elevate Sri Lanka from a regional to a global leader in the maritime shipping industry.

## PROPOSED PORT DEVELOPMENT IN SRI LANKA



*Shipping density imagery from maritimetraffic.org*

This continued port expansion taking place in Colombo recently attracted Japanese and Indian investment to expand and deepen a new terminal<sup>11</sup> as well as other newly developed port facilities around the country. India has provided funding to develop Kankesanthurai to facilitate bilateral trade,<sup>12</sup> and others are exploring turning Trincomalee, one of the world's best natural harbors, into a major shipping hub.<sup>13</sup> Given Sri Lanka's geostrategic position, refueling (bunkering) services, transshipment capabilities, and other maritime logistic services could demand growth beyond mere capacity expansions.<sup>14</sup>

However, port expansion is not a panacea for Sri Lanka. The development of port facilities at Hambantota highlights the risks associated with poor feasibility planning and potential corruption, as it saddled Sri Lanka with a massive debt burden which resulted in a controlling stake being handed

to a Chinese state-owned enterprise in exchange for debt relief.<sup>15</sup> Further port development will need to include stronger government oversight, increased transparency, and realistic feasibility studies to avoid overcapacity.

With accompanying investment in rule of law and maritime law enforcement capacity, Sri Lanka stands well-positioned to capitalize on its potential as a leader in maritime commerce and the blue economy more generally.

## THE MARITIME SILK ROAD AND BLUE ECONOMY DEVELOPMENT IN THE BAY OF BENGAL

The Maritime Silk Road (MSR) is a large Chinese maritime transportation infrastructure investment initiative which is part of the larger Belt and Road Initiative (BRI). MSR, and BRI more broadly, have attracted widespread attention from analysts of China's foreign, economic, and military strategies. The MSR represents a significant opportunity for investment in blue economy infrastructure in the Bay of Bengal, but this opportunity does not come without three possible drawbacks: the loss of local sovereignty through debt leverage, increased corruption, and the risk of long-term economic nonviability.

Chinese infrastructure investment has, in some cases, saddled recipient states with excessive debt burdens that expose them to asset seizures, raising concerning questions about the degree of Chinese political leverage. In addition, MSR investment has not always been transparent. In a region already struggling with corruption, this creates massive opportunities for graft in recipient states. Finally, while investment in infrastructure in the broader region is needed,<sup>16</sup> many specific MSR projects are not viable. A recent study indicates that only 28 percent of Chinese infrastructure investment proves to be economically viable.<sup>17</sup> Several MSR projects in the Bay of Bengal operate well under capacity years after completion, calling into question the economic need for further projects and the justification for the levels of debt assumed.

## India

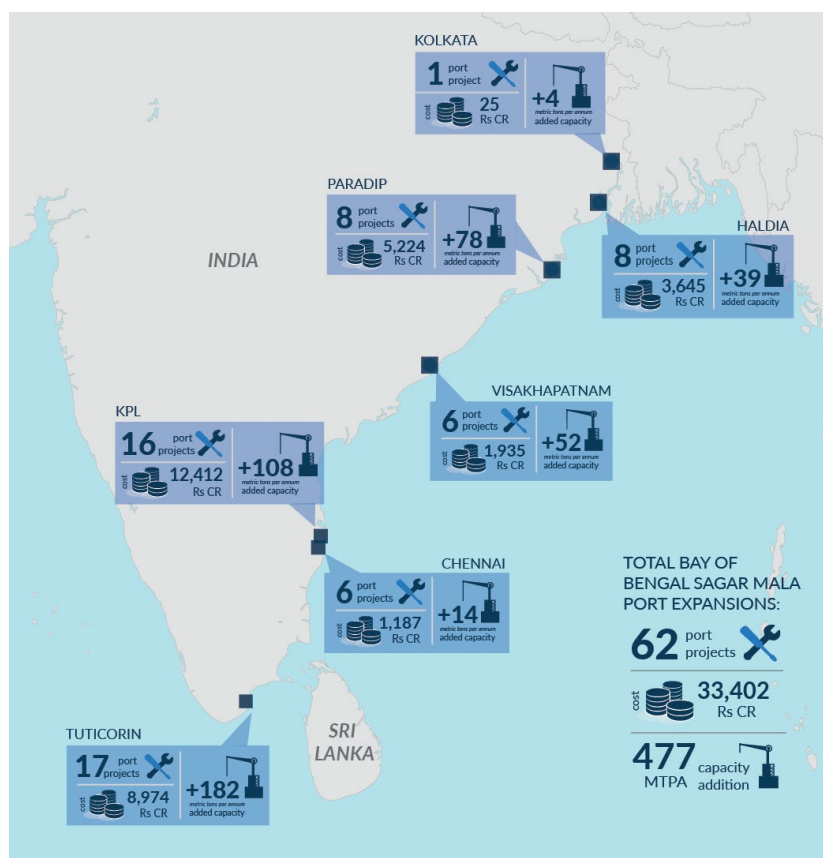
With the largest EEZ in the Bay of Bengal and Andaman Sea region, a geostrategic location near one of the world's busiest shipping routes, and vast coastlines and archipelagic territories that could host coastal tourism industries, India has an immense blue economy and potential for further growth. This potential is being realized through renewed policy focus on increasing investment in maritime industries, and strengthening regional trade ties could catalyze growth of the blue economy both nationally and across the region.

### Renewed Policy Focus

For decades, India's inward-looking and protectionist economic policies<sup>18</sup> meant that the infrastructure to facilitate international maritime trade was not always a development priority. However, a more recent shift towards global trade has driven greater policy focus on the blue economy and maritime trade in particular. This shift has been accompanied by a variety of policy initiatives which seek to catalyze blue economy growth.

Perhaps the most significant of these policy initiatives is the Sagar Mala program. Established in 2015, Sagar Mala is a massive investment program aimed at enhancing maritime logistics, ports, and economic development in coastal communities. A target of \$10 to \$11 billion is to be spent on port infrastructure, including rail–port links, upgrades to existing port facilities, and greenfield port projects with a goal of adding 1,500 tonnes of capacity.<sup>19</sup> India's eastern seaboard along the Bay of Bengal is a particular focus of the project.<sup>20</sup> This includes 62 projects at seven existing major ports along the Bay of Bengal coast which will add an additional 477 million tonnes of annual port capacity. In addition, six major greenfield port projects are planned; four are on the east coast and one, Enayam in Tamil Nadu, is specifically intended to help India capture a larger share of the region's transshipment traffic.<sup>21</sup> The investment should increase Indian port capacity, improve efficiency, and reduce overall logistics costs, which lag behind global benchmarks. This will help facilitate India's growing international trade and reduce bottlenecks to growth.

### INDIA'S BAY OF BENGAL SAGAR MALA PORT EXPANSION



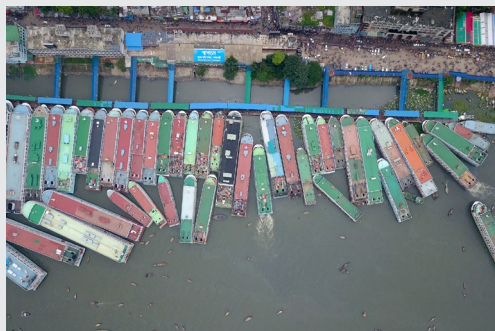
In addition to physical infrastructure, India has also emphasized developing human capital, an overlooked but critical component of the blue economy. The Sagar Mala project provides training in areas such as shipbuilding, maritime

logistics, port management, mariculture, and marine renewable energies.<sup>22</sup> The government also established programs and training centers on ocean ecology, sustainable marine resource development, coastal tourism, and oceanography to expand technical expertise.<sup>23, 24</sup>

As the region's economic giant, India has the potential to shape the future development of a sustainable blue economy throughout the Bay of Bengal. Its renewed policy focus on both human and physical capital should help unlock this potential.

## THE CHALLENGE OF RIVERINE PORTS

One of the somewhat unique challenges that faces blue economy development and maritime shipping in particular in the Bay of Bengal is the relative prevalence of riverine ports. Riverine ports are located inland from the coast on river channels. Kolkata, Payra, Chittagong, Mongla, and Yangon are some of the more prominent riverine ports in the region. Depending on the specific geography, riverine ports are presented with challenges including limited space for berthing, low drafts, the need for continued dredging, shifting sandbars, varying seasonal water levels, and the need for vessel pilotage over longer distances.<sup>25</sup> All of this can cause congestion and longer turnaround times, and exclude service to larger vessels, limiting port competitiveness. In the short term, increasing the efficiency of loading and unloading operations at berth can increase overall efficiency. However, this does not address issues of berthing capacity and low drafts, which may necessitate investment in alternative greenfield deep-water ports in order to facilitate larger vessel traffic.



*Aerial view of boats docking at the terminal port in Dhaka, Bangladesh. Photo: A.K. AAZad.*

## Bangladesh

Perhaps no nation in the Bay of Bengal has as high a stake in the development of a sustainable blue economy as Bangladesh. Bangladesh's population density is the ninth-highest in the world, 2.8 times higher than the second-densest country in the region.<sup>26</sup> Despite significant progress, much of this population (14.8 percent in 2016 ) lives on less than \$1.90 a day.<sup>27</sup> What's more, it is estimated that 17 million people depend on fishing or other maritime resources for their livelihoods.<sup>28</sup> Even for those whose income is not directly derived from the sea, the maritime space is of vital economic importance. Bangladesh's economic growth is largely dependent on an export-led model,<sup>29</sup> which necessitates efficient maritime shipping. All of these factors make Bangladesh's future growth dependent on the potential of maritime resources and commerce.

### *A "First Mover" on the Blue Economy*

This need to look to the maritime space for development makes Bangladesh a regional leader on the blue economy concept. Government ministers have acknowledged that the blue economy will need to contribute significantly to GDP if growth is to be sustained,<sup>30</sup> and the government has accordingly prioritized the development of maritime industries and, in 2017, created a national coordinator for the blue economy.<sup>31</sup>

Bangladesh also pushes its blue economy agenda in regional and international fora. It notably hosted an international workshop on the blue economy in Dhaka in September 2014<sup>32</sup> and has pushed for greater regional blue-economic cooperation through organizations such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)<sup>33</sup> and the South Asian Association for Regional Cooperation (SAARC).<sup>34</sup> More recently Bangladesh has also helped drive the blue economy agenda in the Indian Ocean Rim Association (IORA) as well, hosting a high-level conference of IORA officials on the subject in September 2019.<sup>35</sup>

Significant challenges face Bangladesh's development of a sustainable blue economy. Marine pollution, a lack of domestic technical expertise, and a dearth of port infrastructure are not

unique in the region, but pose significant hurdles. Maritime industries like tourism, fisheries, and offshore hydrocarbons can help provide for Bangladesh's economic needs if they are supported by appropriate financial, infrastructure, and human capital investments.

## Myanmar

As Myanmar emerges from decades of diplomatic and economic isolation, its blue economy has the potential to grow to better sustain communities along the country's extensive coastline. However, for maritime economic development to benefit the average citizen, current economic and political practices need to be reformed. Perhaps no other state in the region could advance its blue economy so effectively by improving local maritime governance.

### *Building Governance Frameworks for the Blue Economy*

Fisheries are a major contributor to Myanmar's GDP,<sup>36</sup> yet many fish stocks are heavily depleted<sup>37</sup> and fisheries exports have been hurt by import bans from several leading markets over safety and environmental concerns.<sup>38</sup> Stronger fisheries management could enforce better production practices, thus reopening export markets. Instead, weak political will and low investment stymie the growth of Myanmar's fisheries sector.<sup>39</sup>

Myanmar also has significant offshore reserves of oil and natural gas, but these resources are underexploited and require further exploration.<sup>40</sup> These reserves could meet the country's growing energy demands, but poor infrastructure, a suboptimal investment environment, conflict, and signs that economic viability is potentially less than initially thought have recently deterred investors after initial enthusiasm.<sup>41</sup>

Finally, Myanmar's port and shipping industry, while lagging behind others in the region,<sup>42</sup> is beginning to draw investment. The largest of these projects is a port, industrial, and energy infrastructure complex at Kyaukpyu. The port would dramatically increase Myanmar's national port capacity but has also raised concerns over the debt burden likely to be incurred.<sup>43</sup>

In these ways, the current model of blue economy development in Myanmar raises concerns over sustainability, corruption, and the benefits accrued to coastal populations. Corruption has facilitated overfishing by foreign vessels.<sup>44</sup> There have been past instances of abuse of coastal populations in the development of offshore hydrocarbon sites and onshore infrastructure, including land seizures and forced labor.<sup>45</sup> Myanmar also has underdeveloped capacity for projecting maritime security and governance at sea. These issues highlight the need for blue economy development in Myanmar to be accompanied by improvements in rule of law, coastal welfare, and maritime enforcement capacity.

## Thailand

Thailand has well-developed maritime industries including fisheries, tourism, offshore hydrocarbons, and shipping, though the latter two industries occur primarily in the Gulf of Thailand rather than the Bay of Bengal. While overfishing and forced labor in the Thai fishing industry highlight the need for greater sustainability and stronger labor protections, Thailand's development as a global tourism hotspot demonstrates the potential of the industry as an economic catalyst for potential replication in the wider region.

### *Fisheries: The Challenges of Sustainability and Labor Protections*

Fisheries and the associated processing industries are a major contributor to Thailand's economy. Thailand has consistently been one of the world's largest exporters of seafood products. In 2018 Thailand exported nearly \$2 billion in seafood products, though its export by value has dropped significantly from a peak in 2011.<sup>46</sup> While the industry has certainly served as a valuable source of exports, it also highlights the dangers of environmental degradation and coastal welfare when not adequately governed.

Consistent overfishing over decades has left Thai fisheries highly depleted. Catch rates have fallen from 297.8 kg per hour in 1960 to just 17.8 kg per hour by 2011.<sup>47</sup> What's more, the Thai fishing industry has seen widespread human rights abuses including forced labor and physical violence.<sup>48</sup> These problems are not unique to Thailand, but they highlight the need for improved regulation and governance of maritime industries to ensure blue economy development is pursued in a manner which protects the environment and human rights.

In January 2019 the EU removed Thailand from its illegal, unreported, and unregulated fishing watchlist.<sup>49</sup> The warning had been issued in 2015 but was lifted in response to a variety of reforms meant to address the sustainability and labor protection concerns detailed above. These included improved vessel monitoring systems and stricter labor regulations.<sup>50</sup>

### *Tourism: Demonstrating the Bay of Bengal's Potential*

Tourism is a critical maritime industry for Thailand, accounting for roughly one-fifth of the country's GDP. Thailand has the Bay of Bengal's largest tourist industry by a significant margin.<sup>51, 52</sup> Its beaches and marine ecosystems are major draws. While tourism is far from a panacea for the Bay of Bengal's blue economy development, Thailand does demonstrate its potential as a source of growth and coastal economic development. Many of the region's countries have immense untapped tourism potential, but growth will be dependent upon continued improvements to coastal security, environmental protection, and the rule of law.

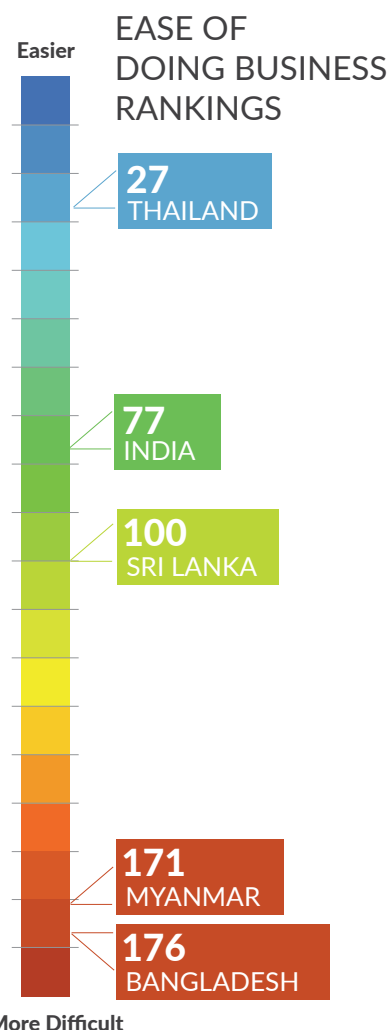
## **Towards Realizing Blue-Economic Potential**

Several key challenges loom for the future of blue economy development in the Bay of Bengal. These include a lack of regional economic integration, low port capacity, the need for blue-economic financial investment, and already serious environmental damage.

Intraregional trade in the Bay of Bengal is nascent compared to other regions. Trade within BIMSTEC, a multilateral organization which includes all of the states included in this report (in addition to landlocked Nepal and Bhutan), sits at roughly 5 percent, as compared to 30 percent within the Association of Southeast Asian Nations (ASEAN).<sup>53</sup> Improved physical connectivity and expanded multilateral trade agreements will need to be put in place to capitalize on the opportunities provided by greater intraregional trade around the Bay of Bengal.

Relatedly, though much progress has been made, the region still suffers from relatively limited port infrastructure. Container traffic in South Asia has grown fourfold since 2000, though its share of global shipping increased only modestly from 2.1 percent to 2.9 percent between 2000 and 2013. While this means that shipping has grown faster than the global pace, it is coming from a relatively low baseline and there is still significant potential for growth.<sup>54</sup> This lack of port capacity serves as an unnecessary barrier to expanded trade and further growth. Referring to global shipping trends, the World Bank finds that every 10 percent increase in port efficiency could reduce costs by 2.3 percent and increase exports by 1.8 percent.<sup>55</sup>

Development of the blue economy is capital-intensive and current efforts face financing hurdles that necessitate greater private sector investment. To improve port capacity and stimulate blue-economic growth more broadly, the investment

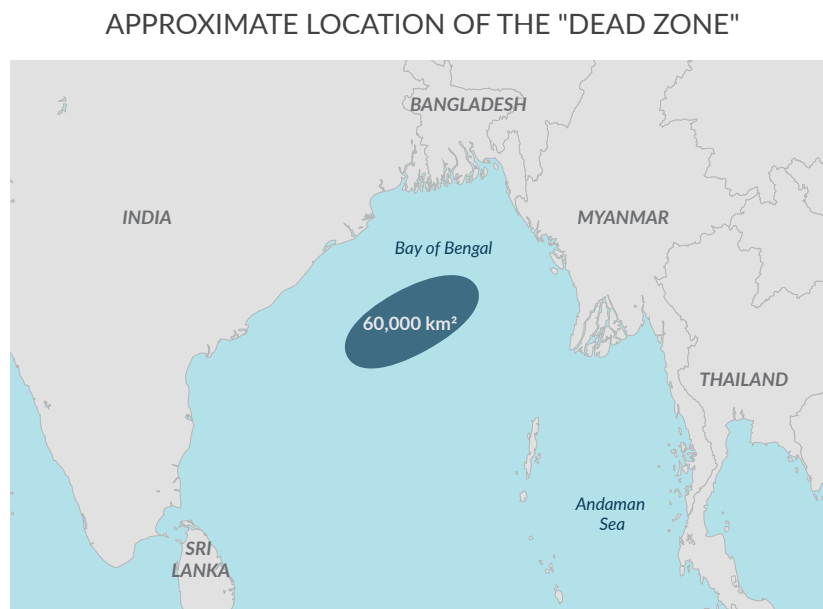


Data: World Bank Ease of Doing Business rankings, 2019

climate in the Bay of Bengal's littoral states must improve. With the exception of Thailand, no Bay of Bengal country ranks in the top 40 percent of the World Bank's Ease of Doing Business rankings.<sup>56</sup> Relieving investor concerns over corruption, inefficiency, and unnecessary bureaucracy would help attract the more diverse sources of financial capital needed to develop the necessary physical infrastructure and technical expertise.

One final challenge, which is perhaps the most difficult to address, is environmental damage. Unsustainable fishing and aquaculture practices and heavy polluting from coastal industries and the massive river systems that ring the bay have put the Bay of Bengal ecosystem in peril. Fish stocks are depleted, and a growing "dead zone," which measures more than 60,000 square kilometers already, has emerged in the bay.<sup>57</sup> This threatens the long-term economic potential of the maritime space. The significant recovery efforts required will necessitate greater maritime governance, maritime enforcement capacity, and regional cooperation.

*Marine industries like fisheries, tourism, shipping, and offshore hydrocarbons all have room to grow and improve the welfare of coastal communities.*



Despite these challenges, the Bay of Bengal is well-placed to be a global center of blue economy development. Marine industries like fisheries, tourism, shipping, and offshore hydrocarbons all have room to grow and improve the welfare of coastal communities. Concomitant investments in improving the rule of law, maritime enforcement, and regional cooperation will all give regional states the political capacity necessary to make these blue economy opportunities a reality.

# COASTAL WELFARE



## COASTAL WELFARE

The welfare of coastal communities is critical to any comprehensive strategy to improve maritime security. Coastal communities that are safe from physical violence and economically vibrant mitigate the threat of their population participating in illicit maritime activities, deter destabilizing maritime migration, and provide the foundation for sustainable growth of the blue economy. The following chapter explores the state of economic and physical security in coastal communities in the Bay of Bengal and demonstrates how developments in these areas onshore have significant implications for maritime security.

### Key Findings

- **SOCIOECONOMIC DEVELOPMENT IN THE BAY OF BENGAL IS IMPROVING RAPIDLY.** Since 1990, the five countries of the Bay of Bengal have seen their collective Human Development Index (HDI) scores increase at more than twice the global rate,<sup>58</sup> bringing impressive gains to the economic security of coastal communities throughout the region. Despite this progress, there remain significant intraregional and intrastate divides in economic security. Continued efforts are needed to ensure that growth is inclusive and sustainable for coastal communities.
- The Bay of Bengal is **PARTICULARLY VULNERABLE TO CLIMATE SHOCKS** due to its geography, reliance on coastal industries, and, in some cases, weak state capacity. Increased climate adaptation and resilience efforts are resource-intensive but necessary to ensure the long-term welfare of coastal communities.
- Most coastal communities in the region are not impacted by ongoing conflict. The major exceptions are the **POLITICAL VIOLENCE IN BANGLADESH AND ONGOING COMMUNAL AND INTRASTATE VIOLENCE IN THE RAKHINE STATE OF MYANMAR.** These conflicts have the potential to escalate rapidly, generating instability in these conflict zones and the wider region.

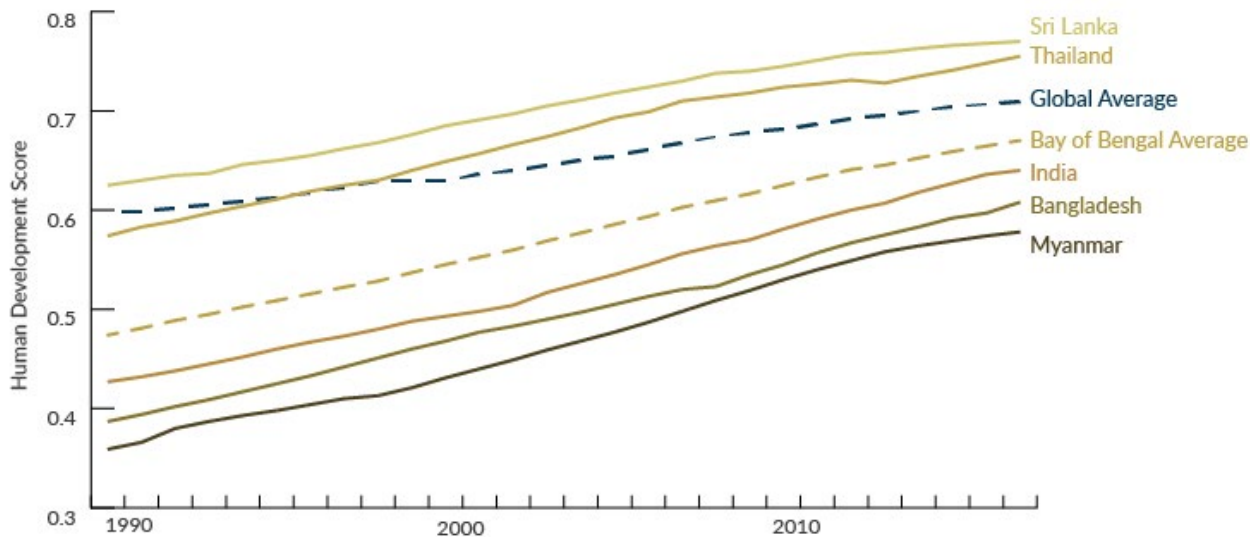
### Economic Security

A lack of economic opportunity can drive members of coastal communities to turn to illicit maritime activities like piracy and armed robbery at sea, illicit maritime trade, illegal, unreported, and unregulated (IUU) fishing, and smuggling or trafficking of persons. Therefore, measures taken to improve maritime security in the Bay of Bengal must also address coastal economic development, which is so often at the root of maritime insecurity.

Economic security in the Bay of Bengal varies significantly from state to state, though most states rank in the middle of most socioeconomic indicators on a global scale. In the 2018 Human Development Index, a UN Development Programme composite measure of health, education, and standard of living,<sup>59</sup> for example, no country in the region falls into either the index's "Very High" or "Low" categories. Sri Lanka and Thailand are classified as having "High" human development, while India, Bangladesh, and Myanmar are placed in the "Medium" tier.<sup>60</sup> Another important indicator of social welfare and public health is infant mortality rate (IMR). While IMR is inherently focused on a small subset of the population and is subject to variation across socioeconomic groups, it has also been shown to correlate strongly with a wide variety of health issues and can serve as a useful proxy for public health more broadly.<sup>61</sup> The average IMR of Bay of Bengal states is 22.6 per thousand, below the global average of 29.4 but nearly double the 11.6 average of upper-middle-income economies.<sup>62</sup> But here, too, we see a significant bifurcation within the region. IMRs in India, Bangladesh, and Myanmar are three to five times higher than those in Sri Lanka and Thailand. This highlights the distinctions between immediate socioeconomic needs across the region.

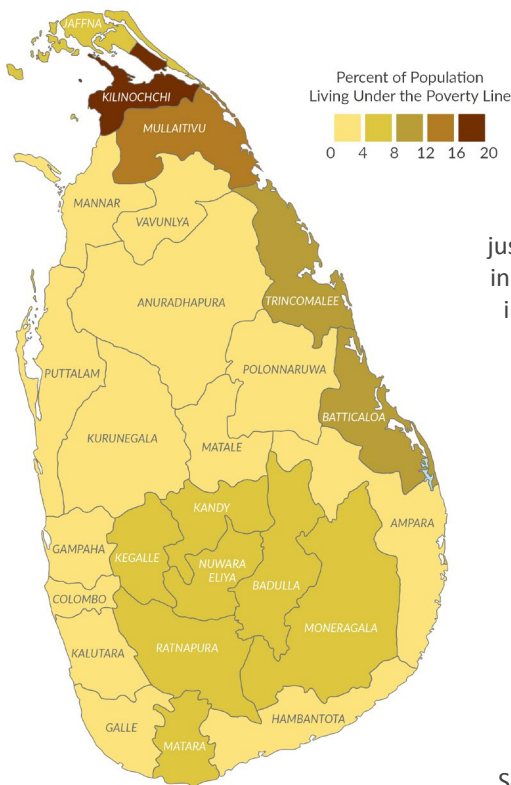
Looking more specifically to coastal communities in the Bay of Bengal, it is useful to evaluate how coastal economies fare in comparison to the broader country. In India, Bangladesh, and Myanmar, the HDI scores in first-level administrative divisions adjacent to the bay are higher than national averages, with India having the largest difference.<sup>63</sup> For example,

BAY OF BENGAL NATIONS' HUMAN DEVELOPMENT SCORES  
1990-2017



Data: Human Development Index and UNDP.

POVERTY RATES IN SRI LANKA



Data: Poverty Indicators, Ministry of National Policies and Economic Affairs Sri Lanka, 2016.

in India, the small Bay of Bengal territories of the Andaman and Nicobar Islands and Puducherry have HDI scores in the “High” category, roughly equivalent to that of a country such as Jordan, and even a larger state like Tamil Nadu is just shy of this “High” category and has a score equivalent to that of South Africa. Some inland states have significantly lower HDI scores, including Bihar, which ranks just slightly below neighboring Nepal.<sup>64</sup> However, in Thailand and Sri Lanka this does not appear to be the case. The Southern region of Thailand, which borders the Bay of Bengal, has an HDI score just slightly below the national average, while still ranking well above the inland North and Northeast regions. The clearest outlier from the trend is in Sri Lanka. Although subnational HDI data is unavailable in Sri Lanka, a comparison of province-level poverty rates shows that coastal provinces have levels of poverty significantly above the national average.<sup>65</sup> Data from Sri Lanka’s Department of Census and Statistics shows that this relative coastal poverty is driven by higher poverty rates in coastal areas of the north and east. These are areas significantly impacted by the country’s decades-long civil war. Available subnational IMR data also reflect this trend in coastal vs. inland welfare. In most Bay of Bengal states, coastal areas have a lower IMR than inland areas,<sup>66, 67, 68</sup> with the outlier being Sri Lanka, whose coastal areas have an IMR nearly 40 percent higher than in inland areas.<sup>69</sup> Again, this disparity is driven by comparatively high IMRs in northeastern coastal regions impacted by the country’s civil war. This further emphasizes the link between coastal conflict and socioeconomic welfare.

Socioeconomic development trends in the Bay of Bengal point in a strongly positive direction. Though they are still slightly below the global average, since 1990 the five countries of the bay have seen their collective

HDI scores increase at more than twice the global rate.<sup>70</sup> Over the same period, the region's IMR has decreased roughly 10 percent faster than the global pace.<sup>71</sup> Prospects for continued economic growth appear strong. According to World Bank forecasts, each country in the region is forecasted to see GDP growth above the global average from 2019 to 2021 and the average projected growth rate across the Bay of Bengal is more than double projected global growth during the same time period.<sup>72</sup> While macroeconomic growth is no guarantee of socioeconomic development, it provides a strong foundation for improved welfare in coastal communities.

## Climate Vulnerability, Resilience, and Coastal Welfare

Though economic growth projections are promising, the Bay of Bengal's vulnerability to climate change could prevent this promise from being realized. Impacts on marine industries, extreme weather events, and sea level rise all threaten the economic and physical security of the region.

Countries in the Bay of Bengal are particularly vulnerable to climate shocks. In recent rankings of climate vulnerability by the Notre Dame Global Adaptation Initiative, the region's average vulnerability was rated well above the global average. Thailand was considered the least vulnerable in the region (just above the global average) due to its relatively strong public health, water systems, and infrastructure, and Myanmar was considered the most vulnerable due to projected impacts on its food security and public health.<sup>73</sup> Climate shocks impact coastal welfare in the region in a variety of ways:

- Coral bleaching threatens Thailand's scuba and tourism industries.<sup>74</sup>
- Extreme weather events such as Cyclone Nargis or the recent Cyclone Fani wreak colossal economic damage and are becoming increasingly frequent.
- Changing weather patterns can also lead to drought, threatening agriculture and the region's booming cities, as in the recent water crisis in Chennai.<sup>75</sup>
- Sea level rise and salinization threatens 40 percent of productive land in southern Bangladesh alone and endangers agriculture and access to drinking water across the region.<sup>76</sup>
- Sea level rise, increased storm surges, and shifting river flows threaten coastal and low-lying megacities such as Kolkata, Dhaka, and Yangon, with an increased risk of massive economic damage and large-scale displacement.
- Climate shocks have the potential to exacerbate the underlying drivers of conflict in the area.

### CLIMATE THREATS



EXTREME WEATHER



SEA LEVEL RISE



SALINIZATION



OCEAN HEALTH

In a region with limited resources for climate adaptation and resilience efforts, the threat posed to coastal welfare by climate vulnerability is truly daunting. However, efforts are being made at both the national and regional level to address this vulnerability. Governments and civil society organizations are studying and implementing mitigation and adaptation efforts in coastal communities to reduce the impact of climate shocks on coastal welfare. These efforts include shifts in agricultural practices and the protection and regeneration of mangroves<sup>77</sup> that serve as an important natural buffer to catastrophic storm surges and erosion. Regional capacity-building efforts by outside partners in areas such as engineering, energy and agricultural technologies, climatology, urban development, and a host of other areas could help strengthen these state-level adaptation and resiliency efforts.

## BAY OF BENGAL LARGE MARINE ECOSYSTEM PROJECT

The Bay of Bengal Large Marine Ecosystem (BOBLME) project, led by the United Nations Food and Agriculture Organisation, aims to address marine pollution, sustainable fisheries and coastal livelihoods in the Bay of Bengal.<sup>78</sup> Bangladesh, India, Maldives, Sri Lanka, Thailand, Myanmar, Malaysia, and Indonesia have worked in concert during the project's first phase, which focused on building cooperation and coordination among the eight countries. The second phase will implement measures to strengthen protected areas, develop sustainable fishing practices, and ensure local communities remain resilient to climate change.<sup>79</sup> Of central importance is the restoration and protection of mangrove trees; by acting as nurseries for marine life and reducing the impact of high waves, mangroves heavily affect regional stability.<sup>80</sup> By integrating sustainable mangrove management into economic development projects, BOBLME will strive to protect the environment while improving long-term coastal welfare.

In addition to these local efforts, the transnational nature of climate issues necessitates regional cooperation. BIMSTEC has begun highlighting climate vulnerability as a priority on its agenda. The group has established a Centre for Weather and Climate, conducted disaster-management workshops, and initiated a ministerial meeting on climate change.<sup>81</sup> However, the region's ability to address climate vulnerability will depend on the issue moving from an agenda item to an area of substantive regional collaboration.

## CAPACITY BUILDING IN CLIMATE RESILIENCE: NANSEN-BANGLADESH INTERNATIONAL CENTRE FOR COASTAL, OCEAN AND CLIMATE STUDIES (NABIC)

Funded by the Norwegian government and scientific institutions, NABIC was set up to provide a better understanding of how climate change impacts the Bay of Bengal. NABIC brings together regional and international instructors and graduate students from multiple disciplines to discuss the societal, ecological, and economic impacts of climate change in the Bay of Bengal.<sup>82</sup> Many international capacity efforts focus on the provision of physical assets. However, efforts like NABIC help fill an important need for scientific and training exchanges which build upon the existing regional human capital to cope with climate vulnerability. Exchanges of this kind serve as models for building capacity in other areas of maritime governance such as blue economy development, fisheries management, maritime rule of law, and combating illicit trades in the maritime space.

Finally, similar to the challenge of developing the blue economy, regional climate resilience and adaptation programs require financial and technological investment. This can be challenging, as many such projects have dual financial and

Least Vulnerable

### CLIMATE VULNERABILITY RANKINGS

from the Notre Dame Global Adaptation Initiative N-GAIN Country Index; out of 181 countries ranked

82  
THAILAND

100  
SRI LANKA

120  
INDIA

158  
BANGLADESH

164  
MYANMAR

Most Vulnerable

social returns, potentially undermining their exclusively economic viability. However, this is where there is potential for more public–private partnerships, which may help overcome the initial barriers to private sector investment.

## Coastal Conflict

Conflict in coastal areas impacts maritime security in many of the same ways it affects economic security. Conflict serves as a potential driver of illicit maritime activity and migration. In the context of weak state capacity to project security and governance into the maritime space, conflict may spur violent actors on shore to exploit the maritime space.

Many of the conflicts which impact Bay of Bengal states are not immediately adjacent to the bay. Conflicts in Kashmir and northern Myanmar are hundreds of kilometers from the Bay of Bengal. India's Naxalite insurgency has impacted coastal regions but is primarily focused further inland, and Thailand's southern insurgency, while coastal, is not centered on the Andaman coast. These conflicts may not be coastal, but they do affect the ability of states and their security and law enforcement entities to commit resources and policy focus to coastal and maritime security. For example, according to data from the International Institute for Strategic Studies, the share of military and paramilitary personnel dedicated to maritime enforcement in countries with significant inland security concerns, such as Myanmar (3.9 percent) and India (5.6 percent), are low in comparison to their neighbors such as Sri Lanka and Thailand, which are able to dedicate roughly 20 percent of security personnel to the maritime space.<sup>83</sup> The comparative lack of resources for maritime enforcement has the potential to create the opportunity for criminal networks and armed groups to exploit the maritime space, undermining the physical security of coastal communities.

However, some coastal communities in the Bay of Bengal also experience direct repercussions from political violence. As illustrated below, one historical and two ongoing clusters of political violence have caused tremendous harm to coastal welfare and have the potential to drive maritime insecurity in the region.

### *The LTTE and the Sri Lankan Civil War*

The Liberation Tigers of Tamil Eelam (LTTE) were adept at exploiting the maritime space to further their onshore political and military agenda. The LTTE's naval wing, known as the Sea Tigers, provided logistical support and interdicted government naval forces along Sri Lanka's northeastern coast. By both procuring vessels illicitly and building them indigenously, the Sea Tigers operated a formidable fleet including approximately 2,000 personnel and a variety of vessels ranging from heavily armed gunboats to semi-submersibles and fiberglass stealth craft.<sup>84</sup> The LTTE's maritime operations severely hampered Sri Lanka's ability to implement counterinsurgency measures.

The LTTE used the maritime space in two distinct ways. The first was to engage in guerilla naval warfare. The Sea Tigers were able to exploit gaps in maritime domain awareness to launch raids on Sri Lankan forces,



*A LTTE Sea Tiger fast attack fiberglass boat passing a Sri Lankan freighter sunken by the Sea Tigers just north of the village of Mullaitivu, Sri Lanka. Photo: Isak Berntsen, 2003.*

often through the use of suicide boats.<sup>85</sup> Equally as important, the LTTE was able to use the maritime space to provide for its logistical needs and financial survival. The Sea Tigers’ Exclusive Economic Zone Marine Logistics Support Team ran a sophisticated maritime resupply and trade system. This allowed the organization to overcome its relative geographic isolation to acquire arms and supplies, as well as operate illicit smuggling networks, the profits of which helped maintain their operations.<sup>86</sup>

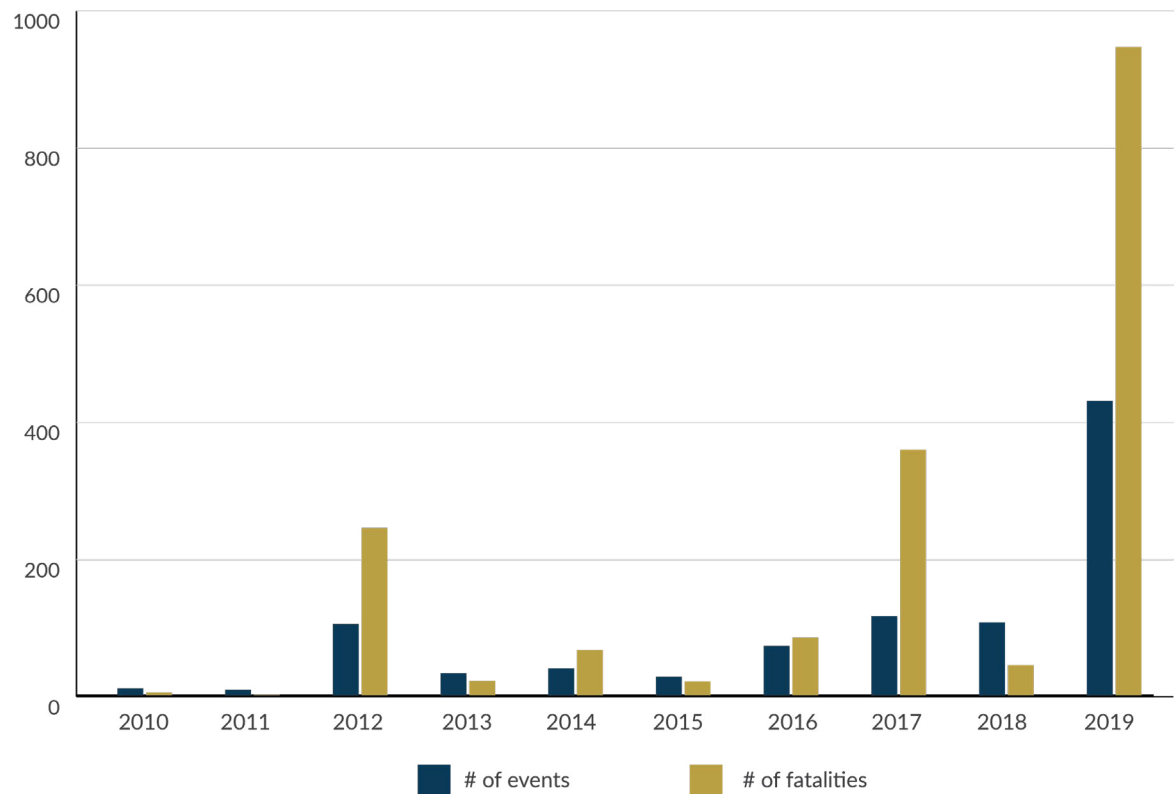
The success of the Sea Tigers underscores the vulnerability of the maritime space to exploitation by armed groups. Investing in the maritime domain provided the LTTE with critical support for its insurgency operations onshore, highlighting the need for robust maritime domain awareness and enforcement capabilities.

