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India's Coastal Security Paradox

Abhijit Singh

Coastal security has been at the top of India's national security agenda since the terror attacks in Mumbai in 2008. / Photo: Framepool

ABSTRACT

Despite significant improvements in India's near-seas security architecture, the country's coastal security project remains a work in progress. Recent developments show there have been more than a few "misses" in the near-littorals. This report attempts to document India's enduring coastal vulnerabilities, identifying reasons why a number of promising initiatives have not added up to a

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system of efficient littoral management, and explaining how these "critical gaps" in the security architecture continue to hobble India's drive for improved near-seas security.

INTRODUCTION

Since the 26/11 terror strike in Mumbai in 2008, coastal security has been a priority in India's national security agenda. To secure the country's critical coastal infrastructure against possible insurgent attacks, as well as improve the general