*Political Violence in Bangladesh*

Though not exclusively a coastal issue, one of the largest forms of conflict in the Bay of Bengal littoral is political violence in Bangladesh. According to data from the Armed Conflict Location and Event Data Project (ACLED), Bangladesh suffers from unusually high levels of conflict centered on political parties and their supporters.<sup>87</sup> Conflict between and within political parties, their youth wings, and associated student organizations is commonplace and often violent.<sup>88</sup> Elections serve as catalysts, and recent elections have been marred by severe violence.<sup>89</sup> Organized violence surrounding the political system can undermine trust in government and the rule of law in coastal communities. This has real impacts on maritime security as corruption and weak rule of law are enabling factors for armed robbery of vessels off the southeast coast of Bangladesh.<sup>90</sup> While election-related violence is not unique to Bangladesh, in the region, or outside it, the level of political violence highlights the link between onshore rule of law and its potential effects on maritime security.

*Rakhine Conflict in Myanmar*

POLITICAL VIOLENCE IN RAKHINE STATE  
2010-August 2019



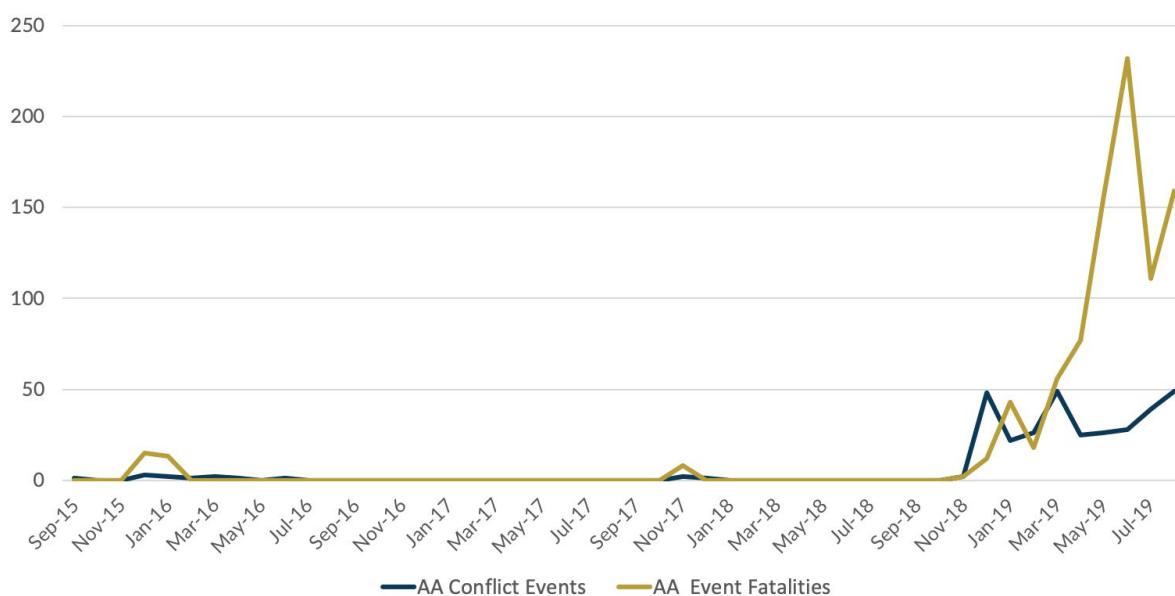
Data: Armed Conflict Location & Event Data Project (ACLED)

Rakhine state on the northwest coast of Myanmar has been the center of a complex overlapping ethnic and religious conflict which has intensified in recent years. While the situation is multifaceted, the conflict can largely be captured in two concurrent violent campaigns. The first, and better known, is focused on the Rohingya population. The Rohingya are a Muslim ethnic minority group concentrated in northern Rakhine state near the border with Bangladesh. They have been historically discriminated against and denied citizenship.<sup>91</sup> Communal tensions in Rakhine state erupted in 2012 leading to widespread violence against Rohingya civilians. This campaign of ethnic violence led to what Mercy Corps has described as one of the world's most severe refugee and humanitarian crises.<sup>92</sup> (The Rohingya refugee crisis is covered in greater detail in the Maritime Mixed Migration chapter of the report). The ethnic violence of 2012 also spurred the creation of a Rohingya ethnic armed group, the Arakan Rohingya Salvation Army (ARSA). The group began a low-level insurgency targeting police, border guard, and military outposts in 2016.<sup>93</sup> According to data from the ACLED, ARSA activity appears to have declined from a peak (though still relatively low) in 2016–2017.<sup>94</sup> Violence against the Rohingya continues, though at lower levels than during the 2012 crisis.

More recently, Rakhine has seen the development of a second conflict between government forces and the Arakan Army (AA). The AA, an ethnically Rakhine insurgent group, has been in existence for a decade but its operations until more recently had been centered in northern Myanmar, where it has received assistance from and fought alongside other armed ethnic organizations.<sup>95</sup> In recent years, AA has begun operations in Rakhine state, with its activity increasing dramatically in December of 2018. This increase in AA activity has heightened conflict intensity in Rakhine state. According to ACLED data, the first few months of 2019 have seen more conflict events and is on pace for more fatalities in Rakhine than any year in the past decade.<sup>96</sup> Civilians have been directly targeted and caught in the crossfire and there are reports of significant displacement resulting from the upsurge in fighting.<sup>97</sup>

This current surge in conflict directly impacts safety and welfare and makes it more difficult to recover from previous waves of violence in Rakhine state. Consistent conflict in the region undermines the ability of coastal communities to

### ARAKAN ARMY ACTIVITY IN RAKHINE STATE



Data: Armed Conflict Location & Event Data Project (ACLED)

meet their needs and may drive some to exploit Rakhine state's complex coastal geography for illicit maritime activity. What's more, there are also indications that the AA may be beginning to use riverine boat operations,<sup>98</sup> which opens the potential for them to operate in the maritime space. Peaceful resolution of the current Rakhine conflict will therefore be necessary for improving the welfare of Myanmar's coastal communities, fostering blue economy development, and establishing sustainable maritime security.

## Conclusion

Coastal welfare in the Bay of Bengal has improved significantly over the last few decades. Standards of living have risen dramatically, with HDI scores improving at more than twice the global rate, and long-running conflicts which threatened the security of coastal communities have been resolved. But in order to build on these gains and reap the associated benefits for maritime security, more needs to be done. Closing the socioeconomic gaps between and within regional states, building climate resilience, and bringing an end to continued coastal political violence will help lay the foundation for a prosperous and secure Bay of Bengal littoral. For this to become a reality, the development of sustainable blue economy livelihoods, governance capacity, and regional rule of law both onshore and at sea will be vital.

*Closing the socioeconomic gaps between and within regional states, building climate resilience, and bringing an end to continued coastal political violence will help lay the foundation for a prosperous and secure Bay of Bengal.*

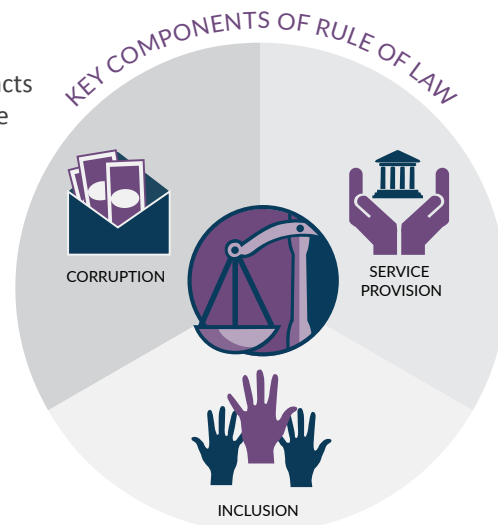
# RULE OF LAW



## RULE OF LAW

The rule of law is typically studied as an onshore issue, but its impacts on the maritime space are often overlooked. Challenges in the provision of services and effective regulatory frameworks across the Bay of Bengal littoral undermine efforts to improve maritime security through increased maritime enforcement, strengthened international cooperation, and blue-economic development. It is the foundation on which other, more targeted maritime policy initiatives can be built.

Rule of law is also a broad concept that could include a variety of issues. For the purposes of highlighting those aspects of rule of law with the greatest impact on maritime security, this chapter will focus on corruption, public service provision, and issues of economic and political exclusion.



### Key Findings

- Corruption is a major challenge across much of the globe and it remains a problem in the Bay of Bengal. By degrading port efficiency and control, and allowing for the protection of maritime criminal networks, **PORT CORRUPTION UNDERMINES THE REGION'S BLUE-ECONOMIC POTENTIAL, MARITIME ENFORCEMENT EFFORTS, AND COASTAL WELFARE.** Port corruption and resulting inefficiencies also increase wait times in anchorage, which makes ports less competitive and increases opportunities for armed robbery of vessels, which is a significant problem in several ports around the region.
- **LEVELS OF GOVERNMENT SERVICE PROVISION ARE LOW,** and where this overlaps with political and economic exclusion it has the potential to undermine trust in government and drive communities towards illicit maritime activity for survival.
- **INDIVIDUAL AND COMMUNITY-LEVEL STATELESSNESS IS A SIGNIFICANT CHALLENGE TO RULE OF LAW IN MYANMAR AND, TO A LESSER DEGREE, THAILAND.** This institutionalized form of political and social exclusion, if left unaddressed, has the potential to drive continued economic insecurity, conflict, and maritime mixed migration in the region.

### Corruption

Corruption among officials impacts maritime security and governance in a variety of ways in the Bay of Bengal.<sup>99</sup> Port corruption increases the cost of trade and may facilitate the funding of trafficking syndicates and armed groups. There are reports from local fishermen that pirate groups bribe law enforcement agents for protection.<sup>100</sup> Human trafficking and smuggling networks that profit on the exploitation of the vulnerable generate substantial profit for the criminals and corrupt officials who protect them. Corruption can impede blue economy potential by driving up the cost of shipping and discouraging investment, significantly damaging the welfare of coastal communities through the diversion of funds meant for service provision, and providing the space for maritime criminal actors to operate with impunity.

Corruption at port is a significant problem. There are reports that bribery is commonplace at ports in Bangladesh<sup>101</sup> and Myanmar<sup>102</sup> for the processing and release of goods by customs officials. This has two primary negative impacts. First, in cases where imports and exports are reliant on one major port, port corruption may present artificial bottlenecks to trade by significantly inflating shipping costs.<sup>103</sup> Second, port corruption could facilitate trade in illicit goods that could be used by criminal or armed groups. This may be a particular threat in Myanmar, where a plethora of armed groups and



Port of Colombo, Sri Lanka. Photo: J.G. Morard.

corrupt military officials have often exploited the country's production of emeralds, rubies, drugs, and hardwoods for personal gain or the financing of armed campaigns.<sup>104</sup>

Tackling port corruption is a difficult task as it demands a change in organizational culture and opens shipping firms to delays and financial losses if they refuse to pay facilitating bribes. A variety of factors can help address port corruption, including ensuring competitive wages for port officials, strong oversight and audit authority, increased private sector investment, and reduced discretionary authority held by port and customs inspectors along with increased transparency through the digitalization of port systems.<sup>105</sup>

While port bribery is likely the most pervasive and best-studied issue, it is not the only means by which corruption impacts the maritime space. Corruption also provides protection for illicit actors engaged in a variety of maritime crimes including piracy and armed robbery, human trafficking and smuggling, and IUU fishing. There is evidence that groups conducting piracy, armed robbery, and kidnapping for ransom in Bangladeshi waters<sup>106</sup> as well as human smuggling/trafficking operations throughout the region<sup>107</sup> facilitate their operations by paying protection money to local officials and law enforcement entities.

## PORT OF YANGON: A CASE STUDY IN PORT CORRUPTION

Corruption in the port of Yangon is well documented. Port officials regularly demand under-the-table payments for the processing of shipments. One of the facilitating factors in this form of corruption is the amount of discretion given to port officials in the valuation of cargoes and the taxation they are subject to. While official valuation guidelines exist, officials have the authority to override them, creating leverage over port users. If bribes demanded are paid, the official valuation is used. If a customer refuses, port agents increase their valuation of cargoes and associated taxes and fees, increasing the pressure on customers to simply pay the bribe.<sup>108</sup>

Reducing the discretionary authority of port and customs officials and increasing the transparency of the system can help reduce this form of port corruption by decreasing the leverage of officials. Increased digitization and automation of port systems helps mitigate these problems, but as the Yangon case demonstrates, it is far from a silver bullet. In 2016, Japan funded the introduction of the Myanmar Automated Cargo Clearance System. By eliminating the opportunities for negotiation of bribes between officials and shipping agents and moving from paper to digitized records, the system should significantly reduce corruption.<sup>109</sup> However, many officials have resisted its implementation and sidestep the system when seeking payments from customers.<sup>110</sup>

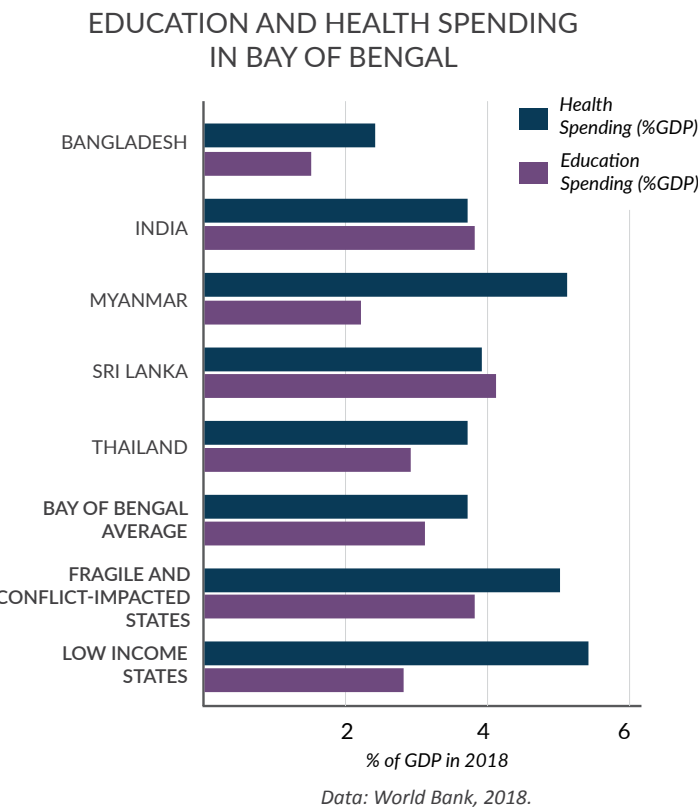
## MARITIME ANTI-CORRUPTION NETWORK (MACN) INDIAN PORT INTEGRITY CAMPAIGN

MACN, a network of private shipping companies dedicated to tackling maritime corruption, is launching a port integrity campaign in India. Working alongside local industry stakeholders, international organizations, and the Indian government, the campaign will strive to improve integrity and efficiency in Indian ports. The pilot program is based in Mumbai and consists of training for port officials and the establishment of clear reporting processes.<sup>111</sup> It was initiated in July 2019 and concluded in October before expanding to other ports along the Indian coastline. Training and reporting initiatives like this, taken in partnership between national governments, civil society, and international organizations, could serve as a model for addressing port corruption and inefficiency throughout the Bay of Bengal.

RULE  
OF LAW

### Services and Public Goods

Provision of public goods and services such as education, healthcare, and infrastructure is at the core of governance and is critical to ensuring that communities across the Bay of Bengal feel that their governments represent their interests, facilitating rule of law both on shore and in the maritime space. Government expenditures serve as a valuable proxy to measure the rate of government service provision. Overall, government service provision across the region has room for improvement.



In education, government expenditure as a percentage of GDP is low. The regional average for the Bay of Bengal of 2.9 percent falls below most global measures, including the averages for low-income (3.8 percent) and fragile and conflict-affected states (3.1 percent).<sup>112</sup> In public health spending, as well, the Bay of Bengal lags in levels of service provision. Bay of Bengal states spend an average of 3.74 percent of GDP on public health, as compared to averages of 5.37 percent for low-income countries and 5.03 percent for fragile and conflict-affected states.<sup>113</sup>

There may not be a direct relationship between coastal public goods provision and maritime security, yet these relatively low levels of government investment can certainly undermine maritime security. As was illustrated in the previous chapter on Coastal Welfare, physical and economic insecurity are primary drivers of illicit activity in coastal and offshore areas. To the extent that these government spending figures capture the resources that states are willing to invest in coastal economic welfare, they represent an

important underinvestment that could limit opportunities in the legal economy and instead push locals towards black markets and transnational criminal networks. This is especially likely where low levels of provision of public services are coupled with political and economic exclusion.

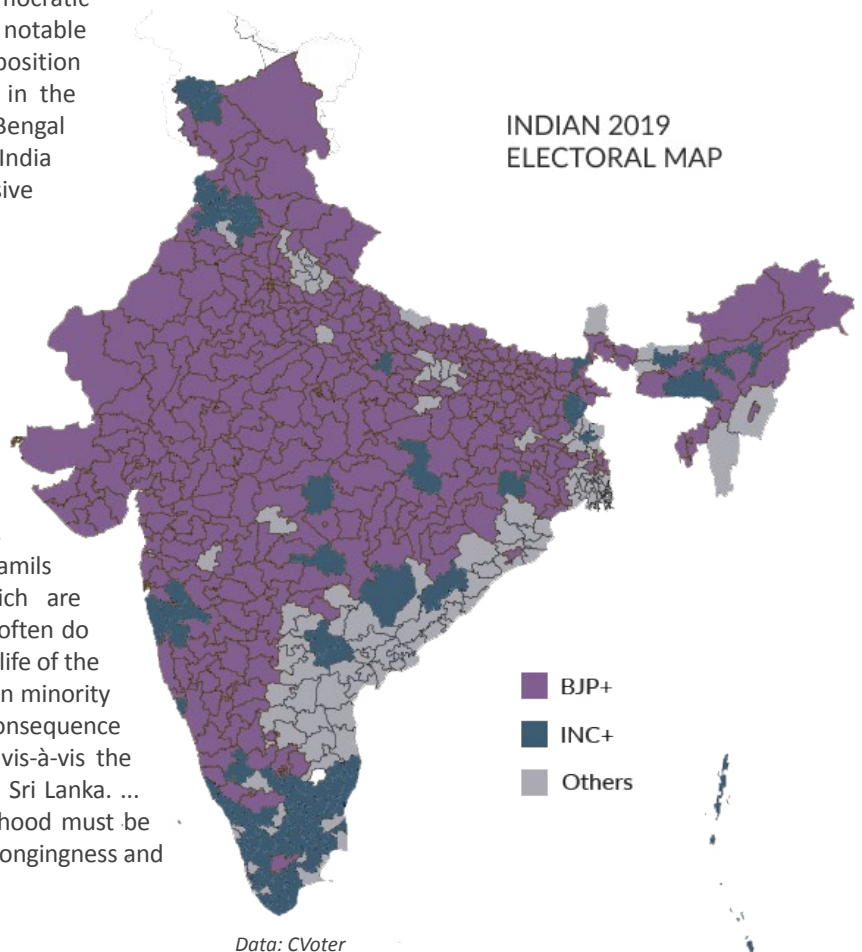
## Political and Economic Exclusion

Exclusion of individuals and social groups can encourage coastal communities to participate in or collaborate with illicit maritime actors, undermining maritime security and governance. In the aggregate, coastal communities in the Bay of Bengal do not tend to suffer from economic exclusion. Coastal regions often have levels of socioeconomic development higher than national averages (see Coastal Welfare). However, this general trend can hide more concerning local trends in economic exclusion. If rural communities reliant on fishing do not see their livelihoods improving at the same rate as those of their urban coastal compatriots, for example, this can engender feelings that the economic system does not represent their interests. Government policies regulating industries such as fishing, which undermines the livelihoods of local communities without providing employment alternatives, have the potential to heighten this sense of economic exclusion.

In addition, states in the region have seen a rise in identity-based politics. Hindu nationalism in India and Sinhalese political domination in Sri Lanka are prominent examples of such identity-based political exclusion.

In India's 2019 election, the ruling National Democratic Alliance won a large majority. However, it is notable from the adjacent election map that opposition to the governing coalition is concentrated in the country's south and east, along the Bay of Bengal coast. Should identity-based politics in India become further entrenched and less inclusive of minority, ethnic, religious, and linguistic groups,<sup>114</sup> many in these coastal Bay of Bengal communities may begin to feel that they not only lost at the polls, but that there is no space for them in Indian politics.

In Sri Lanka, similar dynamics are at play. According to Freedom House, the Sinhalese majority dominates the nation's politics, and despite the end to the country's civil war, coastal minority groups—such as Tamils and the island's Muslim community, which are concentrated in the coastal north and east—often do not feel fully integrated back into the political life of the country.<sup>115</sup> In 2017 a UN Special Rapporteur on minority issues described the situation as such: "As a consequence of the long conflict, there is a trust deficit vis-à-vis the state as well as between the communities in Sri Lanka. ... Sri Lankan identity and the notion of nationhood must be strengthened to foster a stronger sense of belongingness and togetherness of all Sri Lankans."<sup>116</sup>



Identity-based political exclusion of this nature has the potential to negatively impact the economic and physical safety of coastal communities, driving a dangerous sense of exclusion from economic development and political representation.

## Statelessness

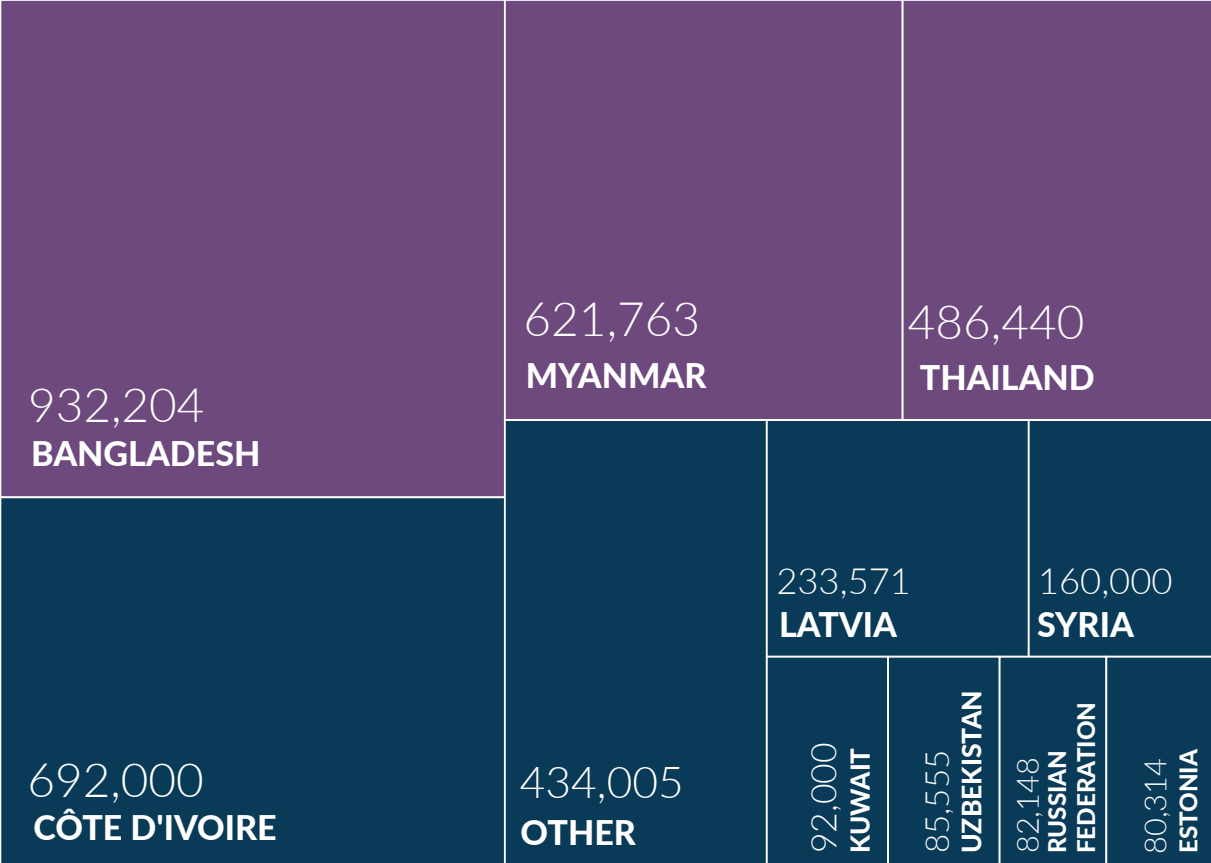
One of the prominent characteristics of exclusion in the Bay of Bengal is that this exclusion often takes a more institutionalized form through official statelessness of individuals and specific communities. Statelessness is defined as an individual or group “who is not considered as a national by any State under the operation of its law.”<sup>120</sup> Official statelessness is particularly prominent in the Bay of Bengal and represents an extreme form of political and economic exclusion which denies access to government services for entire communities. Bangladesh, Myanmar, and Thailand are all ranked in the top five for stateless populations globally.<sup>121</sup> Stateless populations have no legal right to education, healthcare, social welfare or other government services. Some of the most prominent stateless populations in the Bay of Bengal include:

- **THE ROHINGYA.** In addition to being subject to violent persecution (see Coastal Welfare), the Rohingya are the world’s single largest stateless population.<sup>122</sup> A 1982 citizenship law in Myanmar excluded the Rohingya from citizenship along ethnic lines.<sup>123</sup> Even before the more recent waves of ethnic violence against the Rohingya, this stateless status denied them political representation and restricted economic opportunities, forcing many into the hands of the smuggling and trafficking networks which are a major challenge to regional maritime security.
- **THE MOKEN.** The Moken are a semi-nomadic ethnolinguistic group which inhabit the Mergui Archipelago and coasts along Myanmar and Thailand. The Moken traditionally migrate seasonally, and while they are not explicitly denied citizenship based on ethnicity, this semi-nomadic lifestyle means they often lack the birth certificates or identification documentation to qualify for citizenship in either state. This largely stateless status means the Moken often have difficulty accessing government services, in addition to having a lack of legal recourse in instances of violence and extortion from security forces or expropriation of traditional lands and resources for development and conservation projects.<sup>124</sup>

## BHITARKANIKA NATIONAL PARK: THE LIVELIHOOD OF SMALL-SCALE FISHING COMMUNITIES

In the late 1990s the Bhitarkanika area in Odisha State, India, was designated as a national park and marine sanctuary. These designations were put in place largely to protect endangered sea turtles, and a fishing ban was put in place for seven months out of the year.<sup>117</sup> In addition to trawlers, this ban impacts the livelihoods of an estimated 20,000 traditional fisherfolk in the area, cutting them off from their primary source of income for more than half the year. The government has attempted to ease the hardship on fishing communities by providing highly subsidized sales of rice, but residents feel that these measures are inadequate compensation.<sup>118</sup> This has set the scene for persistent confrontation between communities and maritime law enforcement with hundreds of local fishers being arrested and their boats and equipment seized.<sup>119</sup> While efforts to preserve the ecosystems and biodiversity are to be applauded, the impacts on coastal communities with limited alternative livelihoods are very real and need to be taken into account. Failure to provide sustainable alternative employment opportunities is economically devastating for small-scale fishing communities. Such unintended consequences heighten a sense of localized economic exclusion and often force fishers into illegal fishing.

STATELESS POPULATIONS BY THE NUMBERS



While the UNHCR estimates there are 10 million stateless people around the world, in 2017 their data only captured 3.9 million stateless people. This graphic reflects their reported numbers.

Data: UNHCR, 2017

More needs to be done to ensure that remaining stateless populations are incorporated into political and economic systems by officially recognizing their right to citizenship in order to mitigate the threat that their status could serve as a driver for maritime mixed migration, economic insecurity, and coastal conflict. In the case of the Moken, this will mean lowering the burden of proof required to obtain citizenship, as many lack the kind of documentation required.<sup>125</sup> For the Rohingya, the situation is perhaps even more intractable. The government of Myanmar appears unwilling to ensure citizenship rights for Rohingya returning from Bangladesh, and in the Rohingya community has justified fears of violent repression should they return.<sup>126</sup> In this instance, more welcoming policies for Rohingya refugees in states they wish to resettle in may be the only viable long-term solution. Without a long-term solution, Rohingya are likely to be driven to make the dangerous maritime journey to Southeast Asia and their lack of livelihood opportunities in displacement camps has the potential to drive their recruitment into armed groups.<sup>127</sup>

## Conclusion

Rule of law in the Bay of Bengal, both on land and at sea, is critical to maritime security and governance. States in the Bay of Bengal struggle, to varying degrees, with issues of corruption, limited public service provision, and political and economic exclusion. All of these issues, if left unaddressed, have the potential to negatively impact maritime security and governance. The following chapters will describe these mechanisms in greater detail, focusing especially on how rule-of-law issues like port management and the co-optation of state officials are related to problems like poor maritime law enforcement, slow development of the regional blue economy, pervasive illicit maritime economies, and even organized political violence in coastal areas.

Given these kinds of maritime security threats, it is imperative for the region to increase government transparency, achieve greater penetration of social services to vulnerable coastal communities, and offer rights of citizenship to stateless groups and individuals. Broad progress in these areas is a critical prerequisite for lasting solutions for the maritime security threats described in the chapters that follow.

*It is imperative for the region to increase government transparency, achieve greater penetration of social services to vulnerable coastal communities, and offer rights of citizenship to stateless groups and individuals.*

# PIRACY & ARMED ROBBERY AT SEA



# PIRACY AND ARMED ROBBERY AT SEA

Although reports of piracy and robbery of vessels in the Bay of Bengal have fallen significantly due to efforts by authorities, the region still struggles with this issue. Most incidents are recorded in Bangladesh at Chittagong anchorages and in the Sundarbans. Kidnapping incidents in the region remain alarmingly high over recent years, but receive little international attention as they pose no immediate threat to most commercial shipping in the area. The epicenter of the problem in the region is in the north of the bay, away from the major international shipping routes that cross the southern edge of the region. Poverty, population density, diminishing fish stocks, and deteriorating law enforcement are all problems impacting the issue.

## Key Findings

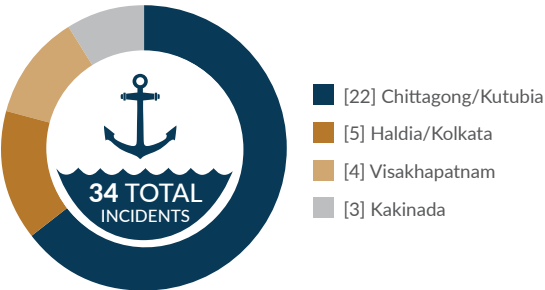
- **PIRACY AND ARMED ROBBERY OF SHIPS WERE ON A DOWNWARD TREND BETWEEN 2014 AND 2017.** Incidents increased in 2018 mainly due to a high number of robberies at Chittagong anchorages. Three robberies in Myanmar and a slight uptick in incidents in India also contributed to the increase. Incidents went down drastically in the first half of 2019, with only one incident reported in Bangladesh and one in India.<sup>128</sup>
- From a broader regional perspective, **ALMOST A THIRD OF ALL REPORTED INCIDENTS IN THE INDO-PACIFIC IN 2018 OCCURRED IN THE BAY OF BENGAL** (28 percent).
- **BANGLADESH, AND CHITTAGONG IN PARTICULAR, REMAIN THE FOCUS OF INCIDENTS IN THE BAY OF BENGAL.** Problems at these anchorages are mainly the result of port congestion at Chittagong, which forces vessels to anchor offshore for long periods. Commercial vessels share the waters with small boats and fishing boats, allowing the robbers to intermingle and get very familiar with the daily routine onboard the other vessels.
- The other **SIGNIFICANT SOURCE OF INCIDENTS IS KIDNAPPINGS IN THE SUNDARBANS.** Bangladesh’s government initiative to rehabilitate bahinis (gangs) had a positive impact on decreasing the number of incidents of kidnapping of fishermen in the Sundarbans; incidents have been on a downward trend since 2015. This may not be sustainable, however, if the kingpins behind these kidnappings are not removed and prosecuted. Both Bangladesh and India would benefit from better cooperation in fighting transnational crime in the Sundarbans as a small percentage of kidnappings of fishermen occurs across borders.
- **PIRACY AND ARMED ROBBERY OF VESSELS IS A VERY LIMITED PROBLEM THROUGHOUT THE REST OF THE REGION,** with very few or no incidents recorded in other Bay of Bengal states in recent years.

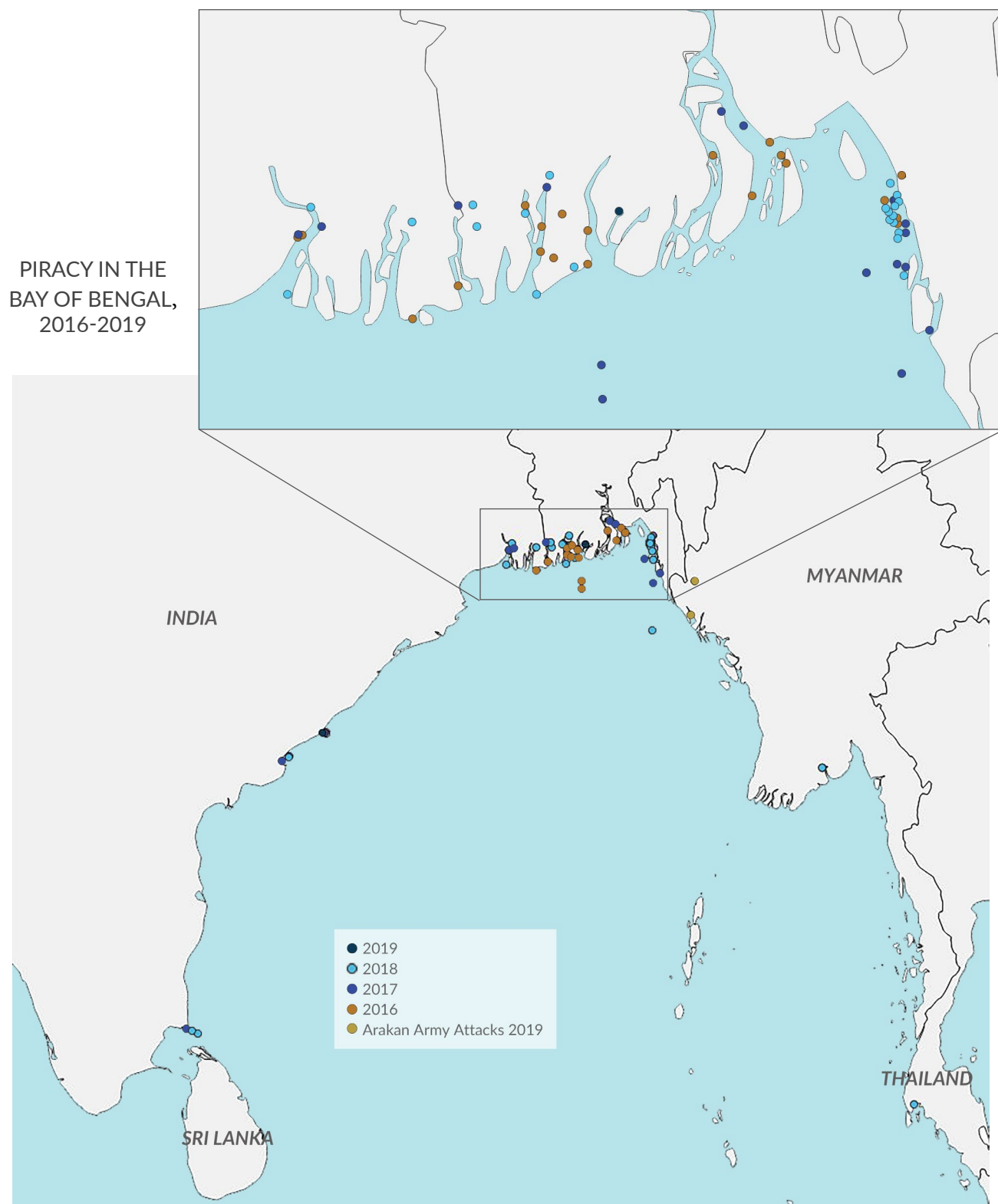
## Robbery of Vessels at Ports and Anchorages in the Bay of Bengal

Safe and efficient operation of a port requires ships to wait for an available berth. Anchorages are located several kilometers offshore for vessels waiting to enter port at their allocated time. Where insufficient port facilities exist, ship-to-ship transfers of cargo will often also take place at anchorages.

In 2018 the majority of robberies of vessels at anchor in the Bay of Bengal were reported at Chittagong anchorages. Between January 2016 and December 2018, 64 percent of all robberies at anchorages in the Bay of Bengal were reported at this anchorage. Robberies at other anchorages were minimal. Three anchorages in India also reported robberies over this time period—Kolkata (5), Visakhapatnam (4), and Kakinada (3).

ROBBERY & ATTEMPTED ROBBERIES  
at Ports and Anchorages (2016-2018)





Except for fishing vessels and tugboats towing barges, only two other vessels, a general cargo ship and a passenger boat, were robbed while underway in the same period. Both of these were on rivers in the internal waterways of Bangladesh. In the Bay of Bengal, vessels face their greatest risk in a few of the region’s overcrowded—and therefore dangerous—anchorage.

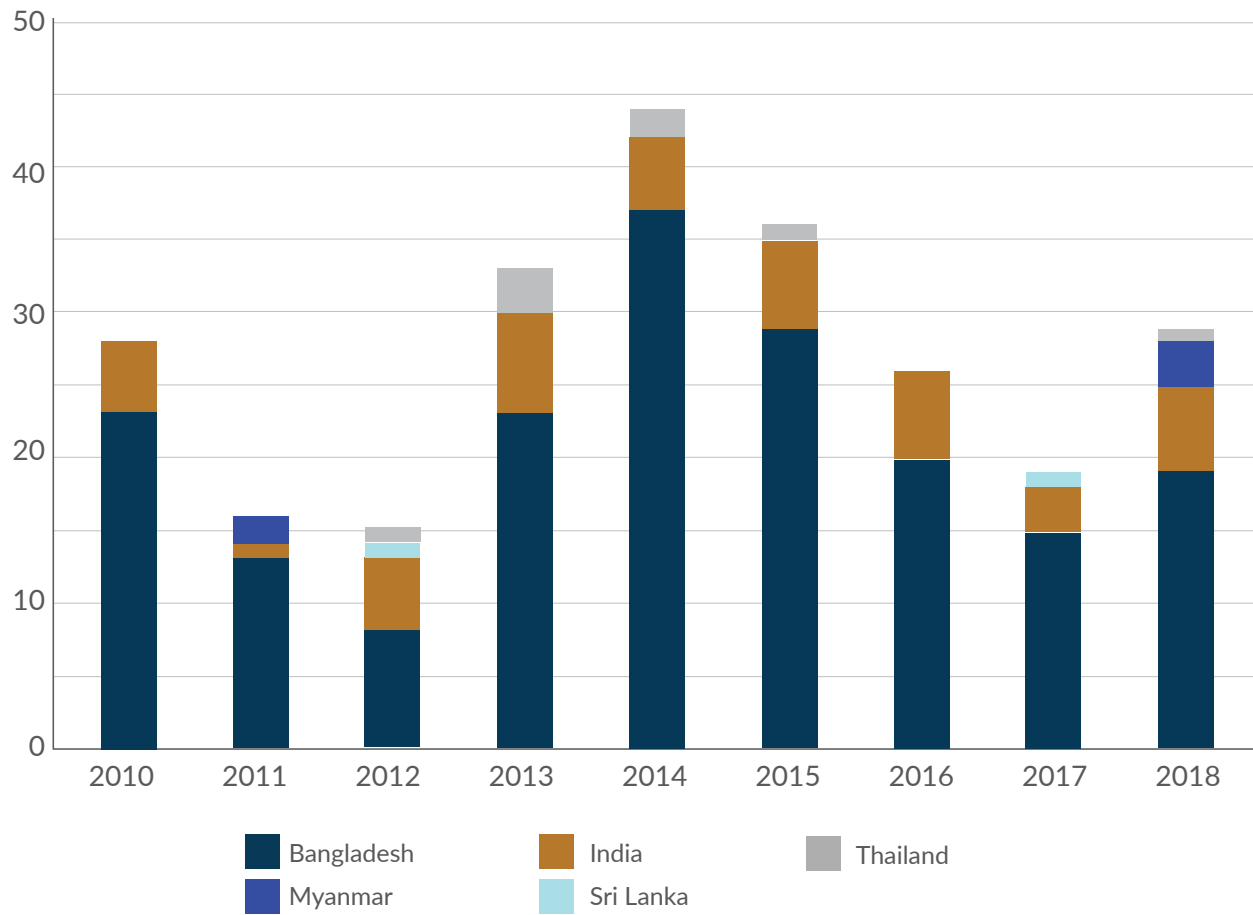
Both Chittagong and Kolkata ports are located in densely populated areas where poverty is rampant. Both are located on rivers where fishermen in small boats can get access to berthed vessels through open waterways. Fishing vessels get familiar with the onboard routines of ships when ships lie at anchor offshore for long periods of time due to port congestion. Ships have smaller crews today, which places extra pressure on watch duties. When crew members are waiting for long periods of time at anchorages, their level of vigilance drops; robbers often board vessels and steal ship stores without even being detected.

Piracy and Robbery of Vessels in the Bay of Bengal

Only six incidents of piracy were reported in the Bay of Bengal between 2016 and mid-2019. Almost half of the incidents reported over the same time period in this area can be classified as robbery or attempted robbery at anchorages and a third as kidnapping of fishermen in the Sundarbans and the northern Bay of Bengal.

PIRACY &  
ARMED ROBBERY

PIRACY AND ROBBERY OF VESSELS BY COUNTRY  
2010 to 2018



## India

Kolkata, in West Bengal, is a riverine port on the Hooghly River, 145 kilometers from the sea. The combination of local poverty and port congestion generates the conditions for robbery of vessels. Port authorities have developed novel ways to alleviate congestion through making upgrades to the railway network, improving roads leading to the port, and increasing roll-on roll-off (ro-ro) projects. Ro-ro ships are designed to carry cargo such as cars, which are driven on and off the ship. The ro-ro projects, which are currently on a trial basis, make use of ro-ro vessels carrying 20–40 trucks between the Kolkata side and Sankrail, on the Howrah side, out of the city limits with less traffic congestion. Container and bulk traffic will also be moved from Sagar and Diamond Harbour to the Balagarh terminal.<sup>129</sup>

Five incidents of robbery were reported at the Port of Kolkata between 2016 and the end of 2018; vessels were boarded by the anchor chain from small boats. At the Haldia Dock Complex, three robberies were reported while vessels were at berth over the same period. All the robbers boarded unnoticed and ships' property, mooring ropes, and engine spares were stolen. Two robberies and two attempted robberies on tankers have been reported at the Kolkata anchorage since January 2016. The robbers were undetected in one incident. Between three and eleven robbers approached vessels with a small boat or fishing boat and boarded with a hook attached to a rope, and ship stores were stolen.

Three incidents against fishing vessels were reported in 2018. On 23 March 2018 four members of the Janab Mollah kidnapping gang were arrested by the special operations group of the Baruipur police as the gang waited to ambush fishermen at Pirkhali. Some members of the gang managed to escape. Seven guns and 15 rounds of ammunition were also confiscated. In April 2018 and September 2018, Indian fishermen were attacked, allegedly by Sri Lankan pirates, while they were fishing off Vedaranyam and Kodiyakarai.

## Bangladesh

Incidents in Bangladesh had been on a downward trend since 2014, but once again increased in 2018. Anchorages off Chittagong are the main hotspot in the Bay of Bengal in terms of concentration of robbery incidents. Kidnappings of fishermen in the Sundarbans are also still prevalent, and hijackings were recorded in the past.

### Chittagong

Chittagong is the second-largest city in Bangladesh and is its primary port. The Port of Chittagong is a natural port situated 15 kilometers from the sea on the Karnaphuli River. The port is the busiest in Bangladesh,<sup>130</sup> handling 90 percent of the country's seaborne trade in 2017.<sup>131</sup>

Chittagong experiences severe port congestion between April and October annually. An estimated 5,000 container trucks enter the port on a daily basis. It was reported that the situation worsened again in 2018, with vessels waiting for more than a week at outer anchorages to enter port, which could be a factor contributing to the higher figures for robberies at anchorages in 2018. Chittagong port authorities are hopeful that several development initiatives, which include new construction of terminals and jetties, will lessen congestion once completed.<sup>132</sup> A new 190-meter-long container terminal is in planning stages and is expected to be completed by 2021.

Between 2016 and 2018, 22 robbery incidents on vessels were recorded at the Chittagong and Kutubia anchorages. More than half of these were recorded in 2018 alone. All of these incidents can be classified as petty theft; two-thirds of robberies were successful. Ships' stores such as drums of paint and mooring ropes were stolen, mostly at night.

In Chittagong, two to ten robbers usually approach vessels in one or two small boats and board with a hook attached to a rope while the vessels are at anchor or busy with bunkering operations. Robbers are armed with knives, long knives, iron rods, and in some instances, guns. On some occasions, watchmen are threatened or taken hostage and tied up for the duration of the robbery. Watchmen have sustained minor injuries in some of these incidents. Container ships, cargo ships, tankers, and bulk carriers are targeted.

## REGIONAL REPORTING ON PIRACY AND ARMED ROBBERY OF VESSELS

Both the Regional Cooperative Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) and the Information Fusion Center–Indian Ocean Rim (IFC–IOR) are organizations dedicated to improving maritime security in the Indo-Pacific region.

Launched in November 2016, Singapore-based ReCAAP is the first government-to-government maritime monitoring agreement in Asia. ReCAAP is an innovative platform for information sharing and capacity building among participants on issues related to piracy and armed robbery at sea.<sup>133</sup> Local information sharing centers (ISCs) across affiliated countries form an ISC Focal Points Network for collecting and sharing maritime reports. The information is also shared among contracting parties and shipping companies through impromptu alerts and periodical reports.<sup>134</sup> The hijacking of oil tanker *Hai Soon 12* in May 2016 near Singapore highlighted ReCAAP's effectiveness. After a report about the Kiribati-registered tanker reached the ReCAAP ISC, the organization alerted Focal Points to the hijacked tanker's trajectory. Based on the shared information, the Indonesian Navy intercepted the *Hai Soon 12* the following day and arrested the pirates.<sup>135</sup>

Similar to ReCAAP, the Gurugram-based IFC–IOR, launched in December 2018, aims to engage with partner nations, international agencies, and multinational constructs to develop comprehensive maritime domain awareness, coordinate incident response, and provide disaster relief.<sup>136</sup> In March 2019, for instance, information-sharing allowed the Indian Navy to act as a first responder by diverting four Indian Navy ships to Mozambique in the aftermath of Cyclone Idai, bringing epidemic-related medicines, clothes, and ready-to-eat meals.<sup>137</sup> While the IFC–IOR currently exchanges information electronically, the organization will eventually host Liaison Officers from partner countries and conduct exercises and training in maritime information collation and sharing.<sup>138</sup>

Mr. Masafumi Kuroki, Executive Director of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against ships in Asia's (ReCAAP) Information Sharing Centre (ISC), led a delegation of maritime stakeholders on a visit to Bangladesh on 23 October 2018 to get a deeper understanding of challenges and to investigate measures to mitigate the increased robberies in the Chittagong anchorages.<sup>139</sup>

### The Sundarbans

The Sundarbans, one of the world's largest mangrove forests, are located on the southwest coast of Bangladesh reaching over the border into India's state of West Bengal. Fishermen, honey collectors, and wood collectors all live off the mangrove forest. Population growth is impacting the environment as people encroach on the forest, which in turn leads to loss of breeding grounds for fish and depletion of fish stocks due to overfishing and habitat loss.<sup>140</sup>

Bahinis (gangs) kidnap fishermen in this area. Bahinis also operate across borders into India and vice versa. A hawala (or money transfer) system is used by kidnappers for transferring ransom money over borders.<sup>141</sup>

Fishermen fish in large groups to improve their safety, but the bahinis use similarly large groups to launch attacks. They operate from trawlers or speedboats while armed with firearms or knives and in groups of between seven and 40, often kidnapping large groups of fishermen at a time. Crews of commercial vessels are not targeted for kidnapping as this would increase the profile of kidnappings—and also the risk to the bahinis.

No official reports of attacks and kidnappings of fishermen in the Sundarbans exist. Press accounts can therefore seldom be confirmed. High numbers of fishermen are reportedly kidnapped during each incident (up to 100), though these numbers are difficult to verify. It is also likely that incidents of kidnapping will often not be reported in the press, leading to overall underreporting of the number of incidents. According to incidents collected from press reports, 1,299 fishermen were kidnapped



Small fishing boats near the village of Dublar Char, in the Sundarbans, Bangladesh. Photo: Rich Plumadore.

during 63 incidents between January 2011 and the end of May 2019. A total of 30 fishermen were killed, 81 were injured, and 10 were reported missing and presumably dead.

Fishermen pay protection fees or tolls to the bahinis as a safeguard against kidnapping. They will then carry a token, such as a flag, indicating that they have paid the “toll.”<sup>142</sup> Enforcing tolls in Bangladesh is nothing new; tolls for inland fishing over flooded agricultural land at the Hail Haor wetlands north of Chittagong have been imposed on fishermen for decades. These tolls are often enforced with physical violence.<sup>143</sup>

#### REPORTED INCIDENTS OF KIDNAPPING IN THE SUNDARBANS



If the protection money is not paid, fishermen face the risk of kidnapping. Boats, fish, nets, fuel, money, and cell phones are stolen as well. Boats and nets will be sold back to the fishermen through middlemen. Kidnappings are frequently violent and fishermen are often killed during the kidnapping or when their families fail to pay the ransom. Families are contacted by cell phone to negotiate ransom. Ransom negotiations will start at around TK100,000, but will usually be settled at about TK50,000 (\$640). The fishermen are normally held for around a week. The level of violence is frequently high during a kidnapping; in some cases, victims are tortured to keep pressure on their families during ransom negotiations.



*Bahinis kidnap fishers from both smaller fishing vessels and larger trawlers in the Sundarbans. Photo: Rich Plumadore.*

Some fishermen will collaborate with the bahinis—and so will some officials. In one such case, on 3 March 2019, a forest official kidnapped four fishermen fishing at Pushpokathi Forest Outpost, Satkhira, and demanded a ransom for the fishermen and their nets. One of the victims filed a written complaint on 9 March 2019, and after an investigation, the officer had to pay the ransom money back.<sup>144</sup> Corruption and police complicity in kidnappings undermine the amnesty initiatives of the government and also erode trust in the police and lead to underreporting of incidents.

Sometimes fishermen take matters into their own hands. On 21 August 2014 a group of fishermen beat up 13 suspected robbers when they were attacked in the Bay of Bengal and scratched out the eyes of five of the suspects before handing them over to the police.<sup>145</sup>

Bangladeshi law enforcement agencies have been increasing pressure on kidnapping organizations in recent years. At least 35 members of these bahinis were arrested in 2018 by the Rapid Action Battalion and local police. During arrest attempts, firefights often break out between law enforcement and kidnappers.<sup>146</sup>

In addition to increased enforcement actions, the government has also attempted to address the issue by offering amnesty to the bahinis, notably in 2014–2015. They offered to rehabilitate members of bahinis and give them financial assistance to create a sustainable income if they surrendered. On 31 May 2016 Master Bahini was the first gang to make use of the initiative when chief Mostafa Sheikh, alias Kader Master, and nine gang members surrendered to authorities. They were part of a bahini with 45 members.<sup>147</sup> They also handed over 50 firearms and 5,000 rounds of ammunition. Several incidents could be linked to this group, such as the kidnapping of 50 fishermen from the seven trawlers *Riaz Uddin*, *Rina*, *Maa Babar Dowa*, *Sirajul Hoque*, *Bashir*, *Akter*, and *Maa* on 26 October 2015 at Fairway Point, 45 nm off Patharghata.<sup>148</sup>

In May 2018, 54 members surrendered to Minister Asaduzzaman Khan Kamal. They also surrendered their weapons and ammunition. During the last two years, 274 gang members representing 26 bahinis have surrendered and handed in their arms.<sup>149</sup> At this time the initiative seems to be successful as kidnappings have been in steep decline since 2015. To maintain the positive results in the long run, authorities need to prosecute the kingpins in the kidnapping networks.

## Robberies Against Barges Under Tow by Tugboats

In addition to Sundarbans-based kidnapping, from time to time robberies on barges or other vessels being towed by tugboats are reported in Bangladesh's territorial waters. The barges are usually unmanned. In 2017 four barges and one ship under tow were boarded by several robbers armed with knives from several small boats or fishing boats. Any loose items on the barges are usually stolen, including chafing chains, ropes, navigation lights, life buoys, or scrap metal.

### EXERCISE SAMPRITI

March 2019 marked the eighth Sampriti joint military exercise between India and Bangladesh undertaken as part of their ongoing defense cooperation. The 4,000 kilometers of porous borders between the two countries makes contending with cross-border networks of radicalized groups difficult without cooperative agreements. Similarly, protecting valuable trading routes through the Bay of Bengal remains a priority for both countries. The overlapping security concerns motivated India and Bangladesh to pursue defense cooperation, which includes an annual joint military exercise.<sup>150</sup> Held in Tangail, Bangladesh, the 2019 Sampriti exercises focused on counter-terrorism, counter-insurgency, and disaster relief operations in a United Nations peacekeeping scenario.<sup>151</sup> Although initially held at the platoon level in 2009, the exercises have since expanded, with 2019 seeing the 36 East Bengal Battalion representing Bangladesh and the 9th Battalion of the Rajputana Rifles representing India.<sup>152</sup> The two-week exercises increased cooperation and interoperability between Indian and Bangladeshi armed forces while honing tactical and technical skillsets. The exercises also encouraged discussion and cultural exchanges to build mutual trust and camaraderie between the nations.

### Sri Lanka, Myanmar, and Thailand

Piracy and robbery of vessels has been a minor problem in Sri Lanka, Myanmar, and Thailand in recent years, with only five total incidents reported since 2016. Two incidents of piracy and robbery of vessels were reported in Sri Lanka in the last ten years, both against fishing vessels.

Over the last ten years just a few singular incidents of robbery were detected in Myanmar's waters. In August and September 2018 three incidents of robbery were reported in the internal waters of Myanmar on the Twante Canal at Seikkyl Kanaung Township, all perpetrated by the same gang.<sup>153</sup> This spree came to an end on the night of 3 September 2018 when police shot two robbers during a stakeout and a third escaped.<sup>154</sup>

A robbery of a yacht in a river not far from Koh Panyee, Thailand, in December 2018 was the only incident reported on the west coast of Thailand in the last three years. The owner was not on the yacht at the time. Police response to the incident was very effective. Four officers were assigned to go through CCTV footage of the robbery and made enquiries about a suspicious-acting boat in the area. Efforts were made to locate the owner's stolen cellphone through the local service provider and two forensic officers came to the boat to take fingerprints.<sup>155</sup> This type of incident is uncommon for the area. Tourism is a major contributor to Thailand's blue economy and law enforcement efforts have brought yacht robberies under control in recent years.

Two cases of hijacking for fuel cargo off Thailand have been reported previously. The product tanker *Thanadol 4* was hijacked on 22 May 2007 in the Gulf of Siam and a Malaysian-flagged product tanker, *Pentradar*, was hijacked on 22 September 2014 approximately 38 nm southwest of Phuket, Thailand.<sup>156</sup>

## Conclusion

The majority of incidents of robbery of vessels in the Bay of Bengal are located in territorial waters of countries and would therefore need to be addressed by individual countries, although they can benefit from advice from regional institutions such as ReCAAP.

To end robberies at Chittagong anchorages, both the crews of ships and Bangladeshi law enforcement agencies will need to improve security measures. Poverty and port congestion are at the root of the problem and will need to be addressed to solve the problem in the long term.

ReCAAP advised the Bangladeshi law enforcement agencies and port authorities to increase patrols around the Chittagong anchorages in order to arrest perpetrators and assist ships targeted by robbers. Ship crew members have been encouraged to report all incidents to port authorities, secure ship property on deck, and increase guards during the night.<sup>157</sup> As almost all robberies occur after dark and peak between 03:00 and 04:00,<sup>158</sup> it is advisable to change guards well in advance so they will be well-rested and alert; ships are instructed to avoid routines in guard-duty transitions that can be detected by outsiders over time.

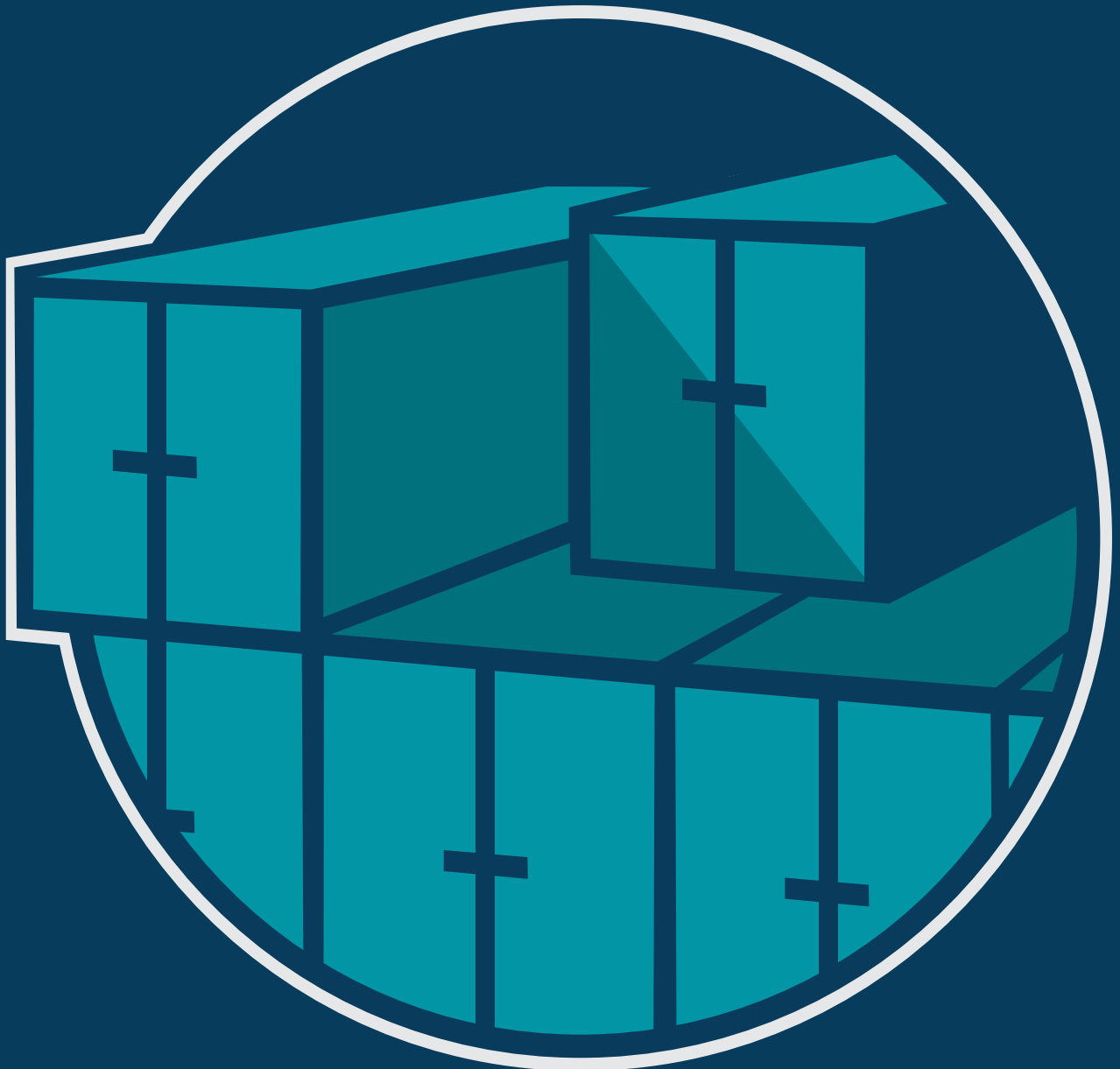
Statistically, the impact of Bangladesh's government initiative to rehabilitate bahinis can be seen in the drop in the number of kidnapping incidents in recent years. It is, however, imperative that authorities target the kingpins or godfathers behind the bahini networks. With large financial incentives for kidnapping, it will only be a matter of time before the positions are filled with a new generation of bahinis or the old ones return to their hunting grounds.<sup>159</sup>

*The majority of incidents of robbery of vessels in the Bay of Bengal are located in territorial waters of countries and would therefore need to be addressed by individual countries.*

As the Sundarbans extend into India and a small percentage of the kidnappings in the Sundarbans are transnational in nature, both India and Bangladesh could benefit from closer collaboration on the issue. A Memorandum of Understanding between the coast guards of the two countries is already in place,<sup>160</sup> and the two countries take part in annual joint military exercises such as Exercise Sampriti, which aims to strengthen their combined operations and bilateral cooperation.<sup>161</sup> The exercise includes tactical-level operations in counter-insurgency, counter-terrorism, and disaster management under a United Nations mandate, and it would not be a stretch to extend cooperation to transnational crime such as kidnappings or also include human trafficking and narcotics smuggling.

The root cause of piracy and armed robbery in the Bay of Bengal is poverty, although economic development has improved in recent years. Robberies at anchorages are prevalent due to the high number of people living in poverty in slums nearby. Declining fishing stocks place pressure on the fishing community and the environment. Developing the coastal communities would only be sustainable in areas such as the Sundarbans if maritime enforcement and the rule of law could be improved. If not, fishermen will still suffer at the hands of the bahinis and ransom demands are likely to increase as the community's standard of living increases.

# ILLICIT TRADES



## ILLICIT TRADES

Illicit trade can be defined as the purchase, transportation, and/or sale of goods, both legal and illegal, outside the confines of the formal global economy. In the Bay of Bengal, illicitly traded items range from counterfeit goods, such as agricultural products marketed to resemble recognizable brands, to gold, which is traded illegally so as to avoid heavy import taxes in key markets, to an array of illegal narcotic substances and wildlife products.

Traffickers operating in the Bay of Bengal readily employ the maritime space to transport their wares. The reasons for this are manifold. First, there is an abundance of vessels, both foreign and local, and large and small, to be found in the Bay of Bengal. The sheer volume of maritime traffic makes detection of shipments of illicit items more difficult for enforcement authorities. Second, the use of vessels (particularly small, local craft) allows trafficking networks to evade official customs checks by landing boats anywhere along the coast rather than calling at official ports. Third, with so many fishermen in the region, some are easily enticed by big paydays to move product between countries without much notice from authorities.

As with many other kinds of maritime crime, the Bay of Bengal's geographic location makes it irresistible to traffickers of several kinds of illegally traded items. Because of its position between Africa, Europe, Southeast Asia, and the drug-producing regions known as the Golden Triangle and the Golden Crescent, a variety of products are trafficked through the Bay of Bengal, though most are not destined for any country in the region. Several countries are favorite transit points for traffickers of various illegally traded products because of some combination of convenient geography and relaxed customs law. Traffickers prefer their products to travel circuitous routes before reaching destination markets, as this makes interception by enforcement authorities more complicated and difficult.

Bay of Bengal countries are the origin of several items which are traded illegally on the global market, including numerous kinds of wildlife products like leopard and tiger parts and live tortoises to be sold as pets. States in the region much less often represent destination markets for internationally traded items, with the exception of a few narcotic substances that are both produced and traded within the Bay of Bengal.

### Key Findings

- While they less often represent final destinations, Bay of Bengal countries are frequently employed as **TRANSIT POINTS FOR ILLICITLY TRADED PRODUCTS ORIGINATING IN AFRICA OR THE MIDDLE EAST** and moving on to Europe, Oceania, or elsewhere in Asia.
- Different types of illicit trades **USE THE SAME ROUTES AND THE SAME VESSELS TO REACH DESTINATION MARKETS**; different kinds of narcotics and contraband are known to travel on the same vessels in opposite directions.
- **DRUGS, PRIMARILY CANNABIS AND A LOCALLY PRODUCED METHAMPHETAMINE CALLED YABA, PRESENT THE BIGGEST CHALLENGE** to regional enforcement authorities. Precious metals and counterfeit agricultural products are also known to be regularly trafficked and traded between regional entities.
- The common **USE OF SMALL FISHING VESSELS FOR TRANSPORTATION OF VARIOUS ILLICIT GOODS IN THE REGION EXPLOITS A RECOGNIZED GAP IN MARITIME DOMAIN AWARENESS** (MDA) specific to the difficulty of tracking small vessels and the resulting challenge of identifying potential illicit activity.
- In addition to increased MDA, counter-trafficking efforts in the region could benefit from the **EXPANSION AND FORMALIZATION OF THE EXISTING INFORMATION-SHARING** taking place between regional maritime law enforcement entities.

## Contraband

Illicit trade in various kinds of contraband is commonplace in the Bay of Bengal. This category includes items traded outside conventional markets, such as pesticides and cigarettes. The major illegally traded products are gold and several types of agricultural products.

### Agricultural Products

An interesting development in the region's illicit trade is the sale of fertilizers, pesticides, and herbicides between India and Sri Lanka. Agriculture, including production of rice, sugarcane, grains, spices, vegetables, fruits, and tea,<sup>162</sup> is an essential component of the Sri Lankan economy. Sri Lankans' dependence on agriculture helps explain the growth of sales of illicit agricultural products, particularly in the wake of a Sri Lankan ban on such substances in recent years. According to interviews with experts, maritime transit between India and Sri Lanka is facilitated by loose maritime borders and the volume of local fishing vessels present in the region.

Produced in India and exported to Sri Lanka, the trade in these materials has been costly for both countries: in the origin country, producers of counterfeit substances circumvent import and export regulations, evading taxation and underselling legitimate buyers and sellers on the international market. Meanwhile, the environmental impact of these substances is of great concern in destination markets. The quality of products sold on the black market cannot be verified and the chemicals used to produce the counterfeits could damage local marine and terrestrial ecosystems, destroy soil and water quality, and poison insect species that actually benefit the agriculture industry.<sup>163</sup>

While India is one of the largest producers and exporters of licit pesticides in the world, sale of counterfeit materials is growing faster than the sale of licit products.<sup>164</sup> The off-brand pesticide industry in India is growing at a rate of 20 percent annually, while overall growth for the legitimate industry hovers around 12 percent. Counterfeits are developed and marketed with the goal of mimicking legitimate brands on the market. The counterfeit products are estimated to account for roughly 25–30 percent of the total Indian pesticide market.<sup>165</sup>

The potential environmental impacts of these pesticides and fertilizers and their consequences on human populations have elicited bans of such materials in destination markets like Sri Lanka. These were specifically outlawed because of the chemicals used to develop the counterfeit varieties, which leach into drinking water supplies causing several chronic conditions in humans: a 2015 study found that agrochemicals found in water supplies were responsible for an array of chronic diseases and premature deaths in Sri Lanka.<sup>166</sup> Several documented cases of kidney disease in rural areas have been traced to contaminated drinking water, for instance.<sup>167</sup>



*An Indian farmer sprays pesticide onto a field in Naxalbari. India is one of the largest producers of both licit and counterfeit pesticides in the world. Photo: Diptendu Dutta/AFP/Getty Images.*

Vocal opposition to various fertilizer and pesticide bans blamed the policies for high-profile resignations inside the agricultural industry, crop destruction,<sup>168</sup> and revenue loss, which was estimated at between 15 and 20 billion rupees<sup>169</sup> (about \$215 to \$290 million). The Sri Lankan government has lifted bans on several of the previously outlawed agricultural products, in part in response to public resistance.

### Gold

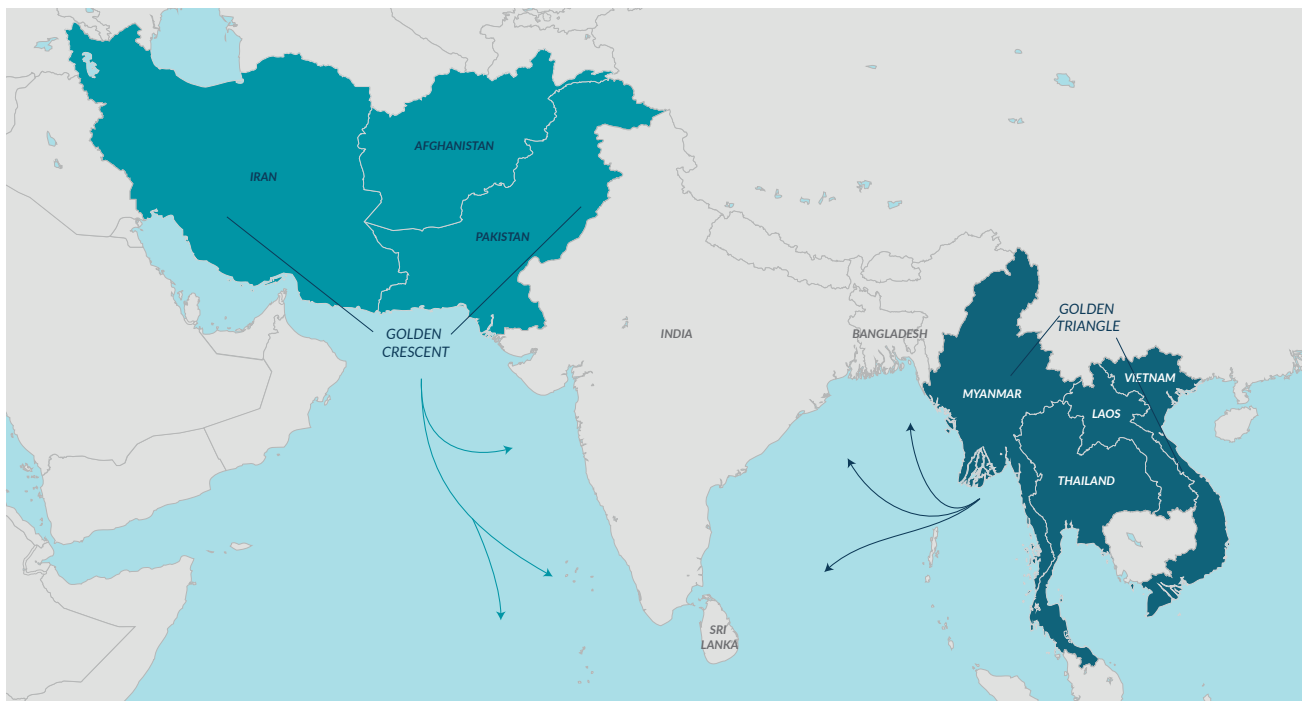
Another material that is frequently trafficked illegally in the Bay of Bengal is gold. Due to the traditional cultural importance of gold in India and its significance as a status symbol, India represents one of the largest global markets for gold. Demand for gold in India has been compounded by the booming Indian urban economy, though rural populations consider the substance to be a sound investment as well.<sup>170</sup> Illicit gold evades the import duties levied on legal gold supplies and the savings from gold sold on the “grey market” are passed on to the consumer, who receives illicit gold at a discount.<sup>171</sup>

Because of its low import tax relative to the region, Sri Lanka has developed as a transit point for the metal before it travels on to India.<sup>172</sup> The majority of gold smuggling takes place by sea, and as such, this behavior has links to both the illicit trade in narcotics and illegal fishing. The links to narcotics and fishing are primarily based on the routes taken by fishing vessels that travel regularly between India and Sri Lanka. Anecdotally, Kerala Ganja, or KG, a favorite cannabis strain in Sri Lanka, is imported into Sri Lanka from the Kerala state of India; gold is onboard vessels when they return to India.

### Drugs

Because of the Bay of Bengal’s close proximity to the opium-producing regions of the Golden Triangle and the Golden Crescent, narcotics trafficking is one of the most pressing challenges facing the area. With the notable exception of Myanmar, which is a leading producer of opium as well as cheap synthetic drugs, the majority of Bay of Bengal countries do not produce narcotics, but each of the five countries serve as transit points for product moving through South Asia and on to markets in Europe and elsewhere in the Asia-Pacific region.

#### TRAFFICKING ROUTES: BETWEEN THE GOLDEN CRESCENT AND THE GOLDEN TRIANGLE



Drug use varies considerably. Broadly speaking, most countries in the Bay of Bengal are not destination markets for most kinds of drugs trafficked through the region. The exceptions are cannabis, which has a stable market in every country in the Bay of Bengal, and yaba, a methamphetamine produced and distributed locally.

Consistent with narcotics trafficked into other island nations, Sri Lankan police estimate that 95 percent of the narcotics entering the Sri Lankan market are transported into the country by sea.<sup>173</sup> The precise extent to which narcotics enter other Bay of Bengal countries by sea is not known, but anecdotal evidence suggests that it is a preferred method of transport: the majority of yaba seizures in Bangladesh took place in Chittagong, one of the busiest seaports in the entire Bay of Bengal, and Bangladeshi authorities have intercepted huge amounts of cocaine smuggled into Chittagong, as well.<sup>174</sup>

Fishing vessels are a favored mode of transportation for drug traffickers moving product either through or to the region for several reasons. First, it is not difficult for traffickers to entice impoverished local fishermen to serve as transporters for their product as they can pay them substantially more than the fishermen could hope to receive from even a particularly bountiful catch. Second, the pervasiveness of fishing in the Bay of Bengal provides a convenient cover, helping traffickers to evade detection by the various task forces deployed to the bay. Finally, the use of fishing boats allows for flexibility: while shipments enter international waters on deep-sea fishing vessels after offloading from foreign vessels, upon reaching territorial waters, crews transfer narcotics loads to small motor dinghies, who can offload shipments at any point along coasts and avoid inspection at formal ports.<sup>175</sup> The fishing trawlers continue to fisheries harbors with catches in tow so as to not raise suspicion with authorities.<sup>176</sup>

### HOW DRUGS ARE TRAFFICKED WITH FISHING VESSELS



Drug enforcement officials have encountered narcotics shipments fixed with GPS trackers,<sup>177</sup> seemingly in order to facilitate indiscriminate “drops” at various locations along a maritime trafficking route, indicating a high degree of organization employed by cartels operating in the region.

### Cannabis

Cannabis consumption in South Asia represents 2.5 percent of global usage.<sup>178</sup> While this pales in comparison to the consumption rates in North America or sub-Saharan Africa, demand for cannabis within the Bay of Bengal has remained consistent. Sri Lankan authorities interviewed in August 2018 noted an increase in cannabis consumption, which they attribute to an uptick in usage by both tourists and Sri Lankan nationals, while two major Indian cities rank among the world’s top 10 with the highest rates of annual consumption.<sup>179</sup>

The cannabis trade in the Bay of Bengal focuses on Kerala Ganja, a strain of cannabis originating in the Kerala state of India. Sri Lankan cannabis consumers have a penchant for the strain, also known as KG. A joint operation between the Sri Lankan navy and Sri Lankan police has resulted in several seizures of cannabis across the island in recent years,<sup>180</sup> but cannabis restrictions are difficult to enforce because the Kerala Ganja strain is most often transported using local fishing dhows. Indian fishing dhows are common in Sri Lankan waters and thus do not raise eyebrows among authorities. Because of their ability to land on virtually any beach, the use of smaller craft like dhows and small motorboats allows traffickers to evade inspection by port authorities.



A policewoman stands beside seized drugs during a destruction ceremony marking the UN's international day against drug abuse and illicit trafficking in Yangon, Myanmar. Authorities burned drugs seized across Myanmar— In 2017, \$385 million worth. Photo: Ye Aung Thu/AFP/Getty Images.

## Yaba

Elsewhere in the Bay of Bengal, a substance called yaba is the drug of choice. Yaba, a highly addictive concoction of caffeine and methamphetamine, is produced in Myanmar and exported to several countries in the Bay of Bengal, namely Bangladesh and Thailand.<sup>181</sup> Although opioid production is impacted by several external factors, including international drug policies and the global price of opium, yaba production is more stable and predictable, which has facilitated the increase in both production and distribution in the region. Typically, yaba comes in tablet form, and is either swallowed, smoked, or crushed and snorted.<sup>182</sup>

Yaba addiction rates have increased as exports have become more frequent, particularly in Bangladesh.<sup>183</sup> Whereas previously heroin was the primary narcotic being transported from Myanmar to Bangladesh, methamphetamines began to take the place of heroin beginning in the early 1990s.<sup>184</sup> Yaba is also the drug of choice in Thailand, where it has gained popularity as a “party drug” for college and secondary school students.<sup>185</sup> Yaba enters Thailand from Myanmar with other kinds of narcotics: experts estimate that as much as 80 percent of Burmese yaba and heroin enters Thailand from the Thailand-Myanmar border in northern Thailand.<sup>186</sup>

## Cocaine, Heroin, and Other Substances

Other illicitly traded substances like cocaine and heroin do not find the same enthusiastic markets in the Bay of Bengal as yaba or cannabis. That said, it is well understood that several countries, particularly Sri Lanka, Bangladesh, and Thailand, are known transit points as product travels from origin countries like Brazil and Afghanistan on to destination markets.

In March of this year, Sri Lankan authorities arrested nine Iranian nationals caught with over 100 kg of heroin on their fishing vessel. The suspects, posing as fishermen, hid the heroin inside fertilizer bags onboard. The Lankan officials said that the crew dumped roughly 500 kg of heroin into the ocean before the interception took place.<sup>187</sup>

Bangladeshi authorities believe that Bangladesh is used as a transit point by international cartels because of the country's outdated detection technology, which is ineffective at recognizing cocaine in particular.<sup>188</sup> Heroin entering the Bay of Bengal is typically grown in Afghanistan and then travels on dhows along the Makran coast before being transported through transit countries like Sri Lanka, the Maldives, Kenya, and Tanzania,<sup>189</sup> also known as the "Southern Route."

### *Narcotics Production and Distribution*

Both Myanmar and Thailand are part of the Golden Triangle, which is infamous for narcotics production, and particularly the production of opium. Myanmar, in particular, is responsible for as much as 25 percent of the global opium supply and is the second-largest producer of opium in the world.<sup>190</sup> Burmese authorities have battled against drug production and escalating drug usage rates: in 2017, they destroyed \$385 million worth of drugs seized between late 2016 and early 2017 in Yangon, Myanmar.<sup>191</sup> Overall, efforts to counter production completely have seen limited success.<sup>192</sup> According to the United Nations Office on Drugs and Crime, the Burmese regions of Kachin, North Shan, South Shan, and East Shan are the primary areas of opium cultivation.<sup>193</sup> Meanwhile, the Thai government discouraged opium production through a policy of alternative development aimed at Thai farmers,<sup>194</sup> and as a result, Thailand is no longer the major source-country of illicit opium it had been in the early 2000s and before.<sup>195</sup>

Bay of Bengal countries do not represent buyers' markets for most narcotics, but several countries are frequently used as transit or stopover points on the way to final destinations in markets in Europe, North America, and Oceania. Narcotics flow into the Bay of Bengal from the Golden Crescent, the Golden Triangle, and Africa, and even from as far away as South America.

### **Small Arms and Light Weapons**

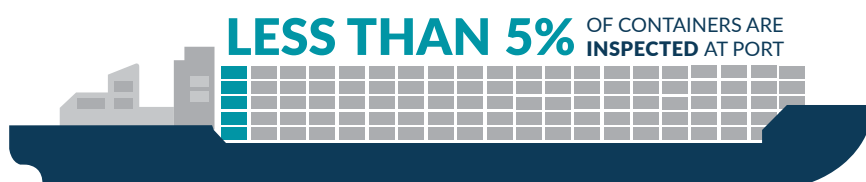
While there is little evidence to suggest that such activities continue today, the Bay of Bengal, and Sri Lanka in particular, have a history of weapons smuggling at sea. The reach of one of the deadliest and most notorious terrorist groups of the modern era, the Liberation Tigers of Tamil Eelam (also known as the Tamil Tigers or LTTE), transcended national borders. As the group grew, it developed a political and a military wing to carry out its objectives.

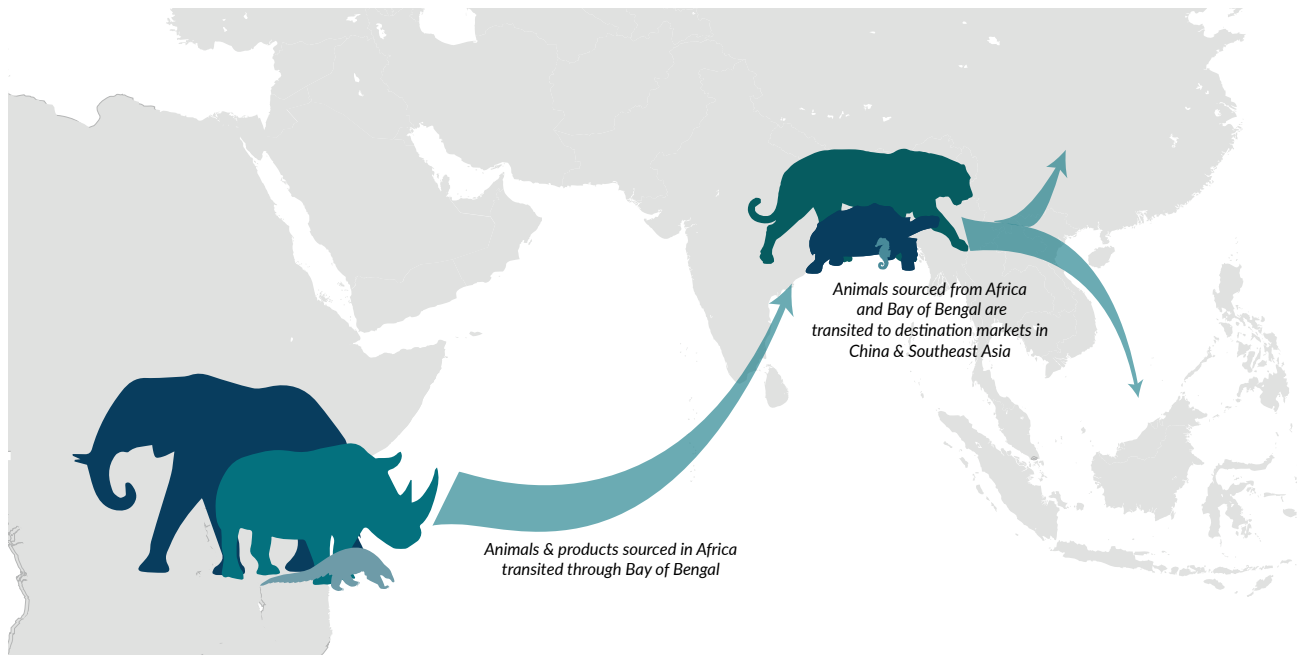
The Tamil Tigers established a naval unit and an arms-procurement unit in addition to several others as part of their organizational structure.<sup>196</sup> The deadly naval unit, referred to as the Sea Tigers, used the maritime space to devastating effect, using submarines, gunboats, troop carriers, and oceangoing supply vessels<sup>197</sup> to target vessels ranging from yachts and commercial tankers to Sri Lankan navy craft. The arms-procurement department, which was responsible for sourcing cutting-edge military technology, is the LTTE's oldest international wing. Its members did not have military training, but they received intensive instruction in a number of other areas including document forgery, gunrunning, communication technology, international freight shipping, and investing.<sup>198</sup> While the LTTE was effectively dismantled in 2009, its legacy of seaborne smuggling of various materials remains.

### **Wildlife**

Estimates indicate that the majority of illegally trafficked wildlife products are shipped using the maritime space. Container shipping provides a cost-

effective option for moving heavy wildlife products like rhino horn and ivory. Equally attractive to traffickers is that typically less than 5 percent of containers are subjected to inspections at port.<sup>199</sup>





### Source Countries

Due in part to its rich biodiversity, both on land and at sea, the region serves as the origin for several illegally traded wildlife products on international markets, including sea cucumbers and seahorses, which are considered delicacies in China, as well as tigers from India, the body parts of which are used in traditional Chinese medicine throughout Asia. A handful of countries also supply various tortoise species to the international market to be sold as pets, though these are rarely transported by sea. Maritime routes are more frequently employed for products already harvested; live animals are more likely to die in transit on maritime routes than by air or land routes, and for species sold as pets, the health of the animal is of obvious concern to the trader.

It is worth noting that the vast majority of poachers in the Bay of Bengal, as with most environments in the world, are desperately poor and operate independently, selling hunted wares to mid-level traders or directly to consumers in their communities.

### Transit Points

Because of its geographic location between countries of origin in Africa and destination markets in Southeast Asia, the Bay of Bengal is an attractive transit point for shipments of wildlife products. The majority of wildlife products pass through the region in this way. As with other kinds of transport hubs, traffickers prioritize maritime ports with known and reliably corrupt officials or inadequate port and customs capacity.

A Thai non-governmental organization focused on wildlife trafficking found that ivory and other valuable animal parts were transported, mostly from Mombasa, “onto invisible conveyor belts” to Southeast Asia and China via Thailand.<sup>200</sup> Thai customs-law enforcement is limited, and while customs legislation is comprehensive with regard to native species, it is more lenient regarding species non-native to Thailand, providing an excellent stopping point for shipments coming from Africa.

There are several documented cases of traffickers changing preferences to accommodate changing enforcement capacities. For example, “in India, Kolkata became a preferred port over Chennai and some networks even moved their operations from India to Bangladesh following increased law enforcement activity.”<sup>201</sup> Similarly, a 2014 TRAFFIC report on the illegal ivory and rhino-horn trade reports that while Malaysia remains the favorite Asian transit point for wildlife traffickers, Sri Lanka emerged as a new preferred transit point in the trade between 2009 and 2011.<sup>202</sup>

### Destination Markets

The major destination market for wildlife products in the region is Thailand, which represents a major market for ivory, rhino horn, and pangolin from Africa, in particular.<sup>203</sup> A USAID study found that roughly 2 percent of the Thai population owns or uses ivory products, and 1 percent owns or uses tiger products, both of which represent important elements of Thai cultural heritage.<sup>204</sup> The same study found that the demand for wildlife products inside Thailand is largely driven by “affluent, established business owners and merchants who believe purchasing wildlife products can bring good fortune and status.”<sup>205</sup>

## Conclusion

Because of its location between major global hubs and the volume of shipping and fishing traffic in its waters, the Bay of Bengal represents a desirable transit point for international trafficking networks for an assortment of products, including narcotics and wildlife products. This presents a major quandary for the region, as the criminal networks are far nimbler than the enforcement mechanisms responsible for their interdiction.

Every country in the region possesses at least one law which encourages the control of drugs within the country or the flows of illicitly traded products. The greater challenge for Bay of Bengal countries is detection and interception, which regional governments readily acknowledge. As a result, information-sharing has emerged as a priority for these countries, both between agencies under a single government and among the countries in the Bay of Bengal. Consequently, several governments have agreed to cooperate with regional naval power India on information-sharing and surveillance. Bangladesh, for example, established a joint maritime patrol with India in 2018 intended to detect and deter an array of maritime crimes along their shared border.

*The greater challenge for Bay of Bengal countries is detection and interception. As a result, information-sharing has emerged as a priority for these countries, both between agencies under a single government and among countries.*

Some countries’ enforcement agencies have developed informal information-sharing networks with local fishing vessels, which not only expands the number of surveillance vessels, but also creates a covert force, as fishing vessels are far more discreet than official patrol craft. Additionally, these countries are actively working to collaborate on improved enforcement capability and to enhance vessel identification systems, including identification of local vessels in addition to foreign commercial vessels.

# MARITIME MIXED MIGRATION



## MARITIME MIXED MIGRATION

Maritime mixed migration in the Bay of Bengal is a complex issue. While the region has a long history of movements of people, in recent years the dynamics of maritime mixed migration have altered in a manner which threatens the safety of migrants and allows for exploitation of the maritime space by illicit actors.

Migration via maritime routes takes several different forms. There are voluntary but irregular economic migrants, voluntary migrants fleeing persecution and conflict, and those who are trafficked into forced labor and exploitation. Even these are not discrete categories. For example, those who start a journey as voluntary economic migrants are still vulnerable to exploitation and those being smuggled to escape conflict could end up being trafficked into forced labor. Due to the difficulties inherent in separating these different types of migration flows, this report follows the International Labour Organization and UN High Commissioner for Refugees in referring to all forms of irregular migration at sea as maritime mixed migration (MMM).<sup>206</sup>

This chapter looks at the underlying vulnerability and drivers of MMM in the Bay of Bengal, the various forms this migration takes (including economic migration, conflict-induced migration, and trafficking for forced labor and sexual exploitation), and regional efforts to implement policies and legal frameworks to tackle maritime migration crises and provide long-term alternatives to irregular maritime migration.

### Key Findings

- Regardless of the initial motive for migration or whether migration started as smuggling or trafficking, **ALL IRREGULAR MARITIME MIGRANTS IN THE REGION ARE HIGHLY VULNERABLE TO ABUSE AND EXPLOITATION** in various forms. What may begin as voluntary migration can easily turn into falling victim to exploitative activities such as human trafficking.
- Irregular maritime migration and the associated dangers for migrants are **FACILITATED BY CORRUPTION AND THE LACK OF FOCUS ON ASSOCIATED CRIMES IN JUDICIAL SYSTEMS**. Identifying officials and law enforcement agents who profit from MMM and synchronizing domestic legal frameworks around migration will be critical to thwarting the activities of human smuggling and trafficking networks.
- Regional responses to MMM have been focused on deterrence, which can **OVERLOOK THE NEED TO PROTECT THE RIGHTS AND WELFARE OF MIGRANTS**.
- **CREATING ALTERNATIVE LEGAL PATHWAYS FOR MIGRATION IS KEY** to allowing migrants to seek safety and opportunity without exposing themselves to the abuse and exploitation within illicit smuggling and trafficking networks.

### Forms of Maritime Migration in the Bay of Bengal

There are a variety of push and pull factors that sometimes overlap to drive the migration of populations across the Bay of Bengal. Some of the prominent drivers in the region include economic insecurity, conflict, and climate vulnerability. Unemployment and poverty in some coastal communities have driven migration to burgeoning labor markets in Southeast Asia. Conflict, in Myanmar in particular, has led to surges of those displaced by the conflict taking to the sea to escape violence and persecution. Furthermore, while not yet a significant driver of migration, extreme



## BANGLADESHI AND ROHINGYA MIGRATION ROUTES



climate vulnerability and climate shocks have the potential to drive entire communities from their homes through MMM as a means of seeking out new livelihoods.

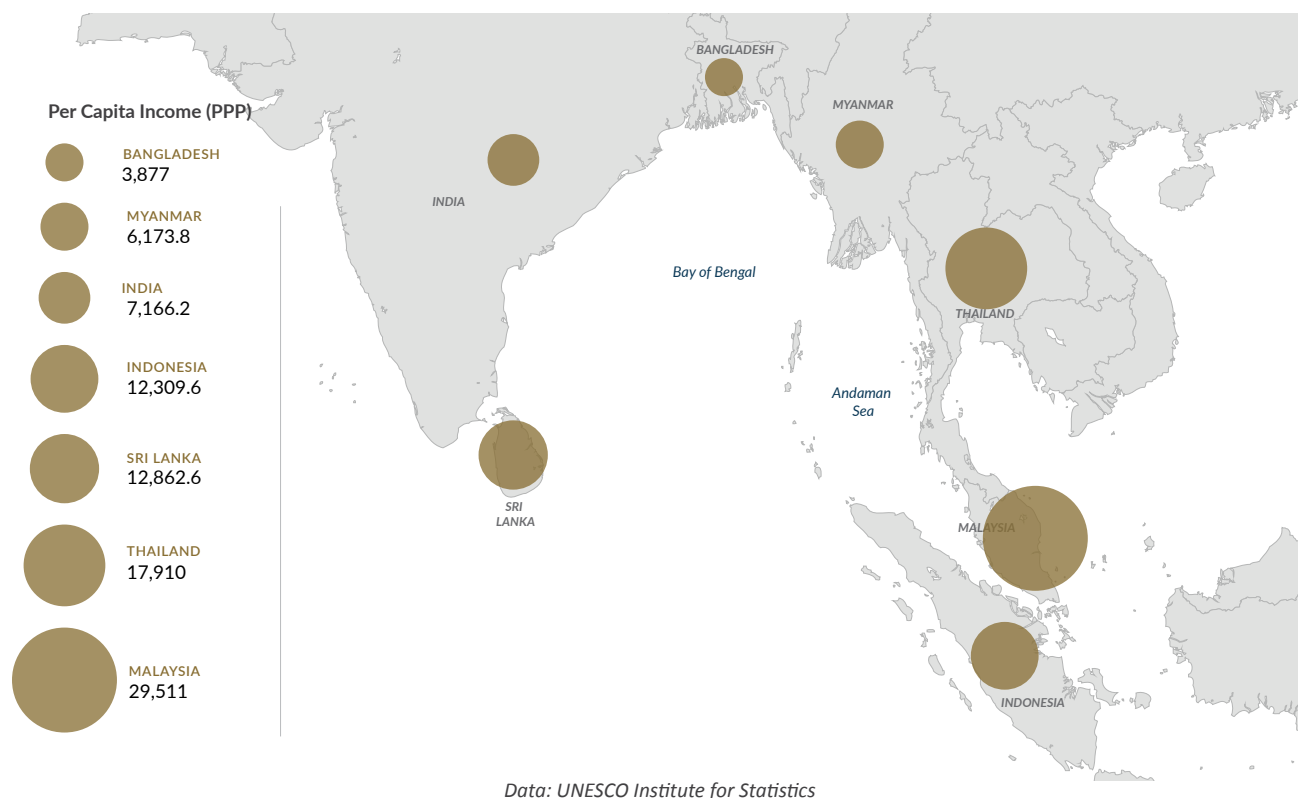
The volume of migration in the region is extremely high. According to the International Organization for Migration, India and Bangladesh are both ranked within the top five countries globally for total number of migrants abroad.<sup>207</sup> While some of the most prominent migration routes out of the region are via land and air, there are several large migration routes at sea. These routes largely extend from Bangladesh and Myanmar to Thailand, Malaysia, and Indonesia. This chapter focuses exclusively on maritime aspects of migration in Bay of Bengal and Andaman Sea.

### *Economic Migration*

The primary kind of voluntary maritime migration in the region is economic migration from Bangladesh and, to a lesser extent, Myanmar towards wealthier nations in Southeast Asia. High rates of poverty, unemployment, and underemployment in Bangladesh lead to large outflows of economic migrants. Half a million Bangladeshis migrated outside the country in 2015 alone, joining millions already overseas who send back an estimated \$15 billion in remittances annually. These remittances provide an economic lifeline for family and friends

back home.<sup>208</sup> For many of these migrants, the fast-growing economies of Southeast Asia, particularly Malaysia, are an appealing destination. Malaysia is home to an estimated 500,000 Bangladeshi migrants working in the construction and service industries.<sup>209</sup> Much of this migration is informal, contributing to a booming smuggling and trafficking market along maritime routes that cross the Bay of Bengal and Andaman Sea. Annual revenues from people-smuggling and trafficking along this maritime route are estimated to be between \$50 and \$100 million.<sup>210</sup> While economic migration may begin voluntarily and is often viewed as less dangerous than migration driven by conflict, the informal nature of much of this migration means that economic migrants pursuing these maritime routes are still vulnerable to abuse, sale into forced labor, and exploitative conditions upon their arrival. Reports point to examples of Bangladeshi migrants being forced into debt bondage by recruiting agents and employers during their transit or upon arriving at their destination.<sup>211</sup> This blurs the distinction between voluntary economic migration and involuntary maritime migration in the region.

## INCOME DISPARITY DRIVING ECONOMIC MIGRATION



## Conflict-Induced Migration

The largest source of conflict-induced maritime migration in the Bay of Bengal is the ongoing violence and the persecution of the Rohingya population in Myanmar (see the Coastal Welfare section). Recurrent waves of ethnic violence targeting the Rohingya since 2012 have forced hundreds of thousands to flee their homes in Rakhine state into neighboring Bangladesh.<sup>212</sup> While Bangladesh should be commended for taking in such a large influx of refugees, its limited resources are strained and poor conditions in the camps, while improving, often spur a desire for secondary migration in pursuit of more economic opportunities. Consequently, many Rohingya decide to undertake the dangerous maritime migration route to Southeast Asia with hopes of reaching Malaysia or Indonesia or traveling on to Australia. This route is considered one of the most dangerous paths of maritime migration in the world.<sup>213</sup> Individuals are vulnerable to physical and sexual abuse and being forced into human trafficking, and are often held for ransom along the route until family members pay for their release. While this route has always been dangerous, government crackdowns which have kept migrants from disembarking onshore have increased the danger.

## 2015 Andaman Sea Crisis

In May 2015, the discovery of several camps and mass graves holding migrants in southern Thailand prompted closer enforcement along the traditional overland route from Thailand into Malaysia. This led migration routes to shift back out to sea in an attempt to avoid detection by enforcement officials and reach Malaysia and Indonesia more directly.<sup>214</sup> However, this route meant longer times at sea and increased exposure for migrants during the dangerous crossing. The crisis was compounded by the responses of Thailand, Malaysia, and Indonesia, who stepped up maritime patrols in response to the increased flow of maritime migrants. Due to the increased maritime enforcement, many traffickers and smugglers abandoned migrants at sea with few or no supplies. As conditions onboard abandoned vessels deteriorated, destination



*Rohingya refugee children walking in Unchiprang camp in Cox's Bazar, Bangladesh.  
Photo: © European Union 2018.*

countries often responded by pushing arriving boats of migrants back out to sea. Thailand, Malaysia, and Indonesia often provided migrants at sea with some degree of assistance before towing their vessels back out to international waters or neighboring territorial waters. At the height of the crisis, these policies left an estimated 5,000 Rohingya and Bangladeshi migrants stranded afloat in the Andaman Sea.<sup>215</sup> Gradually, these states softened their policies, agreeing to allow migrants to disembark, and even providing assistance under the condition that migrants be resettled within a year. Nevertheless, this crisis sheds light on the need for more robust planning and more protection-oriented policies to better manage maritime migration in the region. Although the volume of migration along this route has declined recently,<sup>216</sup> there remains significant potential for another surge in volume if the region faces increased conflict or economic or environmental displacement in the years to come.

### *Sex Trafficking*

Human trafficking is likely associated with commercial sex work across the region, although the degree to which such trafficking occurs in the maritime space remains unclear. Thailand in particular has become a global hotspot for sex tourism and trafficking.<sup>217</sup> Additionally, sex trafficking of displaced Rohingya within Bangladesh appears to be growing. Traffickers reportedly exploit the poor conditions in Rohingya displacement camps to offer false promises of domestic employment in order to deceive women and girls into forced sex work.<sup>218</sup> Recent arrests by Bangladeshi authorities indicate traffickers are also attempting to transport Rohingya refugees outside the country to places such as Malaysia for forced prostitution.<sup>219</sup> While maritime links to sex trafficking in the region are less clear than maritime links to economic and conflict-induced migration, it is likely that maritime migrants are vulnerable to sex trafficking.

## Forced Fisheries Labor

One aspect of MMM in the Bay of Bengal which has garnered increased attention is the link between human trafficking and smuggling and forced labor in the fishing and seafood-processing industries. This form of MMM is best documented in the Thai fishing industry.<sup>220</sup> Migrants from the Bay of Bengal region (particularly Bangladesh and Myanmar) are drawn to the large Thai fishing and seafood-processing industries for employment. The industries are extremely dependent on this inflow of migrant labor, which is estimated to make up 90 percent of the Thai fishing fleet's workforce.<sup>221</sup> Many of these migrant workers are held in horrendous conditions. They are forced to work indefinitely through debt bondage or coercion. Identifying documents are often confiscated by employers. Onboard, migrant workers are forced to work extremely long or round-the-clock hours in unsafe conditions without adequate food, water, or medical care and are often subjected to extreme violence by captains and crew.<sup>222</sup> The scale of this form of forced labor is difficult to precisely identify, but there are an estimated 220,000 migrants working in Thailand's seafood industry with approximately 71,000 of those working on fishing vessels.<sup>223</sup> A 2012 survey by the International Labour Organization notes that nearly 16.9 percent of respondents from the Thai fishing industry have been forced to work against their will.<sup>224</sup> Given these figures, it is reasonable to estimate that the number of fishers experiencing forced labor in the Thai seafood industry could reach into the tens of thousands. Many of the individuals held in these conditions are likely to have been migrants seeking economic opportunities or fleeing conflict who were then brought into forced fisheries labor through deception or coercion.



Laborers, mostly immigrants, sort fish at Pattani port, Thailand. Photo: Saeed Khan/AFP/Getty Images.

## Mitigation Efforts and Legal Protections

The prevalence of these forms of MMM and migrant exploitation is facilitated by weak regional legal frameworks as well as limited resources and political will. To ensure that migrants are protected as they move through the Bay of Bengal and Andaman Sea, progress will need to be made in four key areas: legal frameworks and regional cooperation, prosecution, protection at sea and crisis response, and prevention.

### *Legal Protections and Regional Cooperation*

There remains considerable room to further strengthen legal frameworks for migrant protection in the region. The most significant gap in the regional legal framework is the lack of ratification of the 1951 Refugee Convention. Neither the Bay of Bengal states nor the primary destination countries such as Malaysia and Indonesia are signatories to the Convention.<sup>225</sup> The agreement serves as the legal foundation for the humane treatment of refugees and lack of regional participation hampers the region's ability to effectively respond to irregular maritime migration. This was demonstrated in the destination states' response to the recent waves of maritime migration described above.

However, regional states have been making efforts to strengthen domestic legislation on irregular migration as well as regional agreements to deal with the crisis. Perhaps the most significant of these is the Bali Process on People Smuggling,

Trafficking in Persons and Related Transnational Crime (Bali Process). The Bali Process is an international dialogue intended to facilitate awareness, information sharing, and cooperation on human trafficking, smuggling, and related crimes.<sup>226</sup> The Bali Process demonstrates the larger region's desire to address issues of maritime migration, but, as recent events have shown, more needs to be done to move regional cooperation on the issue from dialogue to tangible cooperation and direct action.<sup>227</sup>

### *Prosecution and Rule of Law*

In addition to international and regional frameworks, domestic prosecution and rule of law are a critical part of efforts to mitigate the dangers posed by irregular maritime migration in the region. Corruption is a significant facilitating factor in human smuggling and trafficking. In both origin and destination states, corrupt officials have protected, facilitated, and profited from the operations of smuggling and trafficking networks and often shield them from prosecution, allowing them to operate with impunity.<sup>228</sup> Rates of prosecution for human smuggling and trafficking-related crimes are extremely low given the scale of the problem.<sup>229</sup> Identifying government officials and security personnel who are protecting and profiting from irregular maritime migration and enacting reforms to address corruption are critical components of an effective response. However, it is not merely a question of corruption, but also one of capacity. Building capacity in the form of resources and training for courts and law enforcement agencies on irregular migration, such as forensic accounting to flag financial activity which may indicate human trafficking,<sup>230</sup> will also help improve regional prosecution rates of related crimes.

### *Protection at Sea/Reception*

Another important aspect of the regional response to irregular maritime migration is how destination states respond to maritime migrants. The 2015 crisis brought to light the lack of protections for migrants. Destination and transit states responded to the wave of migration with highly securitized policy responses which focused on border protection and "deterrence." Future responses to irregular maritime migration need to better consider the protection needs of migrants, and regional states have expressed support for moving towards more humanitarian policies.<sup>231</sup> This includes enhanced maritime search-and-rescue efforts as well as safe disembarkation for migrants trapped at sea. While the capacity to identify and respond to inbound vessels was clearly demonstrated during the 2015 crisis, more needs to be done to ensure that inbound maritime migrants are allowed to safely disembark and receive emergency assistance. This includes building reception centers which identify the motives of migrants, assess protection needs based on those motives, and provide services based on those needs.<sup>232</sup>

### *Prevention*

Finally, measures to prevent migrants from undertaking the dangerous irregular maritime migration route will be a critical component of a comprehensive regional strategy. Perhaps the most important component of prevention will be the development of better pathways for legal migration. The motivations for migration, whether conflict, employment, or climate displacement, are likely to remain the same in the immediate future, meaning there will be a sustained demand for outbound migration. Therefore, more needs to be done to ensure that migration is pursued through legal pathways so that desperate migrants are not pushed into the hands of the traffickers and smugglers running the maritime routes through the Bay of Bengal. This will require different approaches for economic and conflict-induced migrants. For economic migrants, cooperation between origin and destination states on humane, well-regulated, mutually beneficial labor migration programs will be key, as will better regulation of labor recruitment industries in countries of origin.<sup>233</sup> For migrants driven by conflict, strengthening legal refugee and asylum pathways as well as allowing for greater livelihood opportunities in their state of displacement will help stem the flow of irregular secondary maritime migration. In both instances, information campaigns in Myanmar and Bangladesh on the dangers of irregular maritime migration could help counteract the deception of migrants by smugglers and traffickers.<sup>234</sup>

## REFUGEE AND ASYLUM-SEEKERS LEGAL WORK PROGRAM IN MALAYSIA

In 2016, Malaysia initiated a pilot program allowing refugees and asylum-seekers to legally work.<sup>235</sup> According to the United Nations High Commissioner For Refugees (UNHCR), Malaysia had 173,730 registered asylum-seekers by May 2019, with slightly over half consisting of Rohingya refugees who had fled across the Andaman Sea.<sup>236</sup> The Malaysia Ministry of Home Affairs has collaborated with the UNHCR to implement a work training program for 300 Rohingya refugees which includes cultural and skills components and will be conducted by UNHCR's partner NGOs to prepare participants for the workforce. In 2018, the pilot program successfully expanded from the plantation to the manufacturing sector. A study conducted by the Institute for Democratic and Economic Affairs has concluded that giving refugees legal work status in Malaysia could have significant nationwide benefits by 2024, including adding \$700 million to the annual GDP through increased spending, a combined direct and indirect tax contribution of over \$12 million, and an additional 2,500 to 4,300 jobs for Malaysian citizens.<sup>237</sup> Legal work programs such as this serve as a model for the protection and sustainable reception destination countries can offer those who have been driven to maritime mixed migration through the Bay of Bengal.

## Conclusion

Though the drivers of maritime mixed migration across the region vary, the maritime routes through the Bay of Bengal and Andaman Sea remain incredibly dangerous for all migrants. Along the way, migrants are subject to extortion and violence at the hands of illicit actors who prey on desperation for profit. While the region has not seen another maritime migration crisis of the kind witnessed in 2015, the potential for another crisis remains. In order to mitigate the threat posed to maritime security by irregular maritime migration, Bay of Bengal states and destination states will need to strengthen legal protections; improve rule of law; develop mechanisms for effective, humane crisis response; and develop stronger legal pathways for those seeking opportunity and safety through migration.

*Bay of Bengal states and destination states will need to strengthen legal protections; improve rule of law; develop mechanisms for effective, humane crisis response; and develop stronger legal pathways for those seeking opportunity and safety through migration.*

# FISHERIES



# FISHERIES

## Introduction

The Bay of Bengal, a tropical sea nourished by a number of large river systems, supports a vast fisheries resource that accounts for up to 80 percent of the animal protein consumed by people across the region.<sup>238</sup> The fisheries sector is also central to economic security, providing direct and indirect employment for an estimated 14 million people in India<sup>239</sup> and 15 million in Bangladesh.<sup>240</sup> The sector also contributes to the development of national economies. In Bangladesh, for example, the fisheries sector contributes 22.6 percent of the country's agricultural GDP and an estimated 3.69 percent of the country's total GDP.<sup>241</sup>

However, the sustainability of marine fisheries and their subsequent ability to contribute to livelihoods and national economies are existentially threatened by several factors. Primarily, the unsustainable harvesting of fisheries undermines the optimum use of these resources and thus threatens the livelihoods of coastal communities who depend on them for subsistence. Many of the fishery resources in the region have already been heavily exploited, and if this pattern continues unabated, the situation will likely worsen. In particular, environmental degradation of the coastal and near-shore marine habitats such as coral reefs, mangroves, estuaries, sea-grass beds and other shallow spawning and nursery areas equally threatens the sustainability of marine fisheries in the region. Finally, the cumulative effects of pollution from different Bay of Bengal countries adds additional pressure, disrupting the basic processes and healthy functioning of the marine ecosystem.

This chapter first explores the health of fisheries and the state of fisheries management in the Bay of Bengal region. It then highlights the critical role of fisheries in maintaining the welfare of coastal fishing communities. Finally, the chapter provides potential policy options that would help ensure that fisheries in the Bay of Bengal will be maintained as a sustainable economic resource and source of welfare for years to come.

## Key Findings

- The sustainability of fisheries in the Bay of Bengal is **UNDERMINED BY OVERFISHING, INCLUDING ILLEGAL, UNREPORTED, AND UNREGULATED (IUU) FISHING, AND THE ENVIRONMENTAL DEGRADATION** that results from the effects of pollution and climate change.
- Fisheries play a **KEY ROLE IN THE ECONOMIC AND FOOD SECURITY OF COASTAL COMMUNITIES ACROSS THE BAY OF BENGAL** littoral region. Ensuring that fisheries management policies respect the needs of these fishing communities, and particularly women in fisheries, is key to sustainable coastal welfare.
- Despite strong regional fisheries legislation, **POLICY IMPLEMENTATION REMAINS A CHALLENGE** in the region. Increased investment in monitoring, control, and surveillance (MCS) systems can help fill this policy enforcement gap. Increased international investment and capacity-building in this area could reap long-term benefits.
- The **TRANSNATIONAL NATURE OF ENVIRONMENTAL AND FISHERIES HEALTH NEEDS TO BE ADDRESSED WITH COORDINATED REGIONAL ACTION**. Regional cooperation on environmental and fisheries-science research and coordinated fisheries management policies could help ensure that Bay of Bengal fisheries are maintained as a shared economic resource. The Bay of Bengal Large Marine Ecosystem project is a useful initial step and potential platform for engendering regional fisheries collaboration.

## Fisheries Health

### Environment

The Bay of Bengal's rough topography and sandy beds generate intense wave action, and the area as a whole is subjected to frequent tropical cyclones. The southwest monsoon, characterized by hot and humid winds that blow from the bay from May to September, results in heavy rainfall. The northeast monsoon blows from November to March and brings cool and dry air from the continental areas. The wind is variable and unstable between the two monsoons, causing frequent cyclones and tidal surges.<sup>242</sup> Climate change may intensify extreme weather conditions like cyclones and tidal surges, resulting in a decline in fish productivity which would significantly affect fishing activities and the livelihoods of fishers. In Bangladesh, for example, the impact of climate change could reduce total fish productivity in the exclusive economic zone (EEZ) by 1.3 to 4.9 percent by 2050, and 2.6 to 8.3 percent by 2100.<sup>243</sup> The paradox of the impact of climate change in the region is that while it would negatively impact fisheries production, the number of people dependent on these fisheries for subsistence is also expected to rise. This is primarily because heavy rainfall and droughts in inland agricultural areas are driving farmers in Bay of Bengal countries such as India to join the fish trade.<sup>244</sup>

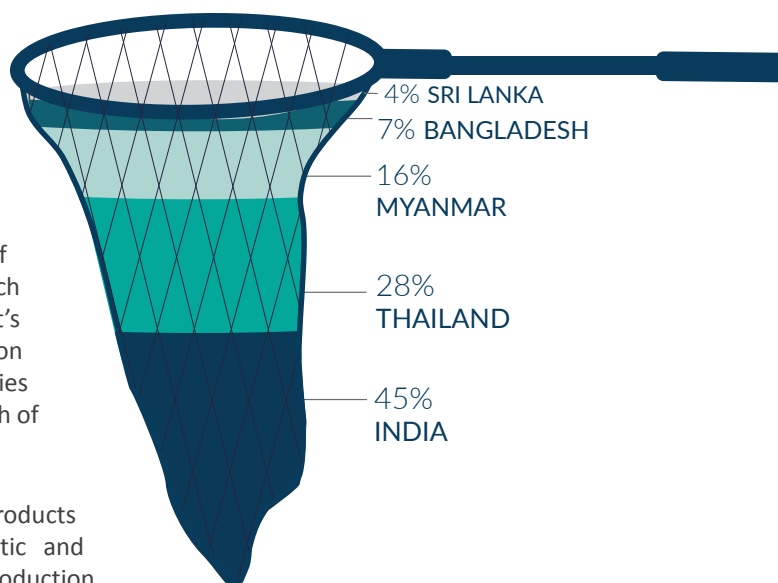
### Diversity of Fisheries

Like other tropical seas, the Bay of Bengal is very rich in biodiversity. An estimated 771 species of finfishes have been recorded in the Bay of Bengal,<sup>245</sup> in addition to over 215 demersal fish species, 65 pelagic species, 20 shrimp species, and 40 cartilaginous species<sup>246</sup> including sea cucumbers, mollusks, seaweeds, turtles, dolphins, and whales.

### Fish Production

Vibrant fisheries activities are also an indicator of the bay's fisheries health. The total annual marine fish production of the five regional countries reaches about 5.2 million tons, which India, Thailand, Myanmar, Bangladesh, and Sri Lanka share at about 45, 28, 16, 7, and 4 percent, respectively.<sup>247</sup> Marine fish production in Bangladesh and Myanmar depends exclusively on the Bay of Bengal, increasing those countries' vulnerability to potential damage to the health of the fisheries as other countries are able to catch fish from other adjacent marine waters. What's more, some countries are also largely dependent on a single fishery species, leaving coastal communities potentially vulnerable to fluctuations in the health of specific species.

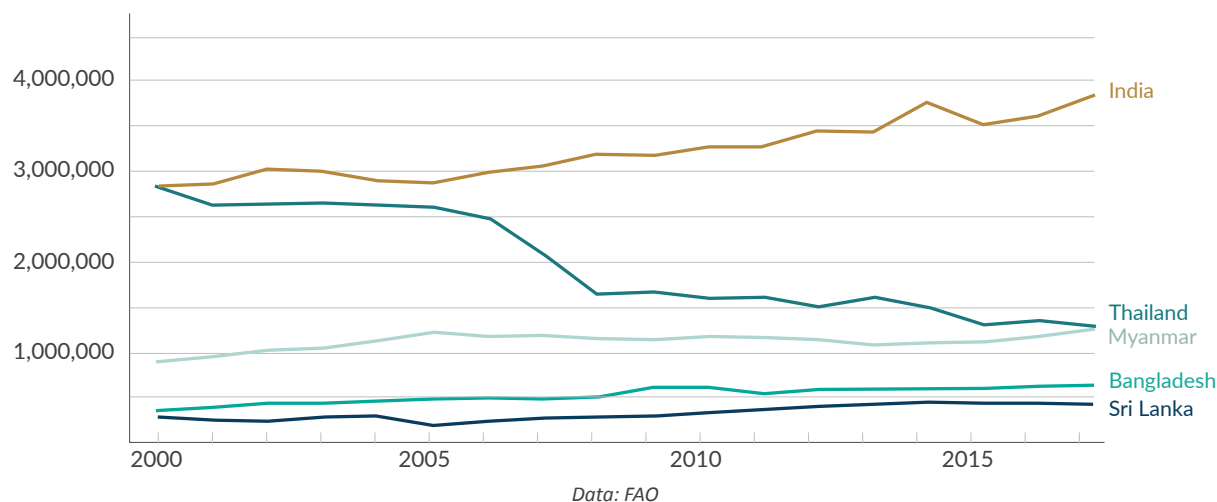
SHARE OF TOTAL MARINE CATCH  
AMONG BAY OF BENGAL COUNTRIES<sup>248</sup>



A wide variety of fresh and processed fisheries products satisfy consumption demand in both domestic and international markets. Consequently, the fish production industry employs millions of people in coastal communities across the region. Overall marine fisheries production in the region has increased in recent years, with country-specific fluctuations indicating generally good fisheries health. It is worth

noting that while the increasing trend reflected in fisheries production might suggest improved fisheries health, the pervasiveness of overfishing in the region is a possible explanation for this increase in fish production. Therefore, should overexploitation of fisheries continue unabated, fisheries production in the Bay of Bengal countries is likely to decline over time.

### ANNUAL MARINE FISH-CATCH TREND OF BAY OF BENGAL COUNTRIES during the period 2000–2017<sup>249</sup>



## GENDER DISPARITY AND FOOD SECURITY IN BANGLADESH'S FISHERIES INDUSTRY

As in many regional states, women play a vital role in the fisheries industry in Bangladesh. Up to 1.4 million women in Bangladesh are employed in the fish processing industry, constituting roughly 80 percent of the sector's workforce.<sup>250</sup> In an economy with a significant employment gap (only one-third of the Bangladeshi workforce are women and only 10 percent of women are employed in the formal sector),<sup>251</sup> fisheries-related industries constitute a significant source of employment for women. The development of sectors which largely employ women can be particularly important in coastal communities that suffer from poverty and food insecurity, as studies have shown that women tend to contribute their earnings more directly to a family's nutritional needs than men do.<sup>252</sup> However, while the industry is an important employer of women, more needs to be done to address issues such as pay equity. For example, women in Bangladeshi shrimp-processing facilities report earnings that are roughly half those of their male counterparts.<sup>253</sup> Rectifying such gender disparities in the region's fisheries industry can help raise standards of living and enhance food security in some of the Bay of Bengal's most vulnerable coastal communities.



Woman setting up a fish net, Bangladesh.  
Photo: WorldFish.

## Fisheries Management

Bay of Bengal governments are making efforts to better manage their marine and coastal fisheries. A comprehensive and holistic management drive called Ecosystem-Based Fisheries Management in the Bay of Bengal has been initiated by BIMSTEC, including a survey focused on large pelagic species.<sup>254</sup> In addition, under the Bay of Bengal Large Marine Ecosystem project (BOBLME), some transboundary species like hilsa and Indian mackerel were identified for potential joint management among Bay of Bengal countries, especially Bangladesh, India, and Myanmar. However, no effective joint management plan has yet been formulated and implemented.

### HILSA FISHERIES MANAGEMENT

Hilsa is the most important commercial transboundary species in the Bay of Bengal.<sup>255</sup> After the implementation of the Hilsa Fisheries Management Action Plan (HFMAP) in 2005, hilsa production increased by 5 percent each year through 2015. Partnering with civil society to further improve production, the Bangladesh Department of Fisheries and WorldFish jointly started the Enhanced Coastal Fisheries (ECOFISH-BD) project in 2015, which is a USAID-funded five-year initiative. This project supports the department of fisheries and local communities in establishing collaborative, science-based management called “co-management” that focuses on reducing overfishing by protecting juvenile and brood hilsa in the peak spawning season through engagement with multiple stakeholders. The project also focuses on empowering the fishing community by focusing on the role of women in fisheries and providing livelihood diversification in order to improve communities’ resilience during fishing-ban periods. Before implementing science-based co-management, the production target was first set at the maximum sustainable yield (MSY) of 526,000 tons, based on a 2016 stock assessment. An innovative approach developing building blocks of co-management was introduced with the aim of forming a “Fisheries Management Community” in each fishing village and subsequent committees at the larger Upazila (an administrative division) and district levels. The plan features a “carrot-and-stick” approach that includes a food incentive for fishing communities and increased law enforcement. As a result, total hilsa catch has increased by a rate of 11 percent per year since implementation and resulted in a total harvest of 517,000 tons in 2018, nearing the estimated MSY level. In addition, hilsa size has increased from an average of 510 grams to 880 grams over the three years of project. As a result of the increased production and size of the hilsa, the household incomes of fishers have also increased by 52 percent over this three-year period.<sup>256</sup>



Left: Hilsa conservation group in Bangladesh, which meets weekly to discuss the government's hilsa fishing ban for 3-4 weeks during breeding season. Photo: WorldFish. Right: This woman, a boat-fisher, received solar power from the USAID ECOFISH project. Photo: WorldFish.

## Illegal, Unreported, and Unregulated Fishing and Hidden Harvest

IUU fishing is a worldwide problem which also significantly impacts the Bay of Bengal.<sup>257</sup> IUU fishing in the Bay of Bengal harms fisheries health by contributing to the overexploitation of fish stocks.<sup>258</sup> Despite the general increasing trend in fish production, IUU fishing could further escalate overfishing. In a 2015 assessment, BOBLME showed that the total value of illegal fishing catches was between \$3.35 billion and \$10.40 billion annually and unreported fishing could be valued between \$2.7 billion and \$1.35 billion annually.<sup>259</sup> IUU fishing contributes to the depletion of fish stocks, which means a reduced catch for vulnerable fisherfolk who depend on this resource for subsistence. The pervasiveness of IUU fishing exacerbates the suffering of these communities by undermining their food security and livelihoods. In India, for example, an estimated 61 percent of fisherfolk live below the poverty line.<sup>260</sup> Also related is the impact the depletion of fisheries has on the livelihoods of millions of women in the Bay of Bengal region who depend on employment in the fisheries sector for subsistence.

### FISHERIES SUBSIDIES AND SUSTAINABILITY: THE CASE OF INDIA

India, like many countries across the globe, provides subsidies for its national fishing fleet. An estimated \$35 billion<sup>261</sup> is spent on fisheries subsidies globally, which many argue contributes to IUU fishing and overfishing.<sup>262</sup> India provides roughly \$400 million in subsidies annually to the fishing industry, 83 percent of which goes to industrial trawlers.<sup>263</sup> The state of Tamil Nadu on the Bay of Bengal coast provides the largest portion of these subsidies of any Indian state.<sup>264</sup> Although this is a relatively small amount in comparison to subsidies provided by some of the world's largest fishing nations (the U.S., China, Japan, and the EU are all estimated to provide more than \$4 billion in annual fisheries subsidies),<sup>265</sup> these funds may still impact the sustainability of India's fisheries by encouraging unsustainable and otherwise economically unviable fishing. Government support to the region's fishing communities needs to be implemented in a manner which protects the fisheries resources and coastal welfare in the long term. Diverting subsidies for fuel, which currently account for more than half of Indian fisheries subsidies,<sup>266</sup> towards initiatives that focus on ecological and social sustainability can help ensure that fishing communities receive the support they require while also supporting the long-term health of fisheries resources. Some of these initiatives could include purchasing equipment which reduces bycatch and improves safety, as well as providing livelihood support for fishing communities affected by fishing bans.



### Monitoring, Control, and Surveillance

Monitoring, control, and surveillance (MCS) capabilities need to be modernized and intensified in most of the region's countries. Despite having strong legislative tools, the implementation of rules and regulations to control and manage fisheries are generally limited in the bay. While MCS of large and industrial trawling vessels is improving, similar efforts focused on artisanal fishing vessels are much more difficult to implement due in part to the sheer number of these vessels. In Bangladesh, for example, there are roughly 253 large industrial vessels, compared to 68,000 small artisanal vessels.<sup>267</sup> This volume of small-scale fishing activity presents significant challenges for regional MCS and fisheries-related enforcement.

## Challenges Ahead for Fisheries and Fishing Communities

The future of fisheries as a sustainable source of economic growth and livelihoods for coastal communities in the Bay of Bengal faces a variety of challenges. These fall primarily into three categories: environmental threats, fishing pressure threats, and socioeconomic threats.

### *Environmental Threats*

Marine pollution threatens the Bay of Bengal ecosystem by contributing to fish kills and the migration of fish stock away from the bay. The main threats to fisheries resources in the Bay of Bengal are associated with the influx of pollutants such as industrial chemicals, plastics pollution, and sewage and agricultural runoff which make their way into the fishery from the massive river basins surrounding the bay. A study by the University of Oxford on the impacts of fertilizer runoff on marine ecosystems flagged the Bay of Bengal as being at a “tipping point” as increased nitrogen levels pose an immediate threat to the viability of the fishery and the ecosystem.<sup>268</sup> Efforts to mitigate riverine and maritime pollution will be key to ensuring the long-term health of the fisheries.

### *Threats from Irresponsible Fishing*

The indiscriminate catching of brood-fish during spawning season and of juveniles, the destruction of nursery and spawning grounds, the blocking of migratory routes, and overfishing are all elements of current fisheries practices which threaten the sustainability of the fisheries resource. Science-based co-management and/or an ecosystem approach to fisheries management (EAFM) need to be implemented in a holistic and coordinated manner involving all regional nations in order to sustainably manage the fisheries resources of the bay.



Indian fishermen row their boat on the polluted Brahmaputra river. Photo: Biju Boro, AFP, Getty Images.

## Socioeconomic Threats

The main threat to fishers is insecurity at sea due to piracy and armed robbery, kidnapping for ransom, and cyclones and other natural disasters at sea and on coasts that destroy the property and livelihoods of coastal communities that have limited capacity to recover. In addition, limited access to finance mechanisms and education, as well as social and economic inequalities, threaten the coastal welfare of fishing communities.

## Conclusion

While there are a plethora of threats facing the long-term health of the fisheries in the Bay of Bengal and the communities that depend on them, these challenges are not insurmountable. Shared fisheries health can be promoted through greater regional cooperation. Efforts to ensure biodiversity conservation and the protection of marine fisheries health can be improved through the formulation of regional common policies. As the region shares major fish species, there is room to promote transboundary dialogue and formulate common regulations. A common marine fishing-ban period could improve the resilience of the ecosystem and create congenial conditions for the breeding of commercially important species. A fishing ban would offer the opportunity to implement the transboundary management of fisheries. Given the vulnerability of the fishers across the region, such a ban must be complemented by the provision of fair compensation to the fisherfolk affected.<sup>269</sup> Special care should also be taken to implement pollution control in regional rivers to protect Bay of Bengal fisheries in the long run.

A common platform may also be collaboratively created by the region's policymakers, researchers, vessel owners, and fishers' associations to address issues of fisheries conservation and management, control IUU fishing practices, and ensure the welfare of fishing communities. Finally, to ensure the maximum sustainable utilization of the Bay of Bengal resources, a holistic and comprehensive EAFM needs to be implemented. This can be done by involving all regional countries in a coordinated manner that focuses on transboundary species. Fisheries health is at a critical turning point in the Bay of Bengal, but with the implementation of science-based, collective fisheries management policies, the long-term health of the fisheries resource can be ensured.

*Fisheries health is at a critical turning point in the Bay of Bengal, but with the implementation of science-based, collective fisheries management policies, the long-term health of the fisheries resource can be ensured.*

# MARITIME ENFORCEMENT CAPACITY



## MARITIME ENFORCEMENT CAPACITY

The maritime enforcement capabilities of Bay of Bengal states are challenged by competing security priorities, procurement gaps, and limited funding. Despite these constraints, maritime enforcement agencies in the Bay of Bengal share a common desire to tackle illicit activities by pursuing long-term progress in building maritime domain awareness and capabilities to respond. This chapter traces the efforts of navies and maritime law enforcement agencies in the Bay of Bengal and the development of multilateral initiatives; identifies lessons learned and capability gaps; and highlights successful initiatives across the region.

### Key Findings

- **INDIA PROACTIVELY ADDRESSES OPERATIONAL AND INSTITUTIONAL CONSTRAINTS THROUGH NOVEL SOLUTIONS** such as the Joint Operations Centre and Coastal Security Scheme networks. These efforts encourage interagency coordination and burden-sharing, and also set an example for maritime law enforcement agencies in other Bay of Bengal countries.
- Pressing political emergencies and security concerns **THAT TAKE PLACE ON LAND MAY REDIRECT POLICY ATTENTION AND RESOURCES** away from investments into assets that are needed to attain complete maritime enforcement capacity.
- To compensate for gaps in enforcement capabilities, the region's maritime law enforcement agencies are **INCREASINGLY RELIANT ON BILATERAL AND REGIONAL COORDINATION**.
- Law enforcement agencies can benefit from seeking a detailed understanding of maritime drivers that contribute to instability on land. In doing so, **A BALANCED DISTRIBUTION OF RESOURCES CAN BE DIRECTED TOWARDS THE OPERATIONS OF BOTH LAND AND SEA-BASED ENFORCEMENT AGENCIES** to implement a more comprehensive strategy against security threats.

### India

The harrowing 2008 terrorist attacks in Mumbai, which were facilitated by the use of maritime routes, heightened concerns about the vulnerability of India's coastlines to nonconventional threats. Consequently, the surveillance of maritime activities along India's coastline transformed into a national priority. A three-tier system comprising the Indian Navy, Indian Coast Guard (ICG), and the marine police was set up and each agency was assigned different zones of responsibility. Under the Coastal Security Scheme, coastal police stations and surveillance infrastructure were established, coastal radio stations commissioned, electro-optical cameras installed, and the use of automatic identification systems (AIS) encouraged.<sup>270</sup> To facilitate smoother interaction between various maritime agencies responsible for India's coastal security, the Indian Navy also established four joint operations centers. Under these centers, coastal security operations are being coordinated by representatives from different agencies including the navy, coast guard, state marine police, customs, and intelligence bureau.<sup>271</sup> Another information-sharing initiative is the International Fusion Centre–Indian Ocean Region (IFC-IOR), which was established in 2018 to achieve regional maritime domain awareness through sharing reporting on incidents and widely distributing analytical reports.<sup>272</sup>

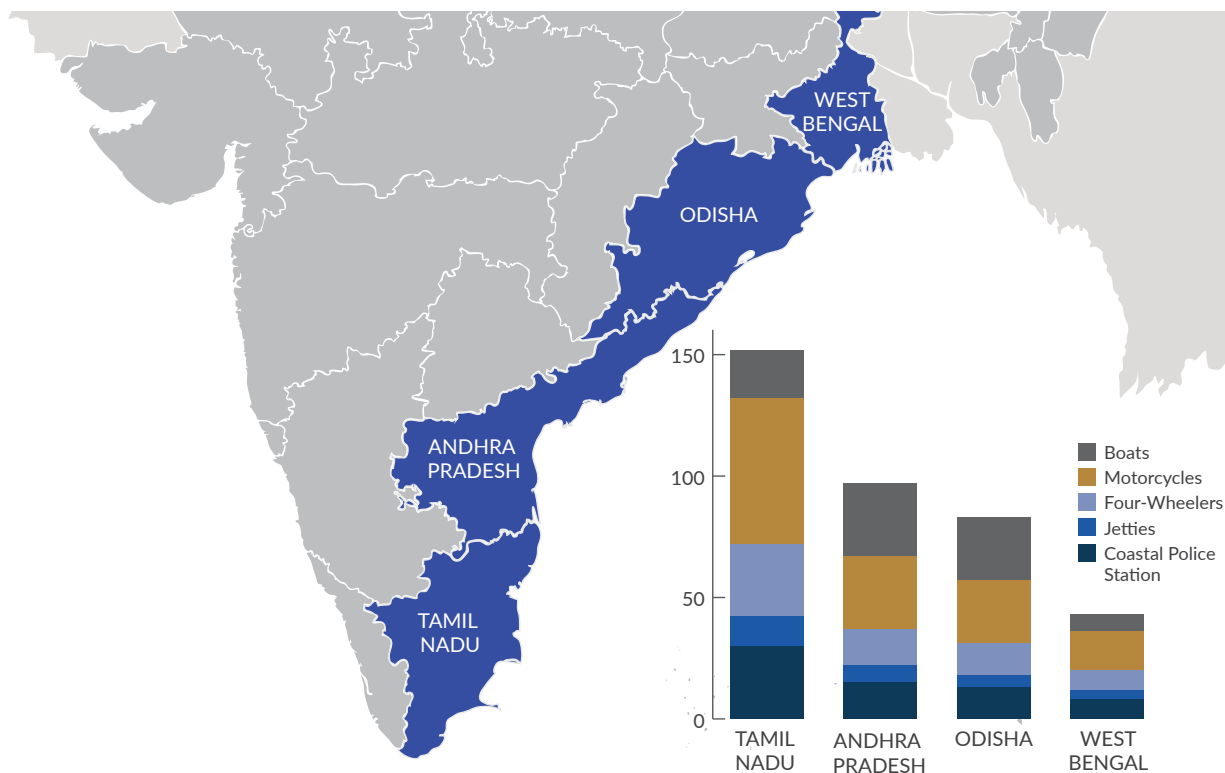
As India enhances its interagency collaboration, the country's maritime law enforcement agencies are boosting their independent capabilities. The Indian Navy's Eastern Naval Command has been assigned responsibility for overseeing maritime security in the Bay of Bengal. This naval command is actively countering illicit maritime activities through the deployment of assets such as patrol boats, frigates, and corvettes. Meanwhile, the far-eastern Andaman and Nicobar Command, which used to operate solely under the navy, has expanded into a tri-service command. This command focuses a majority of its operations in the Andaman Sea up to the tip of the Strait of Malacca. Being strategically located

and equipped with port facilities and bases for surveillance, the Andaman and Nicobar Command facilitates the rapid deployment of assets to counter nontraditional and illicit activities in these critical waterways that connect the Bay of Bengal region to Southeast Asia.

Meanwhile, the role of the Indian Coast Guard is to protect and guard India's EEZ, with responsibilities that include deterring terrorists from using sea routes, searching and boarding vessels suspected of illicit maritime activity, and diplomatic engagement with coast guards of other countries.<sup>273</sup> To execute its missions, the ICG relies on response systems that use physical and electronic surveillance assets such as patrol and coastal combatant craft, amphibious vehicles, aircraft, and helicopters.<sup>274</sup> The ICG has also established a comprehensive coastal surveillance network under the Coastal Security Scheme to closely coordinate operations with other agencies such as India's marine police. Additionally, the ICG conducts community interaction programs to build strong working relationships with India's coastal fishing communities.<sup>275</sup>

In spite of these efforts, India's maritime enforcement architecture continues to grapple with its own set of challenges. In addition to the Indian Navy and ICG, there are at least thirteen other agencies involved in various angles of coastal security. The numerous agencies may duplicate work, lead to the inadequate use of resources, and obstruct efficient interagency coordination. There are also technological constraints as smaller boats, which largely belong to fishers, are not fully equipped with AIS due to high costs that may not be affordable to those in the coastal community. Because of this cost factor, the majority of smaller boats are still able to operate undetected.<sup>276</sup> Last, the large number of assets needed for coastal security can place a burden on enforcement agencies; there are reports of manpower shortages, aging assets, and delays in the construction of shore-based infrastructure.<sup>277</sup>

#### COMPONENTS SANCTIONED UNDER PHASE II OF THE COASTAL SECURITY SCHEME FOR INDIA'S BAY OF BENGAL STATES



Source: Lok Sabha Secretariat, "Coastal Security, Reference Note 29," November 2013

Moving forward, India continues to enhance its coastal security through novel solutions that range from restructuring the maritime enforcement architecture to implementing the Coastal Security Scheme, under which India's four coastal states bordering the Bay of Bengal seek to procure more assets by 2020. Meanwhile, the Indian Navy is expanding existing naval air stations at the Andaman and Nicobar Islands into fully-functioning aviation bases.<sup>278</sup> In addition to expanding India's naval presence in the region, these bases are also necessary to ensure the safe passage of vessels in an area fraught with illicit maritime activity.

## Sri Lanka

Unlike those of most of its regional neighbors, Sri Lanka's navy is highly experienced in tackling nontraditional coastal threats such as illegal immigration, smuggling, and asymmetrical maritime warfare after its campaign against the insurgent Liberation Tigers of Tamil Eelam (LTTE) group that relied on waterways bordering Sri Lanka's coastline. Since the defeat of the LTTE in 2009, the Sri Lankan Navy has expanded its assets to enable the force to evolve beyond a focus on coastal counter-terrorism operations towards a more comprehensive patrol of the country's maritime zones.

Since its establishment in 2009, the role of Sri Lanka's coast guard has encompassed addressing nontraditional concerns such as illegal migration, drug smuggling, arms smuggling, distress at sea, maritime disasters, and damage to the marine environment.<sup>279</sup> Sri Lanka also established its first Marine Battalion in 2017, which builds from a strong historical tradition of amphibious warfare knowledge with assistance from countries such as the United States and Australia.<sup>280</sup> This new marine corps focuses primarily on humanitarian assistance and disaster relief operations in Sri Lanka.<sup>281</sup>

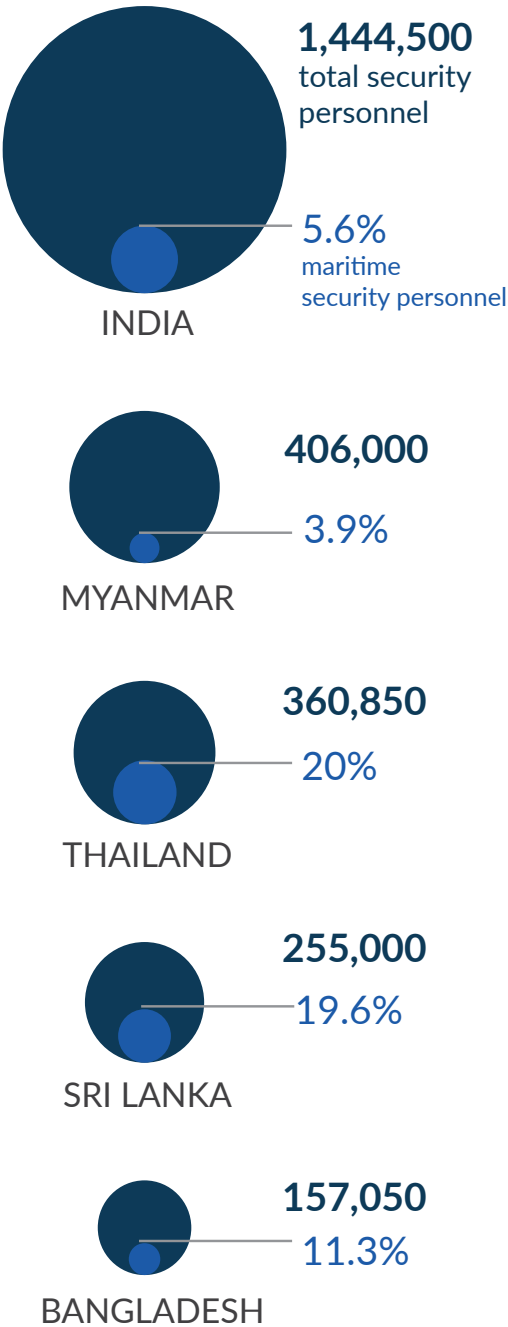
Sri Lanka still faces some challenges in developing comprehensive maritime enforcement capability. The Sri Lankan Navy remains constrained by the wide surveillance area of Sri Lanka's maritime zone, a restricted budget, procurement gaps, and the absence of a defense-industrial base.<sup>282</sup> The limited number of surface ships restrains the navy from comprehensively addressing illicit crimes such as illegal smuggling and IUU fishing in the country's waters. However, Sri Lanka has optimized growing bilateral military relationships to enhance maritime security. The country's coastal defense capability, which relies heavily on fast-attack and patrol boats, has been strengthened with the acquisition of offshore patrol vessels from India and two coast guard patrol craft donated by Japan.<sup>283</sup>, <sup>284</sup> The United States has also gifted a former U.S. Coast Guard cutter, and China has announced it is granting a frigate.<sup>285</sup>

To strengthen its maritime domain awareness, Sri Lanka is also developing its capacity as a regional information and coordination hub for countering nontraditional maritime threats. Sri Lanka is currently the Lead Coordinator of the Indian Ocean Rim Association's Working Group on Maritime Safety and Security and also hosts the United Nations Office on Drugs and Crime's Global Maritime Crime Programme in Colombo.<sup>286</sup> Moving forward, maritime enforcement agencies in Sri Lanka will rely on strong bilateral relations with other Bay of Bengal countries to participate in intensive sharing of information. Through this method of sharing the burden, Bay of Bengal countries will be able to also share intelligence acquired through their collective surveillance and reconnaissance capabilities.

## Bangladesh

Since resolving maritime territorial disputes with Myanmar and India in 2012 and 2014, respectively, Bangladesh has witnessed a significant extension of its maritime jurisdiction in the Bay of Bengal.<sup>287</sup> In its dispute with Myanmar, Bangladesh gained 111,000 square kilometers of EEZ, and was awarded a total of 19,467 square kilometers of new maritime territory from its dispute with India.<sup>288</sup>, <sup>289</sup> Wider territorial waters now demand greater force projection and maritime domain awareness from Bangladesh's maritime law enforcement agencies. In addition, Bangladesh is confronted with a series of maritime threats posed by the potential use of maritime routes by illicit actors and the irregular movement of Rohingya migrants across the country's maritime zones. Other security concerns include piracy and armed robbery, narcotrafficking, and drug smuggling along Bangladesh's waterways. To counter these threats, Bangladesh requires capabilities such as counter-terrorism, maritime governance, and special operations skills.<sup>290</sup> Recognizing this gap, the Bangladesh Navy and

PERCENTAGE OF MILITARY SECURITY PERSONNEL IN BAY OF BENGAL



Data: *The Military Balance*, 2019.

other maritime enforcement agencies such as the coast guard force have been making significant progress to acquire these capabilities.

Bangladesh is pursuing the Forces Goal 2030 program to expand its maritime enforcement capabilities through procurement of more assets and personnel. Forces Goal 2030 is Bangladesh's first massive modernization program that seeks to transform the navy, air, and army forces into a three-dimensional force capable of multi-platform warfare. Under this plan, the Bangladesh Navy will shift from its reliance on fast-attack craft to utilize at least 12 guided-missile frigates and 16 to 24 guided-missile corvettes to patrol the Bay of Bengal by 2030.<sup>291</sup> As the navy transitions away from constabulary duties towards more conventional naval warfare roles, it will accommodate missile systems, offshore patrol vessels, and Ming-class submarines. To sustain this procurement plan, Bangladesh relies on China and Russia for aid and credit to overcome its limited procurement funding, as showcased in the assistance extended by China to build a submarine base in Cox's Bazar to service and station Bangladesh's two submarines.<sup>292</sup> Meanwhile, Bangladesh is also developing its indigenous naval shipbuilding industry at the Khulna Shipyard, which has produced five patrol craft and two large patrol craft for the Bangladesh Navy.<sup>293</sup>

Meanwhile, Bangladesh's coast guard force is evolving into a complete national law enforcement and border agency that can help effectively protect fisheries, prevent trafficking and illegal immigration at sea, control pollution, eradicate piracy, and conduct disaster relief when needed. As of February 2018, the Bangladesh Coast Guard had purchased offshore patrol vessels, inshore patrol vessels, fast patrol boats, a floating crane, and tugboats to conduct operations along the coast.<sup>294</sup>

In the near future, Bangladesh's naval enforcement agencies will continue acquiring more capabilities to fulfill the demands of Forces Goal 2030. This will include further developing their special forces, submarine service, naval air wing, and coastal defense capabilities.<sup>295</sup> To further enhance its maritime enforcement capabilities, Bangladesh would also benefit from having a more comprehensive maritime strategy that focuses on both hard capabilities such as modernization and on soft capabilities such as maritime governance, research and development, and resource exploration and exploitation.<sup>296</sup> Through this holistic approach, Bangladesh can ensure that its procurement goals under Forces Goal 2030 will be able to secure its maritime interests in the long term.

## Myanmar

The recent military modernization of Myanmar's regional neighbors has spurred a drive to procure more assets for Myanmar's naval enforcement agencies. This impetus was further intensified by the devastation left by Cyclone Nargis and the standoff with the Bangladesh Navy in 2008 in the Bay of Bengal.<sup>297</sup> These events, which highlighted the degree to which Myanmar's naval capabilities lagged behind those of its foreign counterparts, have since driven a naval modernization program and an outward-looking security posture in Myanmar's national defense strategy.

Over the years, Myanmar's navy has gradually expanded beyond the "brown-water" roles of providing riverine support for the army's counter-insurgency efforts, protecting fisheries, and deterring smuggling along Myanmar's coastline.<sup>298</sup> Today, the navy is actively investing in procurement drives and has made significant additions to its capabilities. Some of these additions include indigenously built frigates and upgraded corvettes.<sup>299</sup>

Myanmar's maritime enforcement capacity is also set to strengthen with the 2019 announcement to establish the country's first coast guard force. Although there is not yet a clear timeline for the force's establishment, there are expectations that a coast guard would contribute to the clearer delineation of roles and areas of responsibility for Myanmar's maritime enforcement agencies. Unlike its navy, Myanmar's coast guard force is expected to focus on coastal security by tackling human trafficking, illegal entry, drug trafficking, and illegal, unreported, and unregulated fishing. The force will also be defending Myanmar's economic interests in its maritime zones by overseeing the management of offshore drilling, building sea ports, and protecting the marine environment.<sup>300</sup> This announcement was also accompanied by more plans to create an integrated command center comprising experts from other agencies such as the maritime police force, customs department, immigration department, marine administration department, and the Myanmar Port Authority.<sup>301</sup>

However, Myanmar's maritime enforcement capabilities are significantly hampered by financial constraints, a lack of maritime domain awareness, and the implications of pressing domestic security concerns such as the Rakhine crisis. The ability to protect maritime interests may be challenged by the inward-looking security posture that directs policy attention and resources away from procurement of maritime enforcement assets and towards onshore operations instead. However, the active development of Myanmar's blue economy industries such as offshore oil and gas may offer the impetus necessary to actively enhance Myanmar's maritime enforcement capabilities.

## Thailand

The Royal Thai Navy and other maritime law enforcement agencies in Thailand have been actively countering security threats at sea through the deployment of naval assets, establishment of a Maritime Enforcement Coordinating Centre (MECC), and implementation of a military modernization program. However, the continuous development of Thailand's maritime enforcement capabilities is also challenged by a few factors including funding constraints.

As the primary maritime law enforcement agency, the Royal Thai Navy has the ability to provide constabulary capacity through deploying crafts such as offshore patrol vessels, frigates, and even the *Chakri Naruebet* aircraft carrier to aid with natural disaster relief. The navy is also expected to procure more assets under the ten-year military modernization program that was launched in February 2018. This modernization plan seeks to improve preparedness, enhance military capabilities, and modernize the military's structure. Although this will translate into increased defense spending, it is still estimated that only 19 percent of the budget would be allocated to the Royal Thai Navy—a drastic contrast to the 48 percent of budget directed to the Royal Thai Army.<sup>302</sup> However, this does not appear to deter Thailand's ability to acquire advanced platforms such as its first submarine, which is expected to be delivered around 2023.<sup>303</sup>

To effectively utilize intelligence, surveillance, and reconnaissance efforts, Thailand has also developed a Thai-MECC to share information, coordinate operations, and assist in search and rescue at sea. The center is a collaboration between law enforcement agencies such as the Royal Thai Navy, fisheries department, coastal and marine resources department,



*Thai patrol and inspection ships in an operation to apprehend illegal fishing boats in March 2017.  
Photo: Udom Kiatthip Srikun / Nanthaphon Thipsri.*

marine department, marine police, and customs department. Despite constraints such as experiencing friction in institutionalizing coordination and having limited information-sharing mechanisms, the center plans to enhance maritime security management, coordinate operations at sea, and empower Thai-MECC officers to carry out searches, make arrests, and investigate offenses at sea.

However, the future development of Thailand's maritime enforcement capabilities may be impacted by funding constraints, army dominance, and an inward focus on counter-insurgency operations. Due to the institutionalization of army dominance in Thailand's conflict-affected southern provinces of Narathiwat, Pattani, and Yala, funding towards land operations by the armed forces in these areas has been prioritized. This can make it challenging to redirect funds towards strengthening Thailand's maritime enforcement capabilities or ensuring active naval modernization over a sustained period of time.<sup>304</sup>

Thailand's maritime enforcement capabilities are on the cusp of a major advancement with the expected commissioning of key naval assets and the enhancement of current initiatives such as the Thai-MECC.<sup>305</sup> Although Thailand may not have a separate designated coast guard force, there are discussions occurring on ways to reconfigure maritime enforcement to effectively address constabulary responsibilities. With consistent and guaranteed funding, Thailand will be able to strengthen its maritime enforcement capabilities and protect its maritime security interests.

## Expanding Maritime Security Collaboration

To boost their levels of maritime domain awareness and enforcement capabilities, Bay of Bengal countries actively participate in both multilateral and bilateral forms of military cooperation. These interactions have helped generate mutual trust, enhance operational interoperability, and facilitate information-sharing across the region.

Regional organizations such as BIMSTEC are increasingly promoting military coordination through initiatives such as the "tactical-level" anti-terrorism exercise held in September 2018. However, BIMSTEC's exercises have yet to gain the support of all BIMSTEC members as Thailand eventually withdrew due to budgetary restrictions.<sup>306</sup> Other multilateral

frameworks such as the biannual MILAN naval exercise, which is hosted by the Indian Navy, are more successful in gaining the participation of the five Bay of Bengal countries studied in this report.<sup>307</sup> The exercise's last iteration, which was conducted in March 2018, focused on enhancing interoperability through operations such as weapons systems, search and rescue, and boarding of ships. The tabletop exercises during the initiative also included a focus on piracy, gun- and drug-running, and illegal migration.<sup>308</sup>

Another regional initiative that strives to increase information-sharing across the region is the International Fusion Centre—Indian Ocean Region. Spearheaded by the Indian Navy, the IFC-IOR is a maritime security collaboration that seeks to build greater connectivity and maritime domain awareness with like-minded states across the region. Currently, the center is connected to 33 points of contact and multinational centers around the world, 18 of which are direct country representatives and 15 of which are think-tank organizations, including Stable Seas. Through monthly dissemination of maritime security reports and greater interaction with domestic and foreign maritime security agencies, the IFC-IOR seeks to continue widening its engagement with maritime security experts and practitioners around the world to enhance maritime domain awareness within the Bay of Bengal region and beyond.

Additionally, there appears to be a growing trend in which Bay of Bengal countries are actively strengthening bilateral defense ties with India to reap benefits in training and intelligence-sharing and support in attaining maritime enforcement capabilities. In July 2019, Myanmar and India entered into a defense cooperation agreement and pledged to boost maritime security cooperation while increasing the training provided to Myanmar's defense personnel.<sup>309</sup> Meanwhile, Bangladesh's military cooperation with India has evolved since the 2017 memorandum of understanding to include more training programs, joint exercises, and humanitarian assistance and disaster relief operations. The institutionalization of this defense cooperation would further enable both countries to improve coordination in counter-terrorism operations and joint maritime law enforcement in the Bay of Bengal.<sup>310</sup> Sri Lanka's defense ties with India are also growing, as observed in the seventh Sri Lanka–India Naval Exercise (SLINEX) in September 2019, which built mutual trust and operational interoperability between both naval forces.<sup>311</sup> This exercise also took place a few months after the annual Indo-Sri Lanka Defence Dialogue which reviewed bilateral defense cooperation activities between the two countries.<sup>312</sup>



*Ships participating in the MILAN-2018 exercise. Photo: Indian Navy.*

By building bilateral defense ties with India, countries in the Bay of Bengal will be able to address gaps in their maritime enforcement capabilities through active skills training or information-sharing. However, Bay of Bengal countries will also benefit from strengthening bilateral ties with other neighbors within the region in order to build a strong network of regional maritime enforcement agencies. This network will form the foundation needed to sustain regional initiatives such as BIMSTEC or annual naval multilateral exercises.

## Conclusion

The Bay of Bengal's maritime law enforcement agencies share a common interest in countering maritime threats such as piracy, IUU fishing, and illicit smuggling, in addition to protecting maritime sovereignty. However, the development of the region's maritime enforcement capabilities is also beset by funding constraints, competing strategic and domestic priorities, lack of interagency coordination, and insufficient assets and resources.

To address these gaps, more support needs to be directed towards the region's maritime coordinating centers that supervise interagency efforts in maritime enforcement operations. There also needs to be a greater understanding of specific maritime drivers that contribute to persistent instability on land. In increasing understanding, the efforts and resources of land and maritime enforcement agencies can be better coordinated to produce a more sustainable and comprehensive strategy that can protect national interests in both domains.

*Regional coordination will enhance interagency collaboration, in addition to helping the Bay of Bengal countries overcome operational and institutional limitations to guarantee maritime security for all.*

Currently, regional maritime security agencies rely heavily on bilateral relationships to strengthen enforcement capabilities and maritime domain awareness. By creating a region-wide institutionalized mechanism, the countries involved can be assured that more information and burden sharing will help tackle maritime security threats through a region-wide operational approach. Indeed, the region is already heading in this direction with initiatives such as the IFC-IOR, Indian Ocean Naval Symposium, Indian Ocean Rim Association, and BIMSTEC. In addition to enhancing interagency collaboration, regional coordination will also help the Bay of Bengal countries overcome operational and institutional limitations to guarantee maritime security for all.

# INTERNATIONAL COOPERATION



## INTERNATIONAL COOPERATION

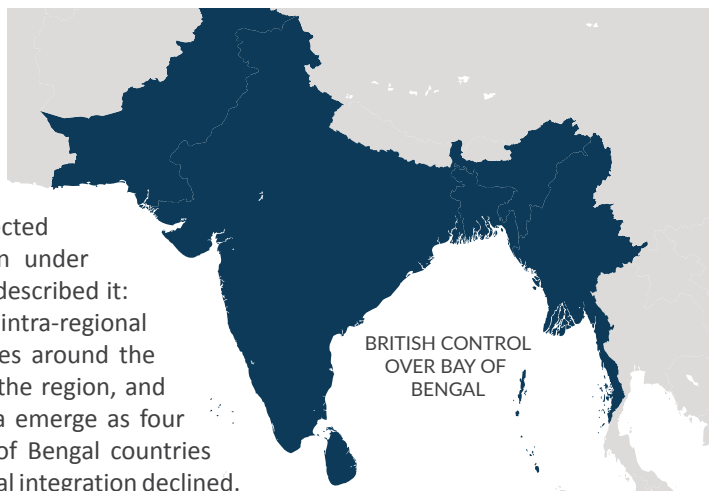
Perhaps more than any other issue examined in this report, international cooperation impacts all aspects of maritime security and governance in the Bay of Bengal. The reason for this is simple: the fluidity of the maritime space makes security and governance issues in the maritime domain inherently transnational in nature. Conflict and poverty in Myanmar and Bangladesh drive migrants across multiple maritime boundaries to Thailand, Malaysia, and beyond. Valuable migratory fish species and the fishing communities that depend on them are affected by the health of a marine ecosystem that encompasses multiple EEZs. Successfully addressing maritime crime such as cross-border kidnap and ransom of fishermen in the Sundarbans requires the coordination of maritime law enforcement patrols by India and Bangladesh. Without multilateral solutions to match transnational threats, no amount of capacity in any single state can fully address the maritime security and governance challenges facing the Bay of Bengal. This chapter provides an overview of existing frameworks for regional cooperation in the maritime space, challenges to these efforts, and potential pathways to more effective maritime collaboration.

### Key Findings

- The region's **MULTILATERAL FRAMEWORKS SUFFER FROM A DEARTH OF RESOURCES THAT HAMPERS PROGRESS** on translating multilateral conversations into action. Increased financial and human resources for regional efforts are a prerequisite for substantial progress.
- Up to this point **A LACK OF POLITICAL WILL AND POLICY FOCUS HAS BEEN A HURDLE TO PUSHING FORWARD THE AGENDA ON MARITIME COOPERATION**. As the national interests of regional states become more focused on the maritime space and better aligned for subregional cooperation, the states will need to expend political capital making difficult decisions about how to implement solutions for shared maritime challenges.
- **INDIA IS THE ONE STATE IN THE REGION WITH THE ECONOMIC, DIPLOMATIC, AND SECURITY CLOUT TO DEVELOP EXISTING REGIONAL FRAMEWORKS** into mature, well-resourced, and impactful entities. This aligns with India's stated foreign policy priorities, and there is potential for India to take on an even larger role.
- BIMSTEC's efforts to generate increased regional maritime cooperation, while still developing, have become a **STRONG FOUNDATION FOR COLLECTIVE MARITIME SECURITY, GOVERNANCE, AND PROSPERITY** in the region.

### Reviving a History of an Integrated Bay of Bengal

The Bay of Bengal has a long history of strong political and economic ties. As far back as the Middle Ages, the Chola Dynasty based in southern India united much of the Bay of Bengal littoral under its direct control or economic influence.<sup>313</sup> In more recent history, Sri Lanka, India, Bangladesh, and Myanmar were interconnected politically, economically, and in terms of migration under British colonialism. As one scholar of the region has described it: "Up until the 1940s, Calcutta was a hub for a dense intra-regional shipping network connecting India and the territories around the Bay."<sup>314</sup> World War II, the end of the colonial era in the region, and Indian partition saw this largely interconnected area emerge as four separate states. In the postcolonial era, many Bay of Bengal countries turned inward politically and economically, and regional integration declined.



In 2015, while intraregional trade accounted for 50 percent of total trade in East Asia and the Pacific and 22 percent in sub-Saharan Africa, South Asian intraregional trade accounted for only 5 percent of total trade volume.<sup>315</sup> In the decades after independence, India pursued inward-looking economic policies that limited trade and, given its outsized economic clout, hampered regional economic integration.<sup>316</sup> The onset of military rule in Myanmar led to decades of diplomatic and economic isolationism.<sup>317</sup> The region is now much less integrated than it was decades ago.<sup>318</sup> In many ways, current efforts at regional collaboration around maritime issues are not a new phenomenon, but an effort to bring about the free flow of goods, policies, and people that characterized the bay for much of its history.

## International Maritime Treaties

International maritime treaties create common legal frameworks for maritime governance. Ratification of agreements allows countries to implement rules-based solutions when settling disputes on contentious issues like exclusive economic zone delineations and illegal, unreported, and unregulated (IUU) fishing. Here, a quick survey of eight major international maritime governance treaties included in the Stable Seas Maritime Security Index<sup>319</sup> can help shed light on the state of participation in the region; Sri Lanka remains the only Bay of Bengal country to have signed and ratified all eight of the global maritime agreements examined. India and Bangladesh have yet to ratify the 2016 Agreement on Port State Measures, in which countries agree to deny port entry to vessels engaged in IUU fishing.<sup>320</sup> Similarly, India, Bangladesh, and Thailand have yet to ratify the 2003 United Nations Food and Agriculture Organization Compliance Agreement, which underscores the role that flag states play in ensuring their vessels adhere to international conservation and fisheries management measures.<sup>321</sup> The limited acceptance in the Bay of Bengal of IUU fisheries agreements (six of the seven nonratified agreements) highlights a potential gap that could hamper the region's ability to work collectively on fisheries protection and management. However, the region has universal ratification of agreements in many other areas, which gives it a strong foundation for regional and international cooperation on issues like maritime boundary disputes, drug trafficking, and transnational organized crime.

	UNCLOS	UNCLOSXI	FISHSTOCKS	UNCTOC	CSUA	VIENNA	PORTSTATE	FAO
India	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Bangladesh	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Myanmar	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Sri Lanka	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Thailand	Yes	Yes	Yes	Yes	No	Yes	Yes	No

## Existing Frameworks for Regional Cooperation

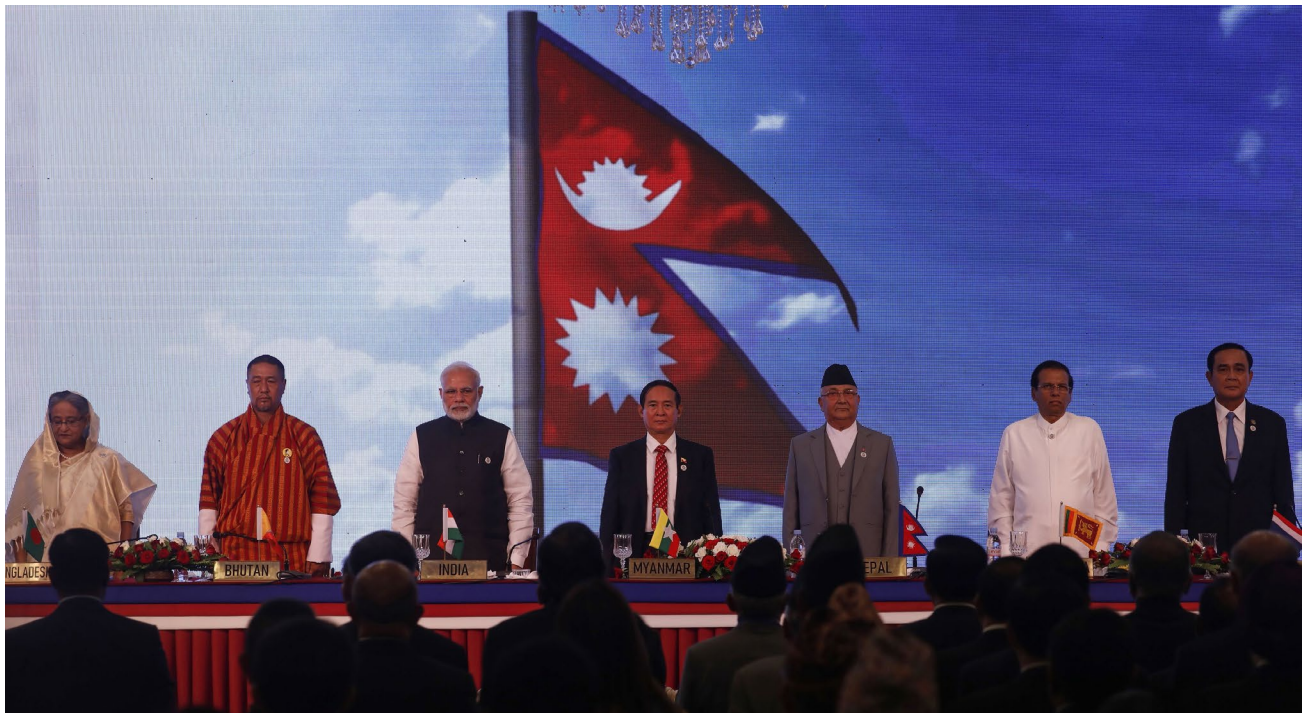
### *The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)*

BIMSTEC is well placed to serve as the leading organization for regional maritime cooperation. Founded in 1997, the organization now includes Sri Lanka, India, Bangladesh, Myanmar, Thailand, Bhutan, and Nepal,<sup>322</sup> representing all of the Bay of Bengal in addition to its landlocked Himalayan hinterland. The organization was founded to serve as a platform for regional technical and economic cooperation, with the goal to “harness shared and accelerated growth through mutual cooperation in different areas of common interests by mitigating the onslaught of globalization and by utilizing regional resources and geographical advantages.”<sup>323</sup>

While BIMSTEC is still developing, it has already taken significant steps to facilitate maritime cooperation in the region, including:

- The creation of the Centre on Weather and Climate to support cooperation in weather research and climate forecasting. This initiative is particularly important in light of the region's climate vulnerability (See Coastal Welfare).<sup>324</sup>
- Launching of the BIMSTEC Business Forum and Economic Forum in an effort to connect private sector actors in the region and solicit advice on how to best facilitate business and trade across regional states.<sup>325</sup>
- The introduction of perhaps the most impactful initiative thus far, the BIMSTEC Master Plan on Transport Connectivity. The plan envisions \$50 billion in connectivity investments to be made across 167 projects.<sup>326</sup> While yet to be executed, strong progress has been made in achieving consensus among member states on priorities and implementation and the plan has the potential to vastly improve physical connectivity across the region.

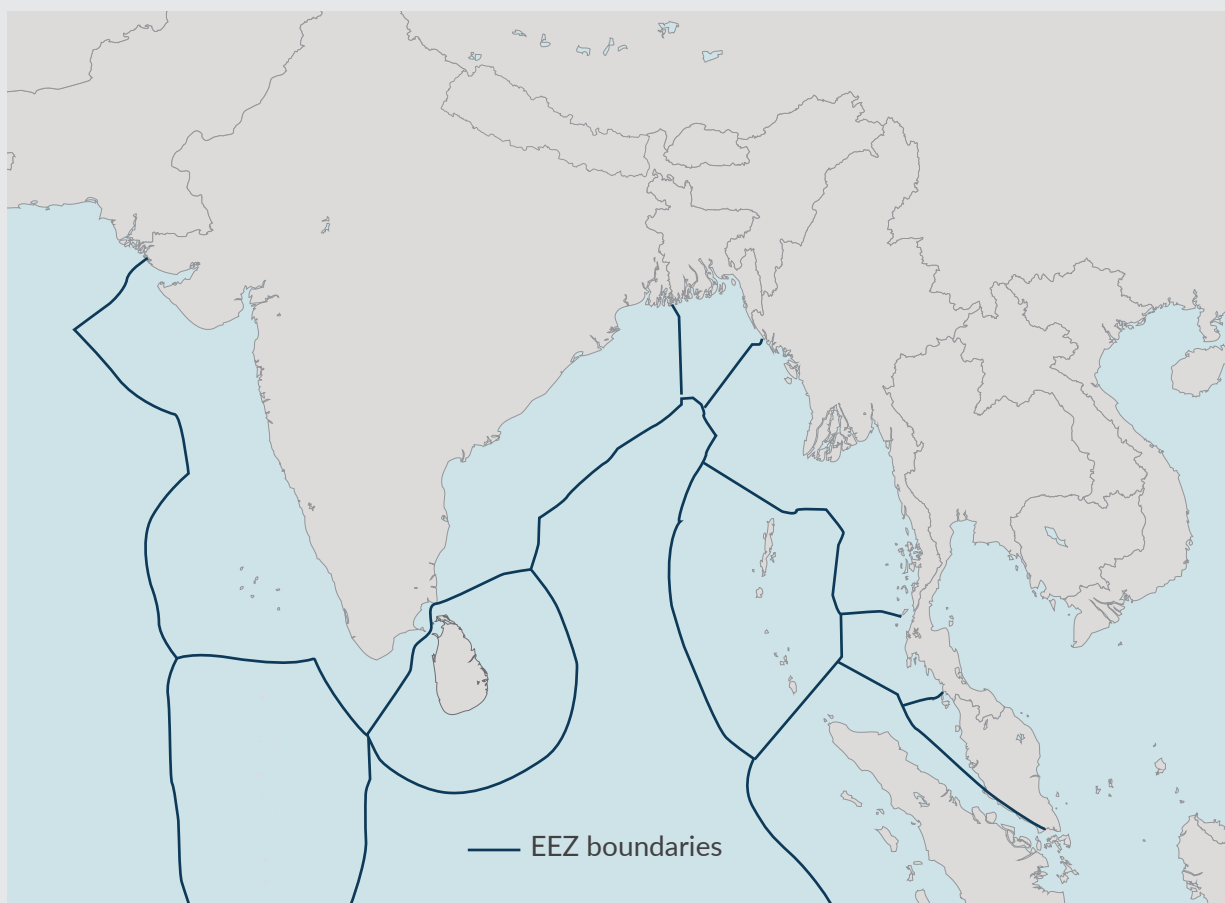
However, BIMSTEC has faced several challenges that have constrained development. Since its founding, the organization's progress has been slow, with sometimes irregular high-level meetings and the relatively recent establishment of a permanent secretariat.<sup>327</sup> Relatedly, BIMSTEC has yet to be institutionalized and remains under-resourced. The secretariat has an estimated budget of \$200,000 and a staff of fewer than 10, in comparison to other regional organizations such as the South Asian Association for Regional Cooperation (SAARC) and the Association of Southeast Asian Nations (ASEAN), which have staffs of roughly 50 and 100, respectively.<sup>328</sup> Finally, the organization's focus may be stretched too thin. It has 14 different areas of cooperation ranging from tourism to counter-terrorism, each with its own working group.<sup>329</sup> This broad a portfolio may be too wide-ranging given the limited resources and political will BIMSTEC has received from its member states. All of these challenges have meant that the organization has had difficulty implementing its priorities, and is often viewed as a forum for statements and declarations rather than as a platform for concrete and substantive collaboration.



Leaders of Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand attend the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) summit in Kathmandu on August 30, 2018. Photo: Navesh Chitrakar, AFP, Getty Images.

## RESOLVING REGIONAL MARITIME BOUNDARY DISPUTES

One significant landmark that sets the stage for increased maritime cooperation in the Bay of Bengal is the recent resolution of several maritime boundary disputes. In March 2012, the International Tribunal for the Law of the Sea resolved competing maritime claims between Bangladesh and Myanmar.<sup>330</sup> Two years later, in July 2014, the Arbitral Tribunal of the United Nations Convention on the Law of the Sea was used to provide a final arbitration of the India–Bangladesh maritime boundary.<sup>331</sup> With these resolutions, all of the maritime boundaries in the Bay of Bengal have been agreed upon. The acceptance of the verdicts—particularly in the case of the India–Bangladesh dispute, which awarded territory to Bangladesh<sup>332</sup>—demonstrates regional states’ willingness to utilize multilateral platforms for maritime dispute resolution. It also has had impacts on the region’s blue-economic development. Finalizing borders allows regional states a clear understanding of what resources are available for development and subject to their regulation. It also assuages investor concerns related to the disputes, facilitating investment in maritime industries.<sup>333</sup> Maritime dispute resolution of this nature paves the way for the development of stronger regional cooperation on a variety of maritime issues in the Bay of Bengal.



Despite these challenges, there appears to be a new impetus for BIMSTEC to develop a stronger role in maritime cooperation in the Bay of Bengal; the landscape of regional multilateral frameworks appears to have shifted. SAARC, long the predominant multilateral forum for cooperation in South Asia, seems to have fallen into disuse over tensions between India and Pakistan.<sup>334</sup> As a result, India has placed renewed focus on BIMSTEC as an alternative platform for regional cooperation.<sup>335</sup> This increased focus on BIMSTEC from India materialized in a conference of leaders hosted by Prime Minister Modi in Goa in 2016, which, by many accounts, served to build renewed regional support for the organization.<sup>336</sup>

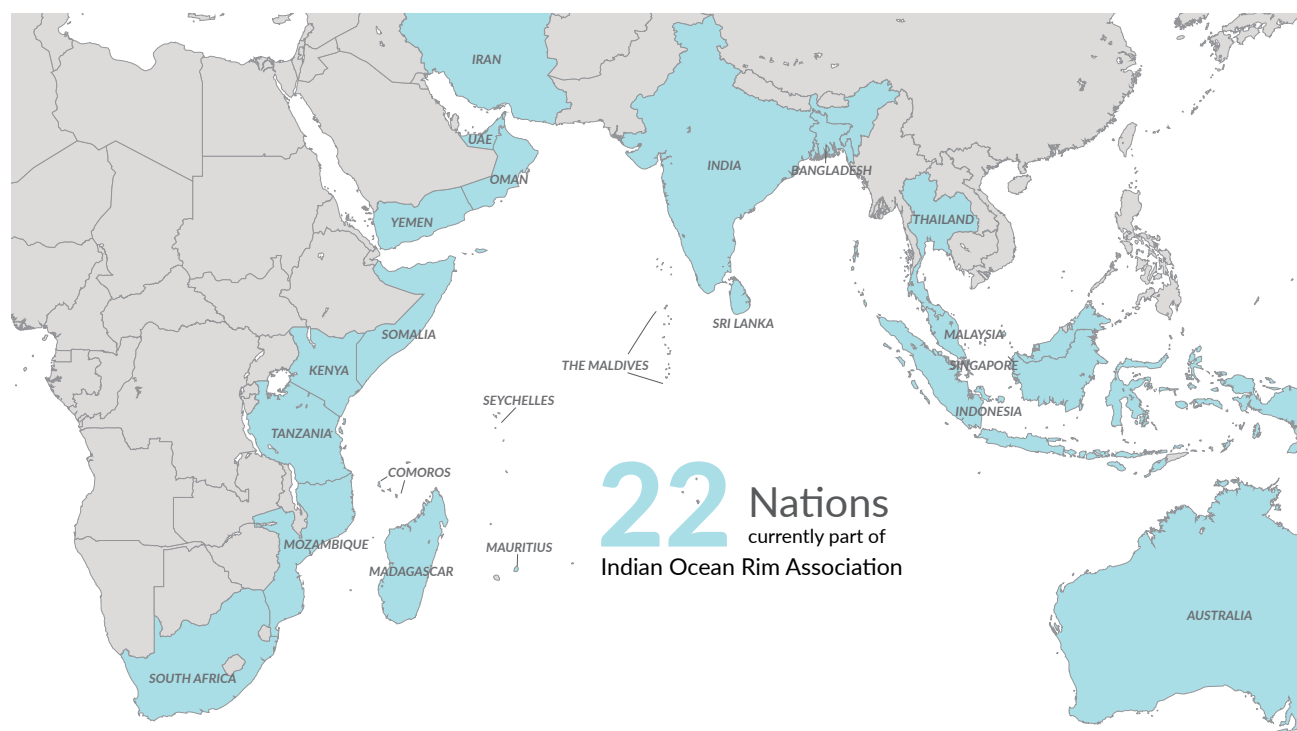
In order for BIMSTEC to build on the renewed political will from member states to become a platform of concrete maritime security collaboration in the Bay of Bengal, several policy recommendations may advance this goal:

- BIMSTEC could commit to regular meetings, including leadership summits and high-level, issue-specific meetings.<sup>337</sup> Only with consistent communication can consensus be built and translated into substantive collaboration.
- Designated government liaisons from member states to BIMSTEC would help the organization's aims be consistently communicated to and prioritized in individual state bureaucracies.<sup>338</sup>
- The incorporation of additional technical experts on maritime issues into the BIMSTEC Secretariat would give the organization the in-house expertise necessary to shape realistic and impactful multilateral maritime security and governance policies to help address the region's shared challenges.
- For regional economic integration, which is at the core of BIMSTEC's mission, it may be useful to focus initially on building the physical infrastructure for economic connectivity as opposed to creating a formal free trade agreement, as the former has broad-based support, while progress on the latter has proven difficult.<sup>339</sup> Progress on physical connectivity will help lay the foundation and build the political will for formal trade agreements in the future.
- All progress will be dependent on additional human and financial resources matching the scope and difficulty of the organization's mission.
- Finally, India appears well placed and willing to increase its informal leadership role within the organization. BIMSTEC aligns well with the issue area and geographic focus of India's Neighborhood First and Act East policies. India can play a mutually beneficial role in providing more resources and convening power to develop BIMSTEC into a more mature and impactful platform for regional maritime security and governance in the Bay of Bengal.<sup>340</sup>

### *Indian Ocean Rim Association (IORA)*

The other particularly pertinent organization for broad maritime cooperation in the Bay of Bengal is the Indian Ocean Rim Association. Also founded in 1997, IORA includes 22 nations across the vast littoral of the Indian Ocean. As an international organization organized around a maritime space, IORA focuses much of its attention on maritime security and governance issues including fisheries management, the blue economy, and maritime security and safety.<sup>341</sup> Many of IORA's events and meetings reflect this focus on maritime issues.<sup>342</sup> As such, IORA has the potential to serve as an alternate platform for cooperation on those maritime issues BIMSTEC is unable to address.

However, IORA also faces significant challenges as a platform for maritime cooperation in the Bay of Bengal. First, IORA suffers from many of the resourcing challenges described in the discussion of BIMSTEC, which has led to similar problems making the jump from meetings and declarations to concrete collaborative action.<sup>343</sup> The second is its extremely broad geographic scope and varying degrees of state capacity; member states range from Australia to Yemen. This broad scope, encompassing several subregions, creates the potential for conflicting maritime priorities. For example, states near the Horn of Africa may be particularly focused on deterring the continued threat of piracy, whereas this is a limited concern for the Bay of Bengal region. Finally, in the context of the Bay of Bengal in particular, the barring of Myanmar from IORA



membership severely hampers IORA's utility as a vehicle for subregional cooperation.<sup>344</sup> As such, IORA likely has limited capacity to contribute to maritime cooperation in the Bay of Bengal. Should Myanmar attain membership, IORA could play a larger role in the subregion, but that role may be as a secondary option unless BIMSTEC fails to materialize as a more mature platform for maritime cooperation. Just as Bay of Bengal states cannot fully address maritime issues without the cooperation of their neighbors, the subregion must also engage with the broader Indian Ocean region on a variety of issues. IORA is an ideal platform for such cooperation.

## Bilateral Maritime Cooperation

Conversely, however, not all maritime security cooperation in the Bay of Bengal must, or even should, occur in the context of formal multilateral organizations. Despite the challenges faced by these institutions in implementing maritime cooperation, there has been much progress in less high-profile, but equally as effective, bilateral and ad hoc initiatives. While multilateral organizations like BIMSTEC continue to develop, there are a variety of bilateral initiatives underway in the Bay of Bengal which highlight their role in bringing substantial gains for regional maritime security.

As the region's largest economic and security power, India has played a significant role in many of these bilateral maritime security projects. India has offered assistance to both Myanmar and Bangladesh on the development of coastal radar systems.<sup>345</sup> India and Myanmar have held occasional naval exercises and have signed an agreement for future coordinated patrols.<sup>346</sup> The Indian and Bangladeshi coast guards have signed a memorandum of understanding to increase collaboration, which has already paid dividends with close coordination playing a key role in the recent rescue of 13 Indian fishermen in rough seas.<sup>347</sup> India and Thailand have also strengthened ties on maritime security, holding semi-annual joint naval patrols near the Andaman and Nicobar Islands since 2005.<sup>348</sup>

All of these, and many other, bilateral initiatives should not be overlooked as a path to increased maritime security in the Bay of Bengal. While strong multilateral institutions are being developed, bilateral efforts provide a flexible alternative to

maritime cooperation where political will exists. Building a strong web of bilateral maritime cooperation may help set the stage for more substantial regional maritime cooperation in the future.

## The Path Forward

### Challenges

Regional multilateral frameworks for maritime cooperation are under-resourced, making implementation of shared policies difficult. Broad mandates without accompanying investments have led to slow progress. More money, people, policy focus, and political will are needed to make the region's maritime cooperation plans a reality. Regional states such as India and, to a lesser extent, Thailand and Sri Lanka could help fill this gap and drive cooperation forward. Luckily, national interests in the Bay of Bengal appear to be aligning, which should facilitate this investment. Bay of Bengal maritime cooperation fits well with stated national priorities in individual states, such as India's Act East policy, Thailand's Look West policy,<sup>352</sup> and Bangladesh's increased focus on blue-economic development (see Blue Economy). The alignment between national interests and deepened Bay of Bengal maritime multilateralism should facilitate increased resourcing for regional initiatives.

In addition, the Bay of Bengal falls along a kind of geostrategic fault line which makes collaboration more difficult. Bangladesh, India, and Sri Lanka are oriented towards South Asia, while Myanmar and Thailand largely see themselves as members of Southeast Asia. While this may seem to be an inconsequential distinction, the fact that regional integration has largely developed in line with these regional distinctions has meant that cooperation across the bay has often been a secondary priority. For decades the strategic orientation of Bay of Bengal states focused their regional efforts on SAARC and ASEAN, respectively. This distinction is a relatively recent construct,<sup>353</sup> and BIMSTEC is well placed to serve as the bridge between these more well-developed regional entities, renew a sense of Bay of Bengal regionalism, and increase focus on maritime collaboration in the bay.

Finally, as the region grows in geostrategic importance, there is potential for challenges to arise from the actions of large, extra-regional powers. The region straddles major global arteries of trade and energy which connect Asia to the Middle East, Europe, and Africa, and has attracted increased attention from extra-regional powers. The region has become vital to China's Belt and Road Initiative,<sup>354</sup> while the United States has identified maritime security in the region as a strategic priority.<sup>355</sup> Outside engagement could help build capacity across a range of issues and direct much-needed investment towards maritime infrastructure and coastal welfare projects. However, this engagement should always be driven by the priorities of regional states, and to the degree that these external powers seek to use the region as a space for broader geostrategic proxy competition, such engagement could present a challenge to enhanced regional maritime cooperation.

## REGIONAL NAVAL EXCHANGES

Multilateral naval exchanges involving Bay of Bengal countries, like the MILAN exercise and the Indian Ocean Naval Symposium (IONS), enhance maritime stability by increasing interoperability, reinforcing deterrence, and reducing tensions. First held in 1995, the MILAN naval event, hosted by the Indian Navy in the Andaman and Nicobar Islands, features exercises, seminars, and personal exchanges between participating nations. MILAN-2018 included exercises in search and rescue, ship boarding, replenishment at sea, and helicopter operations, among others.<sup>349</sup> Although at first it only involved several navies, MILAN has since grown to include over 16 countries, including all Bay of Bengal states.<sup>350</sup>

The biennial meetings of IONS, first launched in 2008 by India, likewise increase maritime security cooperation by providing a forum for discussions on regional maritime issues. The 24 members consist mostly of states in the Indian Ocean littoral, including all Bay of Bengal states, in addition to eight observer navies.<sup>351</sup> Both exchanges promote friendly relationships not only through physical meetings, but through exchanges in the complicated planning and coordinating process leading up to the events. Smaller countries also have the opportunity to gain valuable experience from significant strategic actors, including insights into important humanitarian and disaster relief measures.

## Opportunities

As the countries of the Bay of Bengal work to improve cooperation on maritime issues, several key opportunities exist which could have significant and immediate impacts.

- **INDIA'S ROLE:** As India is the region's predominant economic and security power, regional maritime cooperation efforts would benefit from the country's continued leadership. By making financial and political investments in BIMSTEC, India can help overcome the resource constraints and history of infrequent meetings to develop BIMSTEC into a more robust organization. Continuing bilateral maritime capacity-building with Bay of Bengal neighbors will help address regional gaps in enforcement capacity and strengthen collective maritime security.
- **NARROW AND DEEP COOPERATION:** Many of the current efforts at regional maritime cooperation have perhaps been too broad, rather than focusing on a handful of top priorities. Organizations like BIMSTEC (with 14 current areas of cooperation) would benefit from having a reduced portfolio. The current plethora of subject areas overwhelms limited resources and means that little tangible progress is made in any of them. Coming summits should focus on difficult conversations to significantly reduce the area of focus so that the limited resources can be put to driving progress on a handful of issues. Progress in a few areas would build confidence in maritime multilateralism, demonstrate the return on investment for member states, and leave room for future expansion into other issues.
- **TRACK-TWO EFFORTS:** Academics, public intellectuals, nonprofit organizations, and policy experts on maritime issues should be embraced and platforms for them to contribute to regional multilateral platforms expanded. They can help provide the expertise to craft common policies which are impactful and feasible for implementation. Expanding BIMSTEC's Network of Policy Think Tanks would be a useful entry point.<sup>356</sup>
- **FOCUS ON THE FIRST STEPS:** Certain forms of maritime cooperation elicit concerns over national security and sovereignty and require high levels of trust. Others have lower barriers to entry and require less political will for implementation. The latter should be the focus as maritime cooperation in the Bay of Bengal gathers steam. In enforcement efforts, for example, information-sharing and deconfliction of capacity-building efforts require less complex coordination and will be easier to achieve than regular coordinated or joint patrols. For the blue economy, a focus on connectivity infrastructure can pave the way for an eventual free trade agreement, an area where progress has been politically difficult. These small steps enhance confidence and build towards more difficult collaborative operations, policies, and investments.
- **EXTRA-REGIONAL PARTNERSHIPS:** As the geostrategic importance of the Bay of Bengal grows, so does the interest of outside stakeholders in seeing its multilateral organizations succeed. The United States, China, Japan, Australia, the European Union, and others should continue to play a constructive role in providing the resources, technology, and capabilities necessary for effective maritime cooperation in the Bay of Bengal. However, such capacity-building efforts must always be driven by the needs of regional states and multilateral organizations rather than used as a means of advancing the interests of external actors. Strengthening regional institutions in the Bay of Bengal will help the region ensure that it presents a united front and manages engagement with external powers on maritime issues in ways which benefit the collective interests of the region.
- **RESOURCES:** Finally, and most importantly, more resources need to be provided for regional maritime cooperation platforms. The dearth of financial and human resources available to organizations like BIMSTEC and IORA has been the primary hurdle to their development. All prior opportunities discussed are dependent on resolving this resourcing issue. Regional organizations, civil society, academia, and maritime government agencies can fill this gap by raising awareness of the challenges and opportunities present in the maritime space to increase the prioritization of the issue space in national governments.

## Conclusion

Major challenges to cooperation on maritime issues in the Bay of Bengal cannot be ignored. In spite of the seriousness of these challenges, the region appears poised to make significant progress in the near future. The interests of regional states appear to be aligning in favor of increased maritime cooperation. The Bay of Bengal as a region—and maritime issues generally—are moving up the agenda. As these become a higher priority, regional maritime cooperation will become increasingly important as states seek to address shared challenges.

*More money, people, policy focus, and political will are needed to make the Bay of Bengal's maritime cooperation plans a reality.*

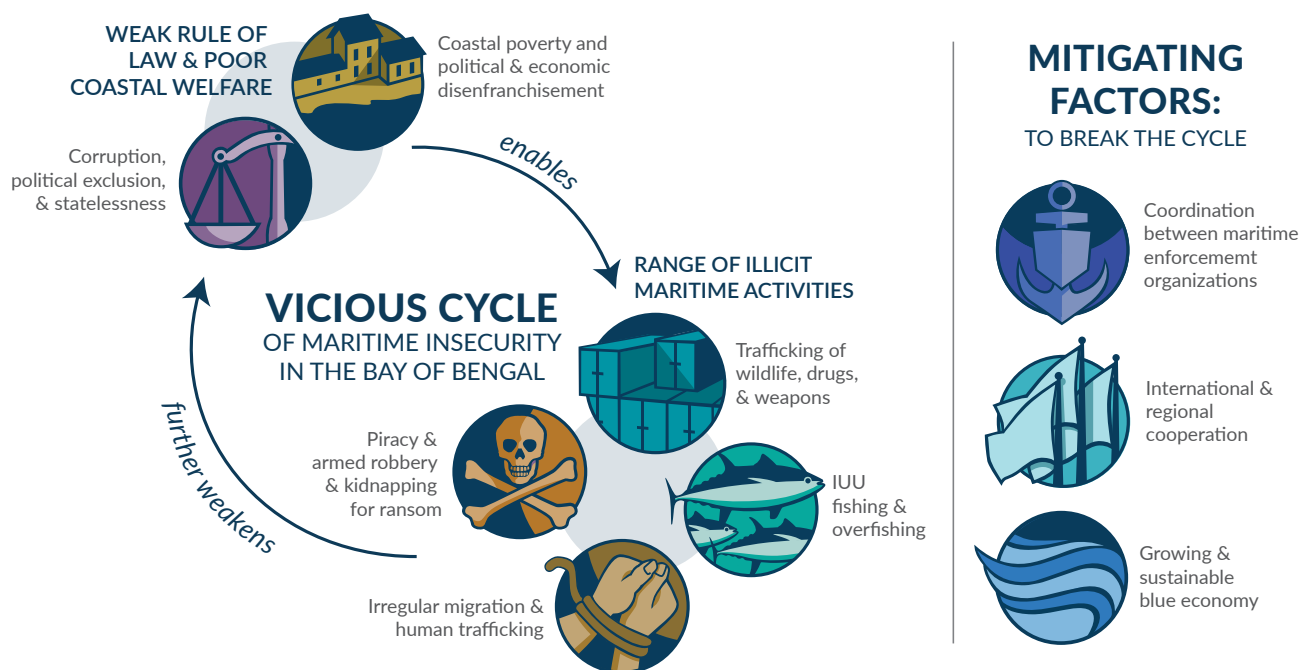
# CONCLUSION



## CONCLUSION

This report analyzes the overlapping challenges that threaten a secure, well-governed, and prosperous Bay of Bengal region. Ecological degradation threatens fisheries health and coastal welfare. Illicit networks profit from and commit violence against migrants crossing the Bay of Bengal and Andaman Sea in search of better livelihoods and freedom from persecution. Illicit maritime trades in contraband, wildlife products, and drugs undermine the licit economy and have the potential to fuel conflict and corruption.

At the same time, the report highlights the immense opportunities that exist in the Bay of Bengal. The region has seen historic progress in fighting poverty and public health challenges. While more needs to be done to ensure that no coastal communities are excluded from their country's economic and political systems, coastal welfare has increased dramatically in recent decades. Furthermore, there is immense potential for the regional blue economy to play an important role in driving continued progress in this area. As maritime concerns become more central in the region, platforms for multilateral maritime cooperation are gaining steady momentum.



It is important to view all of the diverse components of maritime security and governance in the Bay of Bengal not as isolated issues, but as a web of interconnected phenomena. Progress in each issue area is very often dependent on developments in others. This is a challenge in that it presents an incredibly complex maritime security environment, and one in which progress requires a comprehensive approach. However, this complexity also breeds opportunity. Progress on a few key inflection points can have spillover effects which improve the maritime security environment across a host of issue areas, creating a self-reinforcing cycle in which progress breeds more progress. In order to maximize the impact of limited resources, individual states and regional organizations should prioritize a few key points of entry which can generate broad progress and catalyze this self-reinforcing cycle. Some of these entry points include the following.

- **REGIONAL PORTS:** As detailed in this report, many ports in the Bay of Bengal suffer from inefficiency, corruption, and lack of capacity. These issues negatively impact maritime security and the blue economy in a variety of ways. On the economic front, corruption and a lack of capacity in some ports degrades the efficiency of shipping and international trade. In terms of security, long wait times at anchorage provide opportunities for armed robbery of vessels, while corruption creates opportunities for the flow of illicit trades. Improving the state of ports in the region will require large-scale investment in infrastructure and modern cargo-management systems. Progress on the latter has been seen in India's Sagar Mala initiative, which would benefit from additional responsible outside investment. Automated cargo-management and customs systems can also help improve efficiency and limit opportunities for corruption, though such systems are costly and may encounter resistance from the entrenched interests of port officials and workers.
- **MARITIME DOMAIN AWARENESS:** The ability to understand developments in the maritime space and identify trends that may give warning of emerging threats is critical to maritime security at both a state and regional level. Without such awareness, kidnap for ransom and armed robbery at sea, illicit trades, maritime trafficking in persons, and IUU fishing can occur undetected. While the region has a moderate degree of capacity in this area, gaps remain. First, there are large gaps in the MDA capabilities of individual states in the Bay of Bengal which can be addressed in part by capacity-building efforts from partners both within and beyond the region. In addition, the difficulty of monitoring the activity of the numerous small vessels operating in the bay is a significant MDA gap. Developing systems for monitoring small vessels and building relationships with and reporting structures for fishers and coastal communities could help raise awareness of suspicious activity by smaller craft. As maritime crime is often transnational, regional information-sharing is also key to building MDA. The establishment of the IFC-IOR is a major step towards this goal and its further development is critical to improved regional MDA.
- **STATELESS COMMUNITIES:** One of the key drivers of maritime security challenges in the Bay of Bengal is the issue of statelessness. The stateless status of some coastal communities undermines their economic and physical security and drives dangerous maritime mixed migration, enriching criminal networks in the process. There is no easy solution to this challenge, but the development of legal migration pathways and increased assistance from the international community in finding a long-term resolution to the current Rohingya crisis will mitigate not only the suffering of stateless communities, but also the downstream impacts of statelessness on regional maritime security.
- **BIMSTEC:** BIMSTEC is the best-placed multilateral framework for addressing shared maritime security and governance challenges in the region. Its membership is centered around the Bay of Bengal, as opposed to organizations that have primarily South or Southeast Asian membership. It has adopted maritime issues as a central part of its agenda. And it appears to have renewed political will from its membership for concerted action. However, BIMSTEC also suffers from a lack of the financial, human, and technical resources that are necessary to push a maritime cooperation agenda and bring about substantive collaboration. Even modest additional investments from member states in BIMSTEC's capacity could produce enhanced cooperation on a variety of maritime issues which will set the stage for the Bay of Bengal being a collaborative and integrated maritime space.

There are a host of ways that countries in the Bay of Bengal can work together to push their shared maritime space towards enhanced security and prosperity. The issues above serve as a few useful entry points that can positively impact maritime insecurity in the region across multiple issue areas and catalyze self-reinforcing progress. The Bay of Bengal is well placed to make significant gains in maritime security in the years to come. Regional states are placing renewed emphasis on the maritime space and more resources are being directed towards regional maritime cooperation frameworks, and regional governments are well positioned to mitigate maritime security challenges and bring sustainable security and prosperity to the Bay of Bengal.

## ENDNOTES

- 1 The World Bank, "Population, Total," [https://data.worldbank.org/indicator/sp.pop.totl?name\\_desc=false](https://data.worldbank.org/indicator/sp.pop.totl?name_desc=false).
- 2 "Indian Languages," Encyclopedia Britannica, August 28, 2019, <https://www.britannica.com/topic/Indian-languages>.
- 3 The World Bank, "GDP (Current US\$)," <https://data.worldbank.org/indicator/ny.gdp.mktp.cd>.
- 4 Prableen Bajpai, "The 5 Fastest Growing Economies In The World," Nasdaq, June 27, 2019, <https://www.nasdaq.com/article/the-5-fastest-growing-economies-in-the-world-cm1169784>.
- 5 Pritesh Samuel, "India's Mega Port Development Project 'Sagarmala': An Explainer for Investors," India Briefing, August 31, 2018, <https://www.india-briefing.com/news/sagarmala-developing-india-ports-aid-economic-growth12980-12980.html/>.
- 6 Arvind Gupta, "Securitization of BIMSTEC Can Protect the Blue Economy of Bay of Bengal," Vivekananda International Foundation, April 15, 2018, <https://www.vifindia.org/article/2018/april/15/securitization-of-bimstec-can-protect-the-blue-economy-of-bay-of-bengal>.
- 7 "BIMSTEC Leaders to Cooperate on Blue Economy for Sustainable Development," Dhaka Tribune, September 1, 2018, <https://www.dhakatribune.com/bangladesh/foreign-affairs/2018/09/01/bimstec-leaders-to-cooperate-on-blue-economy-for-sustainable-development>.
- 8 Marine Regions, "Sri Lanka," <http://www.marineregions.org/eezdetails.php?mrgid=8346&zone=eez>.
- 9 Xinhua, "Sri Lanka's Port of Colombo Ranks World's Leading Container Growth Port," Hellenic Shipping News Worldwide, November 9, 2018, <https://www.hellenicshippingnews.com/sri-lankas-port-of-colombo-ranks-worlds-leading-container-growth-port-2/>.
- 10 Matías Herrera Dappe and Ancor Suárez-Alemán, "Competitiveness of South Asia's Container Ports: A Comprehensive Assessment of Performance, Drivers, and Costs," World Bank Group, 2016, p. 41, <https://openknowledge.worldbank.org/bitstream/handle/10986/24333/9781464808920.pdf?sequence=4>.
- 11 "Japan and India to Develop Colombo Port, Countering Belt and Road," Nikkei Asian Review, May 20, 2019, <https://asia.nikkei.com/Politics/International-relations/Japan-and-India-to-develop-Colombo-port-countering-Belt-and-Road>.
- 12 "Talks on Development of Trincomalee Port by India in Final Stages: Sri Lanka," The Economic Times, July 13, 2018, <https://economictimes.indiatimes.com/news/defence/talks-on-development-of-trincomalee-port-by-india-in-final-stages-sri-lanka/articleshow/56650055.cms>.
- 13 Wade Shepard, "India Tells Sri Lanka: You Can Take Your Port And Shove It," Forbes, January 21, 2017, <https://www.forbes.com/sites/wadeshepard/2017/01/21/india-tells-sri-lanka-take-your-trincomalee-deep-sea-port-and-shove-it/#259a11b15f88>.
- 14 Oxford Business Group, "Sri Lanka Targets Maritime Logistics Upgrade Through Port of Colombo Expansion," October 24, 2018, <https://oxfordbusinessgroup.com/news/sri-lanka-targets-maritime-logistics-upgrade-through-port-colombo-expansion>.
- 15 Maria Abi-Habib, "How China Got Sri Lanka to Cough Up a Port," The New York Times, June 25, 2018, <https://www.nytimes.com/2018/06/25/world/asia/china-sri-lanka-port.html>.
- 16 China Power Team, "How Will the Belt and Road Initiative Advance China's Interests?" China Power, May 8, 2017, updated May 29, 2019, <https://chinapower.csis.org/china-belt-and-road-initiative/>.
- 17 Atif Ansar and Bent Flyvbjerg, "Too Much of a Good Thing: China's Infrastructure Boom Threatens Its Economic Prosperity," Reconnecting Asia, December 7, 2016, <https://reconasia.csis.org/analysis/entries/too-much-good-thing/>.
- 18 Arvind Panagariya, "India's Trade Reform," India Policy Forum 2004, p. 2, [https://www.brookings.edu/wp-content/uploads/2016/07/2004\\_panagariya.pdf](https://www.brookings.edu/wp-content/uploads/2016/07/2004_panagariya.pdf).
- 19 Turloch Mooney, "2017 To Be a Big Year for South Asia Ports," Journal of Commerce, December 29, 2016, [https://www.joc.com/port-news/asin-ports/port-chittagong/2017-be-big-year-south-asia-ports\\_20161229.html](https://www.joc.com/port-news/asin-ports/port-chittagong/2017-be-big-year-south-asia-ports_20161229.html).
- 20 Pritesh Samuel, "India's Mega Port Development Project 'Sagarmala.'"
- 21 "Port Modernization and New Port Development," Government of India Ministry of Shipping, accessed September 14, 2019, <http://sagarmala.gov.in/project/port-modernization-new-port-development>.
- 22 "Coastal Community Development," Government of India Ministry of Shipping, accessed September 14, 2019, <http://sagarmala.gov.in/project/coastal-community-development>.
- 23 Mukul G. Asher, "India's Blue Economy Initiatives: Establishing New Growth Nodes and Helping to Address Regional Imbalances," September 2018, p. 5, [https://www.researchgate.net/publication/327435616\\_India's\\_Blue\\_Economy\\_Initiatives\\_Establishing\\_New\\_Growth\\_Nodes\\_and\\_Helping\\_to\\_Address\\_Regional\\_Imbalances](https://www.researchgate.net/publication/327435616_India's_Blue_Economy_Initiatives_Establishing_New_Growth_Nodes_and_Helping_to_Address_Regional_Imbalances).
- 24 Vijay Sakhuja, "India and Blue Economy in the Bay Of

- Bengal—Analysis,” *Eurasia Review*, December 30, 2017, <https://www.eurasiareview.com/30122017-india-and-blue-economy-in-the-bay-of-bengal-analysis/>.
- 25 Vijay Sakhuja, “Short Sea Shipping in Bay of Bengal Takes Baby Steps,” Institute of Peace and Conflict Studies, November 3, 2017, [http://www.ipcs.org/comm\\_select.php?articleNo=5386](http://www.ipcs.org/comm_select.php?articleNo=5386).
  - 26 The World Bank, “Population Density,” <https://data.worldbank.org/indicator/en.pop.dnst?view=chart>.
  - 27 The World Bank, “Poverty Headcount Ratio at \$1.90 a Day,” [https://data.worldbank.org/indicator/SI.POV.DDAY?locations=BD&year\\_high\\_desc=true](https://data.worldbank.org/indicator/SI.POV.DDAY?locations=BD&year_high_desc=true).
  - 28 Bangladesh Foreign Trade Institute, “A Study on Sector-Based Need Assessment of Business Promotion Council—Fisheries Products,” June 2016, <http://www.bfti.org.bd/pdf/Fishery.pdf>.
  - 29 Asian Development Bank, “Bangladesh: Consolidating Export-Led Growth,” 2016, p. xi, <https://www.adb.org/sites/default/files/publication/190610/ban-export-led-growth-cds.pdf>.
  - 30 Vijay Sakhuja, “India And Blue Economy In The Bay Of Bengal.”
  - 31 Arvind Gupta, “Securitization of BIMSTEC Can Protect the Blue Economy of Bay of Bengal,” Vivekananda International Foundation, April 15, 2018, <https://www.vifindia.org/article/2018/april/15/securitization-of-bimstec-can-protect-the-blue-economy-of-bay-of-bengal>.
  - 32 Sheikh Shahriar Zaman, “Blue Economy Workshop Begins in Capital,” *Dhaka Tribune*, August 31, 2014, <https://www.dhakatribune.com/uncategorized/2014/08/31/blue-economy-workshop-begins-in-capital>.
  - 33 “Bangladesh Seeks ‘Bay of Bengal Partnership’ for Blue Economy,” *bdnews24*, September 2, 2014, <http://bdnews24.com/economy/2014/09/02/bangladesh-seeks-bay-of-bengal-partnership-for-blue-economy>.
  - 34 Mohammad Rubaiyat Rahman, “Blue Economy and Maritime Cooperation in the Bay of Bengal: Role of Bangladesh,” *Procedia Engineering*, Volume 194, 2017, p. 356–361, <https://www.sciencedirect.com/science/article/pii/S1877705817333088>.
  - 35 “Two-Day Conference on Blue Economy Opens in Dhaka Today,” *The Daily Star*, September 4, 2019, <https://www.thedailystar.net/city/news/two-day-conference-blue-economy-opens-dhaka-today-1795066>.
  - 36 Mads Barbesgaard, “A Landscape of Ocean and Land-Control Grabbing in Northern Tanintharyi, Myanmar,” *Transnational Institute*, November 20, 2018, p. 6, <https://www.tni.org/files/publication-downloads/workingpaper.pdf>.
  - 37 Boon Pei Ya, “Marine Spatial Planning for Myanmar: Strategic Advice for Securing a Sustainable Ocean Economy,” *Wildlife Conservation Society*, 2016, p. 29, [https://themimu.info/sites/themimu.info/files/documents/Strategy\\_Marine\\_Spatial\\_Planning\\_for\\_Myanmar\\_2016.pdf](https://themimu.info/sites/themimu.info/files/documents/Strategy_Marine_Spatial_Planning_for_Myanmar_2016.pdf).
  - 38 Chan Mya Htwe, “Fisheries Sector Forced to Restructure as Declining Demand Decimates Earnings,” *Myanmar Times*, March 15, 2019, <https://www.mmmtimes.com/news/fisheries-sector-forced-restructure-declining-demand-decimates-earnings.html>.
  - 39 Htet Shine, “Fisheries Sector Not Developing Due to No Funding,” *Myanmar Times*, October 5, 2018, <https://www.mmmtimes.com/news/fisheries-sector-not-developing-due-no-funding.html>.
  - 40 “Myanmar Oil and Gas: Drilling in the Dark,” *The Economist*, April 9, 2014, <https://www.economist.com/business/2014/04/09/drilling-in-the-dark>.
  - 41 Craig Guthrie, “Myanmar Faces Energy Crossroads,” *Petroleum Economist*, July 20, 2018, <https://www.petroleum-economist.com/articles/politics-economics/asia-pacific/2018/myanmar-faces-energy-crossroads>.
  - 42 Michael Mackey, “Myanmar Ports Dogged by Capacity Restraints,” *Asia Cargo News*, February 9, 2018, <http://www.asiacargonews.com/en/news/detail?id=2387>.
  - 43 Jason Koutsoukis, “The Fishing Port That May Become a \$10 Billion Chinese Debt Bomb,” *Bloomberg*, May 10, 2018, <https://www.bloomberg.com/news/articles/2018-05-10/the-fishing-port-that-may-become-a-10-billion-chinese-debt-bomb>.
  - 44 Maung Myoe, “The Maritime Frontier of Myanmar: Challenges in the Early 21st Century,” in *Myanmar’s Mountain and Maritime Borderscapes: Local Practices, Boundary-Making and Figured Worlds*, Asia Research Institute, National University of Singapore, June 2017, p. 70–95, [https://www.researchgate.net/publication/309011205\\_The\\_Maritime\\_Frontier\\_of\\_Myanmar\\_Challenges\\_in\\_the\\_Early\\_21st\\_Century\\_in\\_Oh\\_Su-Ann\\_ed\\_Myanmar’s\\_Mountain\\_and\\_Maritime\\_Borderscapes\\_Local\\_Practices\\_Boundary-Making\\_and\\_Figured\\_Worlds\\_Singapore\\_ISEAS\\_20](https://www.researchgate.net/publication/309011205_The_Maritime_Frontier_of_Myanmar_Challenges_in_the_Early_21st_Century_in_Oh_Su-Ann_ed_Myanmar’s_Mountain_and_Maritime_Borderscapes_Local_Practices_Boundary-Making_and_Figured_Worlds_Singapore_ISEAS_20).
  - 45 *Ibid.*, p. 86.
  - 46 “List of Exporters for the Selected Product: Product: 03 Fish and Crustaceans, Molluscs and Other Aquatic Invertebrates,” *International Trade Centre*, available at [https://www.trademap.org/tradestat/Country\\_SelProduct\\_TS.aspx](https://www.trademap.org/tradestat/Country_SelProduct_TS.aspx).
  - 47 Chaturaphat Chantith, “The Risk of Overfishing in Thailand,” March 2015, available at [https://www.researchgate.net/publication/273726048\\_The\\_Risk\\_of\\_Overfishing\\_in\\_Thailand](https://www.researchgate.net/publication/273726048_The_Risk_of_Overfishing_in_Thailand).

- 48 "Overfishing and Pirate Fishing Perpetuate Environmental Degradation and Modern-Day Slavery in Thailand," Environmental Justice Foundation, February 25, 2015, <https://ejfoundation.org/index.php?p=news-media/2015/overfishing-and-pirate-fishing-perpetuate-environmental-degradation-and-modern-day-slavery-in-thailand>.
- 49 Reuters, "Thailand's Fishing Industry No Longer on European Watch List for Illegal Practices, Including Human Trafficking," South China Morning Post, January 9, 2019, <https://www.scmp.com/news/asia/southeast-asia/article/2181350/thailands-fishing-industry-no-longer-european-watch-list>.
- 50 Ibid.
- 51 United Nations World Tourism Organization, "UNWTO Tourism Highlights: 2018 Edition," 2018, p. 16, <https://www.e-unwto.org/doi/pdf/10.18111/9789284419876>.
- 52 "Thailand Plans to Reduce Environmental Damage from Island Tourism," Deutsche Welle, March 16, 2018, <https://www.dw.com/en/thailand-plans-to-reduce-environmental-damage-from-island-tourism/a-43004695>.
- 53 Nazia Hussain, "BIMSTEC: Re-modelling for a Bigger Role?" RSIS Commentary no. 187, November 12, 2018, <https://www.rsis.edu.sg/rsis-publication/rsis/bimstec-re-modelling-for-a-bigger-role/#.XMSTkzBKICi>.
- 54 The World Bank, "Competitiveness of South Asia's Container Ports," <http://www.worldbank.org/en/region/sar/publication/south-asia-ports-competitiveness>.
- 55 Dappe and Suárez-Alemán, "Competitiveness of South Asia's Container Ports," p. 85.
- 56 Ellen L. Frost, "It's Time to Deepen Integration Around the Bay of Bengal," Carnegie India, May 31, 2017, <https://carnegieindia.org/2017/05/31/it-s-time-to-deepen-integration-around-bay-of-bengal-pub-70128>.
- 57 Amitav Ghosh and Aaron Savio Lobo, "Bay of Bengal: Depleted Fish Stocks and Huge Dead Zone Signal Tipping Point," The Guardian, January 31, 2017, <https://www.theguardian.com/environment/2017/jan/31/bay-bengal-depleted-fish-stocks-pollution-climate-change-migration>.
- 58 United Nations Development Programme, "Human Development Index (HDI)," <http://hdr.undp.org/en/indicators/137506#>.
- 59 Ibid.
- 60 United Nations Development Programme, "Table 1: Human Development Index and its Components," <http://hdr.undp.org/en/composite/HDI>.
- 61 D. D. Reidpath and P. Allotey, "Infant Mortality Rate as an Indicator of Population Health," *Journal of Epidemiology and Community Health*, Volume 57 (2003): p. 344–346, <https://jech.bmj.com/content/57/5/344>.
- 62 The World Bank, "Mortality Rate, Infant (Per 1,000 Live Births)," <https://data.worldbank.org/indicator/SP.DYN.IMRT.IN>.
- 63 Global Data Lab, "Subnational Human Development Index (SD-2019)," <https://globaldatalab.org/shdi/>.
- 64 United Nations Development Programme, "Table 1: Human Development Index and its Components."
- 65 "Poverty Indicators," Department of Census and Statistics, Household Income and Expenditure Survey 2016, Ministry of National Policies and Economic Affairs, Sri Lanka, October 2017, [http://www.statistics.gov.lk/poverty/Poverty%20Indicators\\_2016.pdf](http://www.statistics.gov.lk/poverty/Poverty%20Indicators_2016.pdf).
- 66 "State/UT-wise Infant Mortality Rates (IMR) During 2016," Open Government Data Platform India, <https://data.gov.in/resources/state-ut-wise-infant-mortality-rates-imr-during-2016>.
- 67 Bangladesh Bureau of Statistics, "Report on Bangladesh Sample Vital Statistics 2017," June 2018, p. 50, [http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/6a40a397\\_6ef7\\_48a3\\_80b3\\_78b8d1223e3f/SVRS\\_2017.pdf](http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/6a40a397_6ef7_48a3_80b3_78b8d1223e3f/SVRS_2017.pdf).
- 68 World Health Organization, "Myanmar Data," <http://apps.who.int/gho/data/view.main.SUBREGchildmortality-MMR>.
- 69 "Demographic and Health Survey—2016, Sri Lanka," Ministry of National Policies and Economic Affairs, Sri Lanka, p. 104, [http://www.statistics.gov.lk/social/DHS\\_2016a/Chapter8.pdf](http://www.statistics.gov.lk/social/DHS_2016a/Chapter8.pdf).
- 70 United Nations Development Programme, "Human Development Index (HDI)," <http://hdr.undp.org/en/indicators/137506#>.
- 71 The World Bank, "Mortality Rate, Infant (Per 1,000 Live Births)," <https://data.worldbank.org/indicator/SP.DYN.IMRT.IN>.
- 72 The World Bank, "Global Economic Prospects," January 17, 2012, updated June 4, 2019, <https://datacatalog.worldbank.org/dataset/global-economic-prospects>.
- 73 Notre Dame Global Adaptation Initiative, "ND-GAIN Country Index," 2019, <https://gain.nd.edu/our-work/country-index/rankings/>.
- 74 "Thailand Unveils Coral Bleaching Response Plan Amidst Looming Climate Change Threats," International Union for Conservation of Nature, May 18, 2016, <https://www.iucn.org/content/thailand-unveils-coral-bleaching-response-plan-amidst-looming-climate-change-threats>.
- 75 Lauren Frayer, "The Water Crisis in Chennai, India: Who's to Blame and How Do You Fix It?" National Public Radio, July 18, 2019, <https://www.npr.org/sections/goatsandsoda/2>

- 019/07/18/742688141/the-water-crisis-in-chennai-whos-to-blame-how-do-you-fix-it.
- 76 Lauren Nishimura, "Climate Change and Migration Across the Bay of Bengal," *The Diplomat*, September 10, 2015, <https://thediplomat.com/2015/09/climate-change-and-migration-across-the-bay-of-bengal/>.
  - 77 Joydeep Gupta, "Eight Countries Unite to Protect Bay of Bengal Mangroves and Fisheries," *TheNewsLens*, July 6, 2018, <https://international.thenewslens.com/article/99259>.
  - 78 Joydeep Gupta, "Eight Countries Come Together to Protect Bay of Bengal," *ChinaDialogue*, July 9, 2018, <https://www.chinadialogue.net/article/show/single/en/10716-Eight-countries-come-together--to-protect-Bay-of-Bengal>.
  - 79 Bay of Bengal Large Marine Ecosystem Project, "Bay of Bengal Large Marine Ecosystem Project," accessed September 14, 2019, <https://www.boblme.org/>.
  - 80 Anna Mclvor, Iris Möller, Tom Spencer, and Mark Spalding, "Reduction of Wind and Swell Waves by Mangroves," *The Nature Conservancy, Cambridge University, and Wetlands International, Cambridge Coastal Research Unit Working Paper 40, Natural Coastal Protection Series ISSN 2050-7941*, 2012, p. 3, <https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Documents/wind-and-swell-wave-reduction-by-mangroves.pdf>.
- Joydeep Gupta, "Eight Countries Come Together to Protect Bay of Bengal," *ChinaDialogue*, July 9, 2018, <https://www.chinadialogue.net/article/show/single/en/10716-Eight-countries-come-together--to-protect-Bay-of-Bengal>.
- 81 Aparna Roy, "BIMSTEC and Climate Change: Setting a Common Agenda," *Observer Research Foundation Issue Brief No. 203*, October 2017, p. 2, <https://www.orfonline.org/wp-content/uploads/2017/10/IB-203.pdf>.
  - 82 Lasse Pettersson, "Research School on Coastal and Ocean Processes of the Bay of Bengal and its Impact on the Society," *Nansen Environmental and Remote Sensing Center*, October 13, 2014, <https://www.nersc.no/news/research-school-coastal-and-ocean-processes-bay-bengal-and-its-impact-society>.
  - 83 "Chapter Six: Asia," *The Military Balance* 119, no. 1 (2019): 222–319, DOI: 10.1080/04597222.2018.1561032.
  - 84 Molly Dunigan, Dick Hoffmann, Peter Chalk, Brian Nichioruk, and Paul Deluca, "Adversary Capabilities in Maritime Irregular Warfare," in *Characterizing and Exploring the Implications of Maritime Irregular Warfare* (Santa Monica, CA: RAND Corporation, 2012), p. 72, <http://www.jstor.org/stable/10.7249/mg1127navy.12>.
  - 85 Joydeep Gupta, "Eight Countries Come Together to Protect Bay of Bengal," *ChinaDialogue*, July 9, 2018, <https://www.chinadialogue.net/article/show/single/en/10716-Eight-countries-come-together--to-protect-Bay-of-Bengal>.
  - 86 Paul A. Povlock, "A Guerilla War At Sea: The Sri Lankan Civil War," *Small Wars Journal*, September 9, 2011, p. 18, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a549049.pdf>.
  - 87 Clionadh Raleigh, Andrew Linke, Håvard Hegre, and Joakim Karlsen, "Introducing ACLED-Armed Conflict Location and Event Data," *Journal of Peace Research* 47, no. 5 (2010): 651–660, <https://www.acleddata.com/data/>.
  - 88 Bert Suykens and Julian Kuttig, "Violent Democracy in Bangladesh," *Political Violence At A Glance*, February 14, 2018, <https://politicalviolenceataglance.org/2018/02/14/violent-democracy-in-bangladesh/>.
  - 89 Reuters, "Bangladesh Prime Minister Wins 3rd Term Amid Deadly Violence on Election Day," *The New York Times*, December 30, 2018, <https://www.nytimes.com/2018/12/30/world/asia/bangladesh-election-violence-hasina.html>.
  - 90 Shaikh Azizur Rahman, "Pirates Rule the Bay of Bengal," *Deutsche Welle*, April 19, 2013, <https://www.dw.com/en/pirates-rule-the-bay-of-bengal/a-16756484>.
  - 91 Eleanor Albert and Andrew Chatzky, "The Rohingya Crisis," *Council on Foreign Relations*, December 5, 2018, <https://www.cfr.org/background/rohingya-crisis>.
  - 92 "The World's 5 Biggest Refugee Crises," *Mercy Corps*, <https://www.mercycorps.org/articles/worlds-5-biggest-refugee-crisis>.
  - 93 "Myanmar: Who are the Arakan Rohingya Salvation Army?" *BBC News*, September 6, 2017, <https://www.bbc.com/news/world-asia-41160679>.
  - 94 Raleigh, Linke, Hegre, and Karlsen, "Introducing ACLED-Armed Conflict Location and Event Data."
  - 95 Angshuman Choudhury, "Decoding the Arakan Army: Insurgent Strategies and Tactics," *The Diplomat*, March 28, 2019, <https://thediplomat.com/2019/03/decoding-the-arakan-army-insurgent-strategies-and-tactics/>.
  - 96 Raleigh, Linke, Hegre, and Karlsen, "Introducing ACLED-Armed Conflict Location and Event Data."
  - 97 European Commission's Directorate-General for European Civil Protection and Humanitarian Aid Operations, "Myanmar—Increase of Conflict in Rakhine State," *ReliefWeb*, March 8, 2019, <https://reliefweb.int/report/myanmar/myanmar-increase-conflict-rakhine-state-dg-echo-unocha-echo-daily-flash-08-march-2019>.
  - 98 Republic of the Union of Myanmar Ministry of Information, "One Policeman Missing After AA Attack Boat in Yathedaung Creek," March 11, 2019, <https://www.moi.gov.mm/moi:eng/?q=news/11/03/2019/id-16968>.

- 99 Transparency International, "Corruption Perceptions Index 2018," 2019, <https://www.transparency.org/cpi2018>.
- 100 S.A. Rahman, "Pirates Rule the Bay of Bengal."
- 101 "Widespread Graft at Ports," *The Daily Star*, September 23, 2018, <https://www.thedailystar.net/business/corruption-rampant-in-mongla-bangladesh-burimari-land-ports-tib-1637449>
- 102 GAN Business Anti-Corruption Portal, "Myanmar," <https://www.business-anti-corruption.com/country-profiles/myanmar/>.
- 103 Sandra Sequeira and Simeon Djankov, "On the Waterfront: An Empirical Study of Corruption in Ports," December 2008, available at [https://www.cgdev.org/sites/default/files/archive/doc/events/2.10.09/Sequeira\\_Corruption.pdf](https://www.cgdev.org/sites/default/files/archive/doc/events/2.10.09/Sequeira_Corruption.pdf).
- 104 Vanda Felbab-Brown, "How Illicit Economies in Myanmar Help Sustain Conflict and Underpin Peace," *Brookings blog*, April 24, 2017, <https://www.brookings.edu/blog/order-from-chaos/2017/04/24/how-illicit-economies-in-myanmar-help-sustain-conflict-and-underpin-peace/>.
- 105 Nigel Moore and Bryane Michael, "What Do We Know about Corruption (and Anti-Corruption) in Customs?" *World Customs Journal* 4, no. 1 (2010), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1598207](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1598207).
- 106 Endo Global, "Risk Assessment: Chittagong, Bangladesh Piracy Threats," <http://www.enodoglobal.com/wp-content/uploads/2014/12/Bangladesh-Piracy-Threats-Initial-Investigation.pdf>.
- 107 Katie Nguyen and Alisa Tang, "Thai Traffickers Exposed by Campaign Group Investigating Fishing Industry," *Reuters*, November 30, 2015, <https://www.reuters.com/article/thailand-slavery-fishermen-idUSL8N13L4C220151130>.
- 108 Mratt Kyaw Thu, "Yangon's Port a Case Study in Red Tape Gone Wild," *Frontier Myanmar*, April 9, 2018, <https://frontiermyanmar.net/en/yangons-port-a-case-study-in-red-tape-gone-wild>.
- 109 Chan Mya Htwe, "Automation Comes to Yangon Customs Processes," *Myanmar Times*, November 2, 2016, <https://www.mmtimes.com/business/23436-automation-comes-to-yangon-customs-processes.html>.
- 110 Thu, "Yangon's Port a Case Study in Red Tape Gone Wild."
- 111 Maritime Anti-Corruption Network, "Maritime Anti-Corruption Network Launches Landmark Port Integrity Campaign in Indian Ports," July 4, 2019, <http://www.maritime-acn.org/news/2019/7/4/maritime-anti-corruption-network-launches-landmark-port-integrity-campaign-in-indian-ports>.
- 112 The World Bank, "Government Expenditure on Education, Total (% of GDP)," [https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?name\\_desc=false](https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?name_desc=false).
- 113 The World Bank, "Current Health Expenditure (% of GDP)," <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS>.
- 114 Alyssa Ayres, "Ethnic and Caste Politics, Hindu Nationalism, and the Indian Elections," *Council on Foreign Relations blog*, May 14, 2019, <https://www.cfr.org/blog/ethnic-and-caste-politics-hindu-nationalism-and-indian-elections>.
- 115 "Sri Lanka: Countries at a Crossroads 2012," *Freedom House*, <https://freedomhouse.org/report/countries-crossroads/2012/sri-lanka>.
- 116 Taylor Dibbert, "A Strong Statement on Minority Rights in Sri Lanka," *HuffPost*, October 23, 2016, [https://www.huffpost.com/entry/a-strong-statement-on-min\\_b\\_12614468](https://www.huffpost.com/entry/a-strong-statement-on-min_b_12614468).
- 117 Benjamin Mackinnon, "Olive Ridley Preservation Hits Fishermen in Orissa," *DownToEarth*, June 7, 2015, <https://www.downtoearth.org.in/coverage/olive-ridley-preservation-hits-fishermen-in-orissa-5398>.
- 118 Kshirabdh Tanaya, "7-month Fishing Ban Imposed at G'matha," *The Pioneer*, November 1, 2015, <https://www.dailypioneer.com/2015/state-editions/7-month-fishing-ban-imposed-at-gmatha.html>.
- 119 Subhashree Banerjee, "The Tragedy of Fishing Communities: A Story from Vetka Village, Odisha," *EPW Engage*, October 17, 2014, <https://www.epw.in/engage/article/tragedy-fishing-communities-story-vetka-village-odisha>.
- 120 UN High Commissioner for Refugees, "Ending Statelessness," <https://www.unhcr.org/en-us/stateless-people.html>.
- 121 Institute on Statelessness and Inclusion, "Statelessness in Numbers: 2018, An Overview and Analysis of Global Statistics," June 2018, [https://www.institutesi.org/ISI\\_statistics\\_analysis\\_2018.pdf](https://www.institutesi.org/ISI_statistics_analysis_2018.pdf).
- 122 Leah Libresco, "Myanmar's Rohingya Refugees Are The World's Largest Group of Stateless People," *FiveThirtyEight*, May 11, 2015, <https://fivethirtyeight.com/features/myanmars-rohingya-refugees-are-the-worlds-largest-group-of-stateless-people/>.
- 123 Amal de Chickera, "Statelessness and Identity in the Rohingya Refugee Crisis," *Humanitarian Practice Network Humanitarian Exchange Magazine*, October 2018, <https://odihpn.org/magazine/statelessness-identity-rohingya-refugee-crisis/>.
- 124 Human Rights Watch, "Stateless at Sea: The Moken of Burma and Thailand," June 25, 2015, <https://www.hrw.org/report/2015/06/25/stateless-sea/moken-burma-and-thailand>.
- 125 Ibid.

- 126 Shaikh Azizur Rahman and Hannah Ellis-Petersen, "Rohingya Fears Grow as Refugees Face Forcible Return to Myanmar," *The Guardian*, November 11, 2018, <https://www.theguardian.com/world/2018/nov/11/rohingya-myanmar-bangladesh-genocide-repatriation-un-warning>.
- 127 Zachary Abuza, "The Security Challenges of the Intractable Rohingya Crisis," *War on the Rocks*, July 31, 2019, <https://warontherocks.com/2019/07/the-security-challenges-of-the-intractable-rohingya-crisis/>.
- 128 Source for all piracy and armed robbery incident data used in this chapter: Lydelle Joubert, *Stable Seas Piracy Database*, compiled from incident data sourced from the International Maritime Organization, International Maritime Bureau, Regional Cooperation Agreement on Combating Piracy and Armed Robbery against ships in Asia, and media.
- 129 "Cargo Handling at the Major Ports," Department-Related Parliamentary Standing Committee on Transport, Tourism and Culture Report 269, presented to the Parliament of India Rajya Sabha December 21, 2018, [http://164.100.47.5/committee\\_web/ReportFile/20/109/269\\_2018\\_12\\_18.pdf](http://164.100.47.5/committee_web/ReportFile/20/109/269_2018_12_18.pdf).
- 130 "Bangladesh Bolsters Flagging Dhaka Airport," *Journal of Commerce*, February 11, 2019, [https://www.joc.com/port-news/asian-ports/port-chittagong/bangladesh-looks-bolster-flagging-dhaka-port\\_20190211.html](https://www.joc.com/port-news/asian-ports/port-chittagong/bangladesh-looks-bolster-flagging-dhaka-port_20190211.html).
- 131 "Chittagong Shippers Captive to Worsening Port Congestion," *Journal of Commerce*, June 25 2018, [https://www.joc.com/port-news/asian-ports/port-chittagong/chittagong-shippers-captive-worsening-port-congestion\\_20180625.html](https://www.joc.com/port-news/asian-ports/port-chittagong/chittagong-shippers-captive-worsening-port-congestion_20180625.html).
- 132 Ibid.
- 133 ReCAAP Information Sharing Center, "Vision \$ Mission," Last modified , 2019, [http://www.recaap.org/vision\\_mission\\_of\\_ReCAAP-ISC](http://www.recaap.org/vision_mission_of_ReCAAP-ISC).
- 134 "ReCAAP Ensures the Safety of Asian Waters," JapanGov, Last modified, 2017, [https://www.japan.go.jp/tomodachi/2017/autumn-winter2017/reaccp\\_ensures\\_the\\_safety.html](https://www.japan.go.jp/tomodachi/2017/autumn-winter2017/reaccp_ensures_the_safety.html).
- 135 Prakash Panneerselvam, "10 Years of Fighting Pirates in Asia," *The Diplomat*, September 1, 2016, <https://thediplomat.com/2016/09/10-years-of-fighting-pirates-in-asia/>.
- 136 "Hon'ble Raksha Mantri Inaugurates Information Fusion Centre – Indian Ocean Region (IFC-IOR)," Indian Navy, Last modified December 27, 2018, <https://www.indiannavy.nic.in/content/honble-raksha-mantri-inaugurates-information-fusion-centre-%E2%80%93-indian-ocean-region-ifc-ior>.
- 137 Mishra, Abhishek, "Building Bridges of Friendship in the Indian Ocean: African Littorals on Indian Navy's Radar," Observer Research Foundation, July 5, 2019, <https://www.orfonline.org/expert-speak/building-bridges-of-friendship-in-the-indian-ocean-african-littorals-on-indian-navys-radar-52762/>.
- 138 Sagar, Pradip, "Indian Navy Launches Information Fusion Centre to Boost Maritime Security," *The Week*, December 22, 2018. <https://www.theweek.in/news/india/2018/12/22/Indian-Navy-launches-Information-Fusion-Centre-to-boost-maritime-security.html>.
- 139 Regional Cooperation Agreement on Combating Piracy and Armed Robbery against ships in Asia, Annual Report 2018, Piracy and Armed Robbery Against Ships in Asia, 2019, <http://www.recaap.org/resources/ck/files/reports/annual/ReCAAP%20ISC%20Annual%20Report%202018.pdf>.
- 140 Joseph Allchin, "Otter Fishing in Bangladesh," *Alazeera*, September 3, 2014, <https://www.aljazeera.com/indepth/inpictures/2014/08/pictures-otter-fishing-banglade-201482711357949924.html>.
- 141 Sanjay Pandey, "Pirates in the Bay of Bengal," *Al Jazeera*, September 16, 2015, <https://www.aljazeera.com/indepth/features/2015/09/pirates-bay-bengal-150914123258304.html>.
- 142 S.P. Menefee, "Piracy in Bangladesh: What Lies Beneath?" in B.A. Elleman (ed.), *Piracy and Maritime Crime: Historical and Modern Case Studies*, Naval War College Press Newport Papers 35, 2010.
- 143 Alexander Richard Kremer, "Poverty and Policy in Inland Fisheries in Bangladesh," PhD thesis, University of London, 1995.
- 144 "Satkhira Forest Official Returns 'Ransom' Money After 'Kidnapping Fishermen,'" *The Daily Star*, March 14, 2019, <https://www.thedailystar.net/country/satkhira-forest-officer-returns-ransom-money-kidnapping-four-fishermen-1715128>.
- 145 "Fishermen Beat Up 13 Robbers in Bay," *The Daily Star*, March 8, 2015.
- 146 Asaduzzaman Satkhira, "Sundarbans Still Haven for Pirates," *Dhaka Tribune*, November 13, 2016.
- 147 "Has Bangladesh's Piracy Amnesty Been a Success?" *BBC News*, November 19, 2017.
- 148 "Pirates Attack 25 Fishing Trawlers in Bay, 50 Abducted," *Dhaka Tribune*, October 27, 2015, <https://www.dhakatribune.com/uncategorized/2015/10/27/pirates-attack-25-fishing-trawlers-in-bay-50-abducted>.
- 149 H.M. Molla, "PM Hasina Declares Sundarbans Pirate-Free," *Dhaka Tribune*, November 1, 2018.
- 150 Bhattacharjee, Joyeeta, "India-Bangladesh Defence Cooperation: Coming of Age, at Last?" *Observer Research*

- Foundation, July 16, 2018, <https://www.orfonline.org/research/india-bangladesh-defence-cooperation-coming-of-age-at-last/>.
- 151 "India-Bangla Joint Military Exercise 'Sampriti 2019' Begins," *The Pioneer*, March 3, 2019, <https://www.dailypioneer.com/2019/india-abroad/india-bangla-joint-military-exercise--sampriti-2019--begins.html>.
  - 152 "India and Bangladesh Begin Joint Military Exercise Sampriti-2019," *Army Technology*, March 4, 2019, <https://www.army-technology.com/news/india-bangladesh-exercise-sampriti-2019/>.
  - 153 Su Myat Mon, "Canal Pirates Shot Dead in Police Ambush," *Frontier Myanmar*, October 20, 2018, <https://frontiermyanmar.net/en/canal-pirates-shot-dead-in-police-ambush>.
  - 154 Thiha Aung, "Myanmar Police Kills Two Robbers on a Ship Docked in Twantay Canal," *Asia News Network*, September 5, 2018, <http://www.asianews.eu/content/myanmar-police-kills-two-robbers-ship-docked-twantay-canal-80935>.
  - 155 Dennis Campbell, "Thailand, Phang Nga Ko: Burgled While Away from the Vessel," *Noonsite*, December 18, 2018, <https://www.noonsite.com/report/thailand-phang-nga-ko-panyi-burgled-while-away-from-the-vessel-december-2018/>.
  - 156 Lydelle Joubert, *Piracy Report September 2014*, Amahlo-Suritec.
  - 157 ReCAAP, "August 2018 Monthly Report, Piracy and Armed Robbery against Ships in Asia."
  - 158 Lydelle Joubert, "State of Piracy Report 2018," *Stable Seas*, June 17, 2019, <https://stableseas.org/publications/maritime-terrorism/state-piracy-2018-human-cost>.
  - 159 "Has Bangladesh's Piracy Amnesty Been a Success?" *BBC News*, November 19, 2017, <https://www.bbc.com/news/world-asia-40805143>.
  - 160 Joyeeta Bhattacharjee, "India-Bangladesh Defence Cooperation: Coming of Age, At Last?" *Observer Research Foundation ORF Issue Brief no. 250*, July 2018, <https://www.orfonline.org/research/india-bangladesh-defence-cooperation-coming-of-age-at-last/>.
  - 161 "India and Bangladesh Begin Joint Military Exercise Sampriti-2019," *Army Technology*, March 4, 2019, <https://www.army-technology.com/news/india-bangladesh-exercise-sampriti-2019/>.
  - 162 CIA World Factbook, "Sri Lanka," accessed July 2, 2019, <https://www.cia.gov/library/publications/the-world-factbook/geos/ce.html>.
  - 163 Louise I. Shelley, *Dark Commerce: How a New Illicit Economy is Threatening Our Future* (Princeton: Princeton University Press, 2018), p. 198.
  - 164 Ibid., p. 198.
  - 165 Ibid.
  - 166 Sunil J. Wimalawansa, "Agrochemicals and Chronic Kidney Disease of Multi-Factorial Origin (CKDmfo): An Environmentally Induced, Occupational Exposure Disease," *International Journal of Nephrology and Kidney Failure*, 2015.
  - 167 "New Regulations on Food Security Effective from January 1, 2020," *Colombo Page* (Sri Lanka), June 27, 2019, [http://www.colombopage.com/archive\\_19A/Jun27\\_1561658995CH.php](http://www.colombopage.com/archive_19A/Jun27_1561658995CH.php).
  - 168 Chandre Dharnawardana, "Restore Fertilizers and Lift the Ban on the Pesticides: Glyphosate and Paraquat," *Colombo Telegraph*, March 27, 2018, <https://www.colombotelegraph.com/index.php/restore-fertilizers-lift-the-ban-on-the-pesticides-glyphosate-and-paraquat/>.
  - 169 "Sri Lanka Lifts Ban on Glyphosate," *Colombo Page*, July 15, 2018, [http://www.colombopage.com/archive\\_18B/Jul15\\_1531640569CH.php](http://www.colombopage.com/archive_18B/Jul15_1531640569CH.php).
  - 170 World Gold Council, "India," accessed July 1, 2019, <https://www.gold.org/about-gold/gold-demand/geographical-diversity/india>.
  - 171 Rajendra Jadhav, "Illicit Gold: India's Smugglers Shut Out Refiners, Banks," *Reuters*, <https://www.reuters.com/article/us-india-gold-discounts/illicit-gold-indias-smugglers-shut-out-refiners-banks-idUSKCN10YOK5>.
  - 172 "Sri Lanka is the New Route for Gold Smuggling," *Business Line*, December 3, 2014, <https://www.thehindubusinessline.com/economy/macro-economy/Sri-Lanka-is-the-new-route-for-gold-smuggling/article20924026.ece>.
  - 173 Sandun Jayawardana, Asiri Fernando, and Kasun Warakapitiya, "Blind Spots Allow Drugs to Pour into Lanka," *The Sunday Times*, February 17, 2019, <http://www.sundaytimes.lk/190217/news/blind-spots-allow-drugs-to-pour-into-lanka-336646.html>.
  - 174 "What is So Much Cocaine Doing in Bangladesh?" *Dhaka Tribune*, April 24, 2017, <https://www.dhakatribune.com/bangladesh/crime/2017/04/24/much-cocaine-bangladesh>.
  - 175 Jayawardana, Fernando, and Warakapitiya, "Blind Spots Allow Drugs to Pour Into Lanka."
  - 176 Ibid.
  - 177 Ibid.
  - 178 "Marijuana Use by Region of the World," *World Atlas*, April 25, 2017, <https://www.worldatlas.com/articles/marijuana-use-by-region-of-the-world.html>.
  - 179 Suneera Tandon, "Delhi and Mumbai Are Among the

- World's Most Stoned Cities," Quartz India, January 31, 2018, <https://qz.com/india/1193934/delhi-and-mumbai-are-among-the-worlds-most-stoned-cities/>.
- 180 "Sri Lankan Officials Raise Alarm Over Increasing Smuggling of 'Kerala Ganja,'" The News Minute, November 16, 2017, <https://www.thenewsminute.com/article/sri-lankan-officials-raise-alarm-over-increasing-smuggling-kerala-ganja-71691>.
- 181 UNODC Laboratory and Scientific Section, The Challenge of Synthetic Drugs in East and South-East Asia and Oceania: Trends and Patterns of Amphetamine-Type Stimulants and New Psychoactive Substances, May 2015, [https://www.unodc.org/documents/scientific/Trends\\_and\\_Patterns\\_of\\_ATS\\_and\\_NPS\\_2017.pdf](https://www.unodc.org/documents/scientific/Trends_and_Patterns_of_ATS_and_NPS_2017.pdf).
- 182 James Windle, "Drugs and Drug Policy in Thailand," Brookings Institute, 2016, p. 3, <https://www.brookings.edu/wp-content/uploads/2016/07/WindleThailand-final.pdf>.
- 183 Siddharth Roy, "Yaba: The Red Pills and the Rohingya," June 4, 2018, <https://thediplomat.com/2018/06/yaba-the-red-pills-and-the-rohingya/>.
- 184 Ibid.
- 185 Windle, "Drugs and Drug Policy in Thailand," p. 3.
- 186 Windle, "Drugs and Drug Policy in Thailand," p. 4.
- 187 Mohammed Rasooldeen, "Nine Iranians Detained for Alleged Drug Smuggling in Sri Lanka," Arab News, March 25, 2019, <http://www.arabnews.com/node/1472461/world>.
- 188 "What is So Much Cocaine Doing in Bangladesh?" Dhaka Tribune, April 24, 2017, <https://www.dhakatribune.com/bangladesh/crime/2017/04/24/much-cocaine-bangladesh>.
- 189 Jayawardana, Fernando, and Warakapitiya, "Blind Spots Allow Drugs to Pour Into Lanka."
- 190 Rebecca Tan, "Watch Myanmar Police Torch a Mound of Heroin and Cocaine," Vox, June 27, 2017, <https://www.vox.com/world/2017/6/27/15875218/myanmar-police-burn-heroin-cocaine-fire-cambodia-thailand-southeast-asia>.
- 191 "Myanmar Opium Survey," United Nations Office on Drugs and Crime, December 2017, [https://www.unodc.org/documents/southeastasiaandpacific/Publications/2017/Myanmar\\_Opium\\_Survey\\_2017\\_web.pdf](https://www.unodc.org/documents/southeastasiaandpacific/Publications/2017/Myanmar_Opium_Survey_2017_web.pdf).
- 192 "Addressing Drug Problems in Myanmar: 5 Key Interventions That Can Make a Difference," Drug Policy Advocacy Group Myanmar, February 2017, [https://www.tni.org/files/publication-downloads/drug\\_problem\\_in\\_myanmar\\_final\\_feb8\\_english.pdf](https://www.tni.org/files/publication-downloads/drug_problem_in_myanmar_final_feb8_english.pdf).
- 193 "Myanmar Opium Survey," United Nations Office on Drugs and Crime.
- 194 Windle, "Drugs and Drug Policy in Thailand," p. 8.
- 195 Windle, "Drugs and Drug Policy in Thailand," p. 2.
- 196 "The History of the Tamil Tigers," Al Jazeera, April 28, 2019, <https://www.aljazeera.com/focus/2008/11/2008112019115851343.html>.
- 197 Ibid.
- 198 Ibid.
- 199 Tom Milliken, "Illegal Trade in Ivory and Rhino Horn: An Assessment to Improve Law Enforcement Under The Wildlife TRAPS Project," USAID, IUCN, and TRAFFIC, 2014, p. 7, <https://www.usaid.gov/sites/default/files/documents/1865/W-TRAPS-Elephant-Rhino-report.pdf>.
- 200 "Market News—Animal Trafficking: The \$23bn Criminal industry Policed by a Toothless Regulator," Klean Industries, September 27, 2016, [http://www.kleanindustries.com/s/environmental\\_market\\_industry\\_news.asp?ReportID=766034](http://www.kleanindustries.com/s/environmental_market_industry_news.asp?ReportID=766034).
- 201 "Operation Dragon," Wildlife Justice Commission, December 2018, p. 7, <https://wildlifejustice.org/wp-content/uploads/2018/12/WJC-DragonReport-LR-DEF.pdf>.
- 202 Milliken, "Illegal Trade in Ivory and Rhino Horn," p. 12.
- 203 "Criminal Justice Response to Wildlife Crime: A Rapid Assessment," United Nations Office on Drugs and Crime, 2017, [https://www.unodc.org/documents/southeastasiaandpacific/Publications/2017/Thai\\_Assessment\\_13\\_16\\_May\\_2017.pdf](https://www.unodc.org/documents/southeastasiaandpacific/Publications/2017/Thai_Assessment_13_16_May_2017.pdf).
- 204 USAID Wildlife Asia, "Quantitative and Qualitative Study of Consumer Demand for Wildlife Products in Thailand," June 5, 2018, <https://rmportal.net/library/content/quantitative-qualitative-study-consumer-demand-wildlife-products-thailand-english>.
- 205 USAID, "New Study Highlights Beliefs in Bid to Reduce Demand for Ivory and Tiger Parts in Thailand," June 5, 2018, <https://www.usaid.gov/asia-regional/press-releases/jun-5-2018-new-study-highlights-beliefs-bid-reduce>.
- 206 United Nations High Commissioner for Refugees, "Asylum and Migration," accessed September 14, 2019, <https://www.unhcr.org/en-us/asylum-and-migration.html>.
- 207 International Organization for Migration, "World Migration Report 2018," 2017, p. 19, [https://www.iom.int/sites/default/files/country/docs/china/r5\\_world\\_migration\\_report\\_2018\\_en.pdf](https://www.iom.int/sites/default/files/country/docs/china/r5_world_migration_report_2018_en.pdf).
- 208 The World Bank, "In Bangladesh, Migrant Workers Can Dream of a Better Life with Access to Better Resources," July 30, 2017, <https://www.worldbank.org/en/news/>

- feature/2017/07/30/in-bangladesh-migrant-workers-can-dream-of-a-better-life-with-access-to-better-resources.
- 209 Sumon Corraya, "Thousands of Bangladeshi Migrant Workers in Malaysia Send Remittances Home," Asia News, March 22, 2017, <http://www.asianews.it/news-en/Thousands-of-Bangladeshi-migrant-workers-in-Malaysia-send-remittances-home-40263.html>.
- 210 UNHCR Regional Office for South-East Asia, "Mixed Maritime Movements in South-East Asia," 2015, <https://unhcr.atavist.com/mmm2015>.
- 211 U.S. Department of State, "2019 Trafficking in Persons Report: Bangladesh," June 20, 2019, <https://www.state.gov/reports/2019-trafficking-in-persons-report-2/bangladesh/>.
- 212 United Nations Office for the Coordination of Humanitarian Affairs, "Rohingya Refugee Crisis," <https://www.unocha.org/rohingya-refugee-crisis>.
- 213 "Bay of Bengal 'Three Times More Deadly' Than Mediterranean for Migrants and Refugees—UN," UN News, February 23, 2016, <https://news.un.org/en/story/2016/02/522902-bay-bengal-three-times-more-deadly-mediterranean-migrants-and-refugees-un>.
- 214 Peter Hughes, Sriprapha Petcharamesree, Tri Nuke Pudjiastuti, and Steven Wong, "The Andaman Sea Refugee Crisis a Year On: What Happened and How Did the Region Respond?" The Conversation, May 25, 2016, <https://theconversation.com/the-andaman-sea-refugee-crisis-a-year-on-what-happened-and-how-did-the-region-respond-59686>.
- 215 UNHCR Regional Office for South-East Asia, "Mixed Maritime Movements in South-East Asia," 2015, <https://unhcr.atavist.com/mmm2015>.
- 216 Sebastien Moretti, "Protection in the Context of Mixed Migratory Movements by Sea: The Case of the Bay of Bengal and Andaman Sea Crisis," The International Journal of Human Rights 22, Number 2 (2018), p. 237–261, <https://www.tandfonline.com/doi/abs/10.1080/13642987.2017.1359549>.
- 217 United Nations Action for Cooperation Against Trafficking in Persons, "Thailand," <http://un-act.org/thailand/>.
- 218 Tania Rashid, "Pimps and Traffickers Prey on Vulnerable Rohingya Girls," PBS News Hour, April 26, 2018, <https://www.pbs.org/newshour/show/pimps-and-traffickers-prey-on-vulnerable-rohingya-girls>.
- 219 "Rohingya Girls Rescued from Traffickers in Bangladesh," Al Jazeera, May 12, 2019, <https://www.aljazeera.com/news/2019/05/rohingya-girls-rescued-traffickers-bangladesh-190512101949513.html>.
- 220 Kelsey Chen, "Saltwater Empires: Slavery in the Thai Fishing Industry," Harvard Political Review, October 31, 2018, <https://harvardpolitics.com/world/saltwater-empires-slavery-in-the-thai-fishing-industry/>.
- 221 Jason Judd, "The Fishing Industry is Waiting for a Sea Change," Bangkok Post, December 18, 2018, <https://www.bangkokpost.com/opinion/opinion/1596126/the-fishing-industry-is-waiting-for-a-sea-change>.
- 222 Ate Hoekstra, "Forced Labor Still Rampant in Thai Fishing Industry," Deutsche Welle, January 23, 2018, <https://www.dw.com/en/forced-labor-still-rampant-in-thai-fishing-industry/a-42267865>.
- 223 "Joint Statement on Thai Fishing Industry," Human Rights Watch, August 17, 2018, <https://www.hrw.org/news/2018/08/17/joint-statement-thai-fishing-industry>.
- 224 International Labour Organization, "Employment Practices and Working Conditions in Thailand's Fishing Sector," 2013, p. 68, <http://www.ilo.org/dyn/migpractice/docs/184/Fishing.pdf>.
- 225 Refugee Studies Centre: Oxford Department of International Development, "Non-Signatories to the 1951 Refugee Convention," Forced Migration Review, <https://www.fmreview.org/non-signatories>.
- 226 The Bali Process on People Smuggling, Trafficking in Persons and Related Transnational Crime, "About the Bali Process," <https://www.baliprocess.net/>.
- 227 Michael Gordon, "People Smuggling: 'Step Up or Step Aside,' Australia and Indonesia Warned," The Sydney Morning Herald, January 31, 2016, <https://www.smh.com.au/world/people-smuggling-step-up-or-step-aside-australia-and-indonesia-warned-20160131-gmi1g0.html>.
- 228 Bruno Stagno-Ugarte, "The Other Refugee Crisis: The Plight of Bangladesh's Migrants," Foreign Affairs, October 21, 2015, <https://www.foreignaffairs.com/articles/south-asia/2015-10-21/other-refugee-crisis>.
- 229 Syeda Rozana Rashid and ASM Ali Ashraf, "Asian Boat People and the Challenges of Migration Governance: A Source Country Perspective," Middle East Institute, April 21, 2016, <https://www.mei.edu/publications/asian-boat-people-and-challenges-migration-governance-source-country-perspective>.
- 230 U.S. Department of State, Office to Monitor and Combat Trafficking in Persons, "Tracking Suspicious Financial Activity To Address Human Trafficking," June 28, 2018, <https://www.state.gov/tracking-suspicious-financial-activity-to-address-human-trafficking/>.
- 231 Jewel Topsfield, "Indonesia says Bali Process Failure on Refugee Crisis 'Must Not Happen Again,'" The Sydney Morning Herald, March 23, 2016, <https://www.smh.com>.

- au/world/indonesia-says-bali-process-failure-on-refugee-crisis-must-not-happen-again-20160323-gnpnb6.html.
- 232 Moretti, "Protection in the Context of Mixed Migratory Movements by Sea," p. 237–261.
  - 233 U.S. Department of State, "Trafficking In Persons Report," June 2018, <https://www.state.gov/wp-content/uploads/2019/01/282798.pdf>.
  - 234 International Organization for Migration, "Thailand Funds Information Campaign to Address Irregular Migration in Bay of Bengal," May 8, 2016, <https://www.iom.int/news/thailand-funds-information-campaign-address-irregular-migration-bay-bengal>.
  - 235 UN High Commissioner for Refugees, "UNHCR Lauds Government Work Scheme for Refugees," ReliefWeb, February 3, 2017, <https://reliefweb.int/report/malaysia/unhcr-lauds-government-work-scheme-refugees>.
  - 236 Martin Carvalho, Hemananthani Sinanandam, Rahimy Rahim, and Tarrence Tan, "Wan Azizah: Job Opportunities for Refugees Will Not Be Made at Expense of Malaysians," *The Star*, July 1, 2019, <https://www.thestar.com.my/news/nation/2019/07/01/wan-azizah-job-opportunities-for-refugees-will-not-be-made-at-expense-of-malaysians#DjOgU0luG3xIKKsG.99>.
  - 237 Laurence Todd, Adli Amirullah, and Wan Ya Shin, "The Economic Impact of Granting Refugees in Malaysia the Right to Work," Institute for Democracy and Economic Affairs Policy Ideas no. 60, April 2019, p. 3, [http://www.ideas.org.my/wp-content/uploads/2019/05/P60\\_Refugee-V6.pdf](http://www.ideas.org.my/wp-content/uploads/2019/05/P60_Refugee-V6.pdf).
  - 238 United Nations Development Programme and the Food and Agriculture Organization of the United Nations, "Fishery Statistics in the Bay of Bengal," Bay of Bengal Programme: Marine Fishery Resources Management, BOBP/WP/59, August 1988, <http://www.fao.org/3/ae438e/ae438e00.pdf>.
  - 239 TheWorldBank, India Marine Fisheries: Issues, Opportunities, and Transitions or Sustainable Development, Report No. 54259-IN, August 2010, p.2, <http://documents.worldbank.org/curated/en/513221468040751464/pdf/54259ESW0whit0ries0Report00PUBLIC0.pdf>.
  - 240 United Nations, "Fishery Exports and the Economic Development of Least Developed Countries: Bangladesh, Cambodia, The Comoros, Mozambique, Myanmar and Uganda," United Nations Conference on Trade and Development 2017, UNCTAD/ALDC/2017/2, p. 14, [https://unctad.org/en/PublicationsLibrary/aldc2017d2\\_en.pdf](https://unctad.org/en/PublicationsLibrary/aldc2017d2_en.pdf).
  - 241 Mostafa Shamsuzzaman, Mohamad Mahmud Islam, Nusrat Jahan Tania, Abdullah Al-Mamun, Partho Protim Barman, and Xiangmin Xu, "Fisheries Resources of Bangladesh: Present Status and Future Direction," *Aquaculture and Fisheries* 2, no. 4 (2017): p. 142–156.
  - 242 M. Lamboeuf, "Bangladesh-Demersal Fish Resources of the Continental Shelf, R/V Anusandhani Trawling Survey Result, 1984–86," United Nations Food and Agriculture Organization, FI:DP/BGD/80/025, 1987, p. 26, available at [https://www.researchgate.net/publication/38993570\\_Demersal\\_fish\\_resources\\_of\\_the\\_continental\\_shelf\\_RV\\_Anusandhani\\_trawling\\_survey\\_results\\_Sep\\_1984\\_-\\_Jun\\_1986](https://www.researchgate.net/publication/38993570_Demersal_fish_resources_of_the_continental_shelf_RV_Anusandhani_trawling_survey_results_Sep_1984_-_Jun_1986).
  - 243 Manuel Barange, Jose A. Fernandes, Susan Kay, Mostafa Hossain, Munir Ahmed, and Valentina Lauria, "Marine Ecosystems and Fisheries: Trends and Prospects," in R.J. Nicholls, C.W. Hutton, W.N. Adger, S.E. Hanson, M.M. Rahman, and M. Salehin (eds.), *Ecosystem Services for Well-Being in Deltas: Integrated Assessment for Policy Analysis* (London: Palgrave Macmillan, 2018), p. 469–488.
  - 244 P.S. Swathilekshmi and B. Johnson, "Migrant Labourers in the Primary Sector of Marine Fisheries: A Case Study in Karnataka," Central Marine Fisheries Research Institute, n.d., <https://core.ac.uk/download/pdf/33019960.pdf>.
  - 245 Rainer Froese and Daniel Pauly, "Fish Species in the Bay of Bengal," FishBase, July 27, 2017, [https://www.fishbase.se/identification/RegionSpeciesList.php?resultPage=12&e\\_code=109&SortBy=family](https://www.fishbase.se/identification/RegionSpeciesList.php?resultPage=12&e_code=109&SortBy=family).
  - 246 United Nations Development Programme and the Food and Agriculture Organization of the United Nations, "Fishery Statistics in the Bay of Bengal."
  - 247 "Global Capture Production 1950–2017," Food and Agriculture Organization of the United Nations Fisheries and Aquaculture Department, <http://www.fao.org/fishery/statistics/global-capture-production/query/en>.
  - 248 Ibid.
  - 249 "Global Capture Production 1950–2017," Food and Agriculture Organization of the United Nations Fisheries and Aquaculture Department, <http://www.fao.org/fishery/statistics/global-capture-production/query/en>.
  - 250 Shamsuzzaman et. al., "Fisheries Resources of Bangladesh."
  - 251 "Bangladesh Women Making Progress But Still Face Gender Gap," Asian Development Bank, January 30, 2018, <https://www.adb.org/news/bangladesh-women-making-progress-still-face-gender-gap>.
  - 252 Nilanjana Biswas, "Towards Gender-Equitable Small-Scale Fisheries Governance and Development," Food and Agriculture Organization of the United Nations, 2017, <http://www.fao.org/3/a-i7419e.pdf>.
  - 253 Hamidul Huq, *Gender in Aquaculture: Division of Power and Work* (Dhanmondi, Bangladesh: Center for Sustainable Development, University of Liberal Arts Bangladesh, 2015).

- 254 BIMSTEC, Thailand Department of Fisheries, and SEAFDEC, "Ecosystem-based Fisheries Management in the Bay of Bengal: A Deep Sea Resource Survey Expedition," 2007, <http://map.seafdec.org/downloads/BIMSTEC/BIMSTEC.pdf>.
- 255 R.J. Nicholls, C.W. Hutton, W.N. Adger, S.E. Hanson, M.M. Rahman, and M. Salehin (eds.), *Ecosystem Services for Well-Being in Deltas: Integrated Assessment for Policy Analysis* (London: Palgrave Macmillan, 2018).
- 256 Mohammad Jalilur Rahman, Md. Abdul Wahab, S. M. Nurul Amin, Md. Nahiduzzaman, and Nicholas Romano, "Catch Trend and Stock Assessment of Hilsa Tenulosa ilisha Using Digital Image Measured Length-Frequency Data," *Marine and Coastal Fisheries*, Volume 10, Issue 4, August 2018, p. 386-401.
- 257 Pramod Ganapathiraju, Tony Pitcher, John Pearce, and David Agnew, "Sources of Information Supporting Estimates of Unreported Fishery Catches (IUU) for 59 Countries and the High Seas Fisheries," *Fisheries Centre Research Report* 16, no.4 (2008): p. 242.
- 258 V. Hoon, M. Saleem, and P. Townsley, "Key Considerations for a Regional SocMon Strategy for the Bay of Bengal Large Marine Ecosystem Countries in South Asia," *Bay of Bengal Large Marine Ecosystem Project*, 2015, available at <http://aquaticcommons.org/19425/>.
- 259 Ibid.
- 260 Department of Animal Husbandry, Dairying, and Fisheries and the Central Marine Fisheries Research Institute Kochi, "Marine Fisheries Census 2010: India," 2012, [http://eprints.cmfri.org.in/8998/1/India\\_report\\_full.pdf](http://eprints.cmfri.org.in/8998/1/India_report_full.pdf).
- 261 Yutaro Sakai, Noboyuki Yagi, and Ussif Rashid Sumaila, "Fishery Subsidies: The Interaction Between Science and Policy," *Fisheries Science* 85, no. 3 (May 2019): p. 439-447.
- 262 Amiti Sen, "Fishery Subsidies: India to Submit Plan at WTO on Differential Treatment of Developing Nations," *The Hindu Business Line*, March 31, 2019, <https://www.thehindubusinessline.com/news/fishery-subsidies-india-to-submit-plan-at-wto-on-differential-treatment-of-developing-nations/article26694858.ece>.
- 263 "A Shameful Failure to Tackle Overfishing," *The Economist*, December 19, 2017, <https://www.economist.com/leaders/2017/12/19/a-shameful-failure-to-tackle-overfishing>.
- 264 Arun S., "India Reports Fishery Subsidies; Aims to Protect 'Poor' Fisherfolk," *The Hindu*, December 9, 2016, <https://www.thehindu.com/business/Industry/India-reports-fisherysubsidies-aims-to-protect-%E2%80%98poor%E2%80%99-fisherfolk/article16785645.ece>.
- 265 Ussif Rashid Sumaila, Vicky Lam, Frederic Le Manach, Wilf Swartz, and Daniel Pauly, "Global Fisheries Subsidies: An Updated Estimate," *Marine Policy* 69 (2016): p. 189-193.
- 266 Arun S., "India Reports Fishery Subsidies."
- 267 Mohammad Arju, "Bangladesh Bans Sea Fishing for All, Affecting Half a Million People," *The Third Pole*, June 21, 2019, <https://www.thethirdpole.net/en/2019/06/21/bangladesh-bans-sea-fishing-for-all-affecting-half-a-million-people/>.
- 268 "New Rules Urgently Needed to Protect our Oceans," *University of Oxford News and Events*, July 18, 2017, <http://www.ox.ac.uk/news/2017-07-18-new-rules-urgently-needed-protect-our-oceans>.
- 269 A.R. Mostafa, A.R. Hossain, Isha Das, Lily Genevier, Sugata Hazra, Munsur Rahman, Manuel Barange, and Jose A. Fernandes, "Biology and Fisheries of Hilsa Shad in Bay of Bengal," *Science of The Total Environment* 651, Part 2, 2019, p. 1720-1734, ISSN 0048-9697, <https://www.sciencedirect.com/science/article/pii/S004896971833907X>.
- 270 Abhijit Singh, "India's Coastal Security: An Assessment," *Observer Research Foundation*, November 23, 2018, <https://www.orfonline.org/expert-speak/indias-coastal-security-an-assessment-45692/>.
- 271 Pradeep V. Kamat, "India's Coastal Security: Perspectives, Challenges, and Prospects," *FINS Journal of Diplomacy & Strategy*, June 27, 2019, <https://finsindia.org/journal/indias-coastal-security-perspectives-challenges-and-prospects>.
- 272 Pradip R. Sagar, "Indian Navy Launches Information Fusion Centre to Boost Maritime Security," *The Week*, December 22, 2018, <https://www.theweek.in/news/india/2018/12/22/Indian-Navy-launches-Information-Fusion-Centre-to-boost-maritime-security.html>.
- 273 Ajit Kumar Dubey, "Defence Ministry Rejects Proposal to Cede Indian Coast Guard to MHA," *India Today*, May 24, 2018.
- 274 The International Institute for Strategic Studies, *The Military Balance 2019* (London: The International Institute for Strategic Studies, 2019).
- 275 V.S.R. Murthy, "Coast Guard Perspective on Coastal Surveillance Response Systems and Platforms," accessed May 21, 2019, <http://ficci.in/events/22716/ISP/2-IGVSR-Murthy-Indian-Coast-Gaurd.pdf>.
- 276 Sudhi Ranjan Sen, "Leaky Sea Vigil: 1 in 10 Attacks Able to Breach Multi-layered Defences," *Hindustan Times*, May 8, 2019, <https://www.hindustantimes.com/india-news/1-in-10-attacks-able-to-breach-sea-vigil/story-9bj49tVuvdDCsfvqwr3tO.html>.
- 277 PWC Inc., *Smart Border Management: Indian Coastal and Maritime Security*, September 2017, <https://www.pwc.in/assets/pdfs/publications/2017/smart-border-management-indian-coastal-and-maritime-security.pdf>.

- 278 Abhijit Singh, "Andaman and Nicobar: India's 'Strategic Anchor' Holds Ground," Observer Research Foundation, February 5, 2019.
- 279 Parliament of the Democratic Socialist Republic of Sri Lanka, Department of Coast Guard, Act No. 41 of 2009, August 6, 2009, available at: [http://www.coastguard.gov.lk/assets/pdf/act/cg\\_act\\_english.pdf](http://www.coastguard.gov.lk/assets/pdf/act/cg_act_english.pdf).
- 280 Matthew L. Schehl, "'Pride of the Pacific' Trains New Sri Lankan Marine Corps," Marine Times, December 4, 2016, <https://www.marinecorpstimes.com/news/your-marine-corps/2016/12/04/pride-of-the-pacific-trains-new-sri-lankan-marine-corps/>.
- 281 "Role," Sri Lanka Marines, 2017, last accessed May 22, 2019, <http://marine.navy.lk/index.php?id=15>.
- 282 The International Institute for Strategic Studies, The Military Balance 2019.
- 283 Press Trust of India, "India Hands Over Off-shore Patrol Vessel to Sri Lanka," Economic Times, July 14, 2018, <https://economictimes.indiatimes.com/news/defence/india-hands-over-off-shore-patrol-vessel-to-sri-lanka/articleshow/60376037.cms>.
- 284 Agence France-Presse, "Japan Offers to Boost Sri Lanka Security as China Makes Inroads," South China Morning Post, August 21, 2018, <https://www.scmp.com/news/asia/south-asia/article/2160735/japan-offers-boost-sri-lanka-security-china-makes-inroads>.
- 285 The International Institute for Strategic Studies, The Military Balance 2019.
- 286 Embassy of Sri Lanka in Indonesia, "IORA Welcomes Sri Lanka's Lead in Maritime Safety and Security," November 7, 2018, <http://srilankaembassyjakarta.com/2018/11/07/iora-welcome-sri-lankas-lead-in-maritime-safety-security/>.
- 287 Jahan Shoieb and Muhibbur Rahman, "Emerging Strategic Landscape in the Bay of Bengal and Maritime Capability Building of Bangladesh," BIIS Journal 35, no.1 (January 2014): p.23–43.
- 288 Pranab Kumar Panday, "Bangladesh and Myanmar Resolve Longstanding Maritime Dispute," East Asia Forum, April 26, 2012, <https://www.eastasiaforum.org/2012/04/26/bangladesh-and-myanmar-resolve-longstanding-maritime-dispute/>.
- 289 Rupak Bhattacharjee, "Delimitation of Indo-Bangladesh Maritime Boundary," IDSA Comment, August 19, 2014, [https://idsa.in/idsacomments/DelimitationofIndo-Bangladesh\\_rbhattacharjee\\_190814](https://idsa.in/idsacomments/DelimitationofIndo-Bangladesh_rbhattacharjee_190814).
- 290 James Jay Carafano and Jeff M. Smith, "How Bangladesh Can Improve Indian Ocean Security," The Heritage Foundation, February 5, 2018, <https://www.heritage.org/asia/commentary/how-bangladesh-can-improve-indian-ocean-security>.
- 291 "Strategies for the Bangladesh Navy Leading up to 2030," BD Military Observations, May 1, 2017, <https://www.bdmilitary.com/bdmilitary-blog/strategies-bangladesh-navy-leading-2030/>.
- 292 BenarNews, "China to Help Bangladesh Build Submarine Base, Senior Official Says," Radio Free Asia, September 23, 2019.
- 293 "Khulna Shipyard Hands Over 3 Inshore Patrol Vessels to Coast Guard," The Daily Star, June 21, 2019, <https://www.thedailystar.net/city/news/khulna-shipyard-hands-over-3-inshore-patrol-vessels-coast-guard-1760053>.
- 294 The International Institute for Strategic Studies, The Military Balance 2019.
- 295 Deepak Acharjee, "More Hardware to Raise Coast Guard Capability," The Independent, February 14, 2018, <http://www.theindependentbd.com/post/137231>.
- 296 BD Military Observations, "Strategies."
- 297 Shoieb and Rahman, "Emerging Strategic Landscape."
- 298 Stefan Tan Ying Xian, "The Future of Myanmar's Naval Modernization—Analysis," Eurasia Review, March 25, 2016.
- 299 Jurgen Haacke, "Myanmar and Maritime Security," Special Forum 4, no. 1 (2016), <http://eprints.lse.ac.uk/66281/1/Myanmar%20and%20maritime1.pdf>.
- 300 Manu Pubby, "Taking it to Next Level, India Readies Submarine for Myanmar," The Economic Times, July 30, 2019.
- 301 "Myanmar to Form Coast Guard to Strengthen Maritime Security," Xinhua, March 14, 2019.
- 302 Xian, "The Future of Myanmar's Naval Modernization."
- 303 Andrew Drweiga and Lee Willet, "Thailand's Spending Spree," Asian Military Review, February 12, 2018, <https://asianmilitaryreview.com/2018/02/thailands-spending-spree/>.
- 304 Gregory Vincent Raymond, "Naval Modernization in Southeast Asia: Under the Shadow of Army Dominance?" Contemporary Southeast Asia 39, no.1 (2017): p. 49–77.
- 305 Trevor Hollingsbee, "The Royal Thai Navy: An Emerging Asian Maritime Power," BAIRD Maritime, February 21, 2019, <https://www.bairdmaritime.com/work-boat-world/maritime-security-world/4709-column-the-royal-thai-navy-an-emerging-asian-maritime-power-naval-gazing>.
- 306 Shubhajit Roy, "Three Days Before PM Announced BIMSTEC Exercise, Thailand Said We are Out," The Indian Express, April 30, 2019, <https://indianexpress.com/article/india/bimstec-three-days-pm-modi-announced-military>

- exercise-thailand-5363593/.
- 307 Other participants include Australia, Malaysia, Indonesia, and Singapore; see "MILAN 2018," Indian Navy, <https://www.indiannavy.nic.in/content/milan-2018>, last accessed September 17, 2019.
  - 308 Ibid.
  - 309 Press Trust of India, "India, Myanmar Sign Defence Cooperation Agreement," *The Economic Times*, July 29, 2019.
  - 310 Joyeeta Bhattacharjee, "India-Bangladesh Defence Cooperation: Coming of Age, at Last?" ORF Issue Brief 250, July 26, 2018.
  - 311 "SLINEX 2019: 2 Sri Lankan Naval Ships Arrive in Visakhapatnam," *Asian News International*, September 8, 2019, <https://www.aninews.in/news/world/asia/slinex-2019-2-sri-lankan-naval-ships-arrive-in-visakhapatnam20190908070701/>.
  - 312 "Sixth Indo-Sri Lanka Defence Dialogue held in Colombo," *Daily Mirror*, April 9, 2019, [http://www.dailymirror.lk/caption\\_story/Sixth-Indo-Sri-Lanka-Defence-Dialog-held-in-Colombo/110-165217](http://www.dailymirror.lk/caption_story/Sixth-Indo-Sri-Lanka-Defence-Dialog-held-in-Colombo/110-165217).
  - 313 Desan Academy, "Chola Dynasty," <https://desanacademy.com/history/chola-dynasty/>.
  - 314 David Brewster, "The Rise of the Bengal Tigers: The Growing Strategic Importance of the Bay of Bengal," *Journal of Defence Studies* 9, no. 2 (2015): p. 81–104, 93, [https://idsa.in/system/files/jds/jds\\_9\\_2\\_2015\\_DavidBrewster.pdf](https://idsa.in/system/files/jds/jds_9_2_2015_DavidBrewster.pdf).
  - 315 Sanjay Kathuria, "A Glass Half Full: The Promise of Regional Trade in South Asia," *World Bank Group*, 2018, p. 7, <https://openknowledge.worldbank.org/bitstream/handle/10986/30246/9781464812941.pdf?sequence=8&isAllowed=y>.
  - 316 Jagdish Bhagwati and Arvind Panagariya, "Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries," *Yale University*, 2013, <https://yaleglobal.yale.edu/why-growth-matters-how-economic-growth-india-reduced-poverty-and-lessons-other-developing-countries>.
  - 317 Beina Xu and Eleanor Albert, "Understanding Myanmar," *Council on Foreign Relations*, March 25, 2016, <https://www.cfr.org/background/understanding-myanmar>.
  - 318 Constantino Xavier, "Bridging the Bay of Bengal: Toward a Stronger BIMSTEC," *Carnegie India*, February 22, 2018, <https://carnegieindia.org/2018/02/22/bridging-bay-of-bengal-toward-stronger-bimstec-pub-75610>.
  - 319 Stable Seas, "Maritime Security Index," <https://stableseas.org/issue-areas/overview#0>.
  - 320 Food and Agriculture Organization of the United Nations, "Agreement on Port State Measures (PSMA)," <http://www.fao.org/port-state-measures/en/>.
  - 321 Food and Agriculture Organization of the United Nations, "FAO Compliance Agreement," <http://www.fao.org/iuu-fishing/international-framework/fao-compliance-agreement/en/>.
  - 322 Joyeeta Bhattacharjee, "Revival of BIMSTEC: A Step Forward for the Bay of Bengal Community," *Observer Research Foundation*, September 9, 2018, <https://www.orfonline.org/research/43795-revival-bimstec-step-forward-bay-bengal-community/>.
  - 323 BIMSTEC Secretariat, "About BIMSTEC," [https://bimstec.org/?page\\_id=189](https://bimstec.org/?page_id=189).
  - 324 "Leaders at BIMSTEC Summit Establish Permanent Secretariat," *Voice of America*, March 4, 2014, <https://www.voanews.com/archive/leaders-bimstec-summit-establish-permanent-secretariat>.
  - 325 BIMSTEC Secretariat, "Trade & Investment," May 13, 2018, [https://bimstec.org/?page\\_id=264](https://bimstec.org/?page_id=264).
  - 326 Nazia Hussain, "Can BIMSTEC Finally Become Relevant?" *The Diplomat*, November 2, 2018, <https://thediplomat.com/2018/11/can-bimstec-finally-become-relevant/>.
  - 327 Xavier, "Bridging the Bay of Bengal."
  - 328 Xavier, "Bridging the Bay of Bengal."
  - 329 BIMSTEC Secretariat, "Areas of Cooperation," [https://bimstec.org/?page\\_id=199](https://bimstec.org/?page_id=199).
  - 330 Sarah Watson, "The Bangladesh/Myanmar Maritime Dispute: Lessons For Peaceful Resolution," *Asia Maritime Transparency Initiative*, October 19, 2015, <https://amti.csis.org/the-bangladeshmyanmar-maritime-dispute-lessons-for-peaceful-resolution/>.
  - 331 Permanent Court of Arbitration, "Bay of Bengal Maritime Boundary Arbitration between Bangladesh and India (Bangladesh v. India)," July 8, 2014, <https://pca-cpa.org/en/news/bay-of-bengal-maritime-boundary-arbitration-between-bangladesh-and-india-bangladesh-v-india/>.
  - 332 Haroon Habib, "Bangladesh Wins Maritime Dispute with India," *The Hindu*, July 9, 2014, <https://www.thehindu.com/news/national/bangladesh-wins-maritime-dispute-with-india/article6191797.ece>.
  - 333 Watson, "The Bangladesh/Myanmar Maritime Dispute."
  - 334 "Challenges Facing BIMSTEC in Integrating Bay of Bengal," *News In Asia*, April 16, 2017, <https://newsin.asia/challenges-facing-bimstec-integrating-bay-bengal/>.
  - 335 Sudha Ramachandran, "India's BIMSTEC Gambit," *The Diplomat*, May 31, 2019, <https://thediplomat.com/2019/05/indias-bimstec-gambit/>.

- com/2019/05/indias-bimstec-gambit/.
- 336 Joyeeta Bhattacharjee, "Nepal Summit for Strengthening BIMSTEC," Observer Research Foundation, August 30, 2018, <https://www.orfonline.org/research/43696-nepal-summit-for-strengthening-bimstec/>.
- 337 Xavier, "Bridging the Bay of Bengal."
- 338 Xavier, "Bridging the Bay of Bengal."
- 339 "Regional Co-operation Under the BIMSTEC Banner," The Economist, June 27, 2019, <http://country.eiu.com/article.aspx?articleid=668171050&Country=Nepal&topic=Politics>.
- 340 Constantino Xavier, "Opinion: India Needs to Walk the Talk on Bimstec," Live Mint, August 28, 2018, <https://www.livemint.com/Opinion/wqT03pNM5tC5bP3MgcxMhl/Opinion--India-needs-to-walk-the-talk-on-Bimstec.html>.
- 341 Indian Ocean Rim Association, "Overview," <https://www.iora.int/en/priorities-focus-areas/overview>.
- 342 Indian Ocean Rim Association, "Past Events," <https://www.iora.int/en/events-media-news/past-events>.
- 343 Arndt Michael, "Story of Four Lost Regional Groupings," The Hindu Business Line, March 9, 2015, <https://www.thehindubusinessline.com/opinion/story-of-four-lost-regional-groupings/article6975236.ece>.
- 344 Devirupa Mitra, "Backed by India, Maldives Becomes IORA Member; Myanmar's Entry Blocked at Last Hurdle," The Wire, November 3, 2018, <https://thewire.in/diplomacy/india-maldives-iora-myanmar-south-africa>.
- 345 Indrani Bagchi, "India Plans to Extend Coastal Surveillance Radar System to Maldives," Times of India, January 21, 2019, <https://timesofindia.indiatimes.com/india/india-plans-to-extend-coastal-surveillance-radar-system-to-maldives/articleshow/67627493.cms>.
- 346 Priya Ravichandran and Guru Aiyar, "India's Prospects with Myanmar," Live Mint, March 14, 2016, <https://www.livemint.com/Opinion/fEorPG593mfp6uwiZHOu0L/Indias-prospects-with-Myanmar.html>.
- 347 "India, Bangladesh Coast Guards Meet to Discuss Maritime Issues," The Economic Times, July 19, 2016, <https://economictimes.indiatimes.com/news/defence/india-bangladesh-coast-guards-meet-to-discuss-maritime-issues/articleshow/70247463.cms?from=mdr>.
- 348 Prashanth Parameswaran, "Coordinated Patrols Put India-Thailand Naval Ties into Focus," The Diplomat, June 25, 2018, <https://thediplomat.com/2018/06/coordinated-patrols-put-india-thailand-naval-ties-into-focus/>.
- 349 "MILAN 2018," Indian Navy, <https://www.indiannavy.nic.in/content/milan-2018>.
- 350 "Sixteen Countries Participate in Milan-2018 at Port Blair," United News of India, March 8, 2018, <http://www.uniindia.com/sixteen-countries-participate-in-milan-2018-at-port-blair/states/news/1161366.html>.
- 351 Indian Ocean Naval Symposium, "Participating Nations," <http://www.ions.global/ions-working-groups>.
- 352 Tridivesh Singh Maini and Sandeep Sachdeva, "Thailand and India's Closer Ties," Stratfor Worldview, October 11, 2017, <https://worldview.stratfor.com/article/thailand-and-indias-closer-ties>.
- 353 Brewster, "The Rise of the Bengal Tigers," p. 81–104, p.87.
- 354 David Brewster, "The Bay of Bengal: The Maritime Silk Route and China's Naval Ambitions," The Diplomat, December 14, 2014, <https://thediplomat.com/2014/12/the-bay-of-bengal-the-maritime-silk-route-and-chinas-naval-ambitions/>.
- 355 U.S. Department of State, "U.S. Policy in the Indian Ocean Region," August 20, 2018, <https://www.state.gov/u-s-policy-in-the-indian-ocean-region/>.
- 356 BIMSTEC Secretariat, "BIMSTEC Network of Policy Think Tanks (BNPTT)," [https://bimstec.org/?page\\_id=208](https://bimstec.org/?page_id=208).

## ONE EARTH FUTURE

[oneearthfuture.org](http://oneearthfuture.org)



One Earth Future (OEF) is a self-funded, private operating foundation seeking to create a more peaceful world through collaborative, data-driven initiatives. OEF focuses on enhancing maritime cooperation, creating sustainable jobs in fragile economies, and research which actively contributes to thought leadership on global issues. As an operating foundation, OEF provides strategic, financial, and administrative support allowing its programs to focus deeply on complex problems and to create constructive alternatives to violent conflict.

## STABLE SEAS

[stableseas.org](http://stableseas.org)





Stable Seas, a program of One Earth Future, engages the international security community with novel research on illicit maritime activities such as piracy and armed robbery, trafficking and smuggling in persons, IUU (illegal/unregulated/unreported) fishing, and illicit trades in weapons, drugs, and other contraband. These activities perpetuate organized political violence and reinforce each other to threaten economic development and the welfare of coastal populations.

---

## CONTACT US

 303.533.1715

 [info@oneearthfuture.org](mailto:info@oneearthfuture.org)

 525 Zang St. Broomfield, CO 80021

---



one earth  
FUTURE  
*Peace Through Governance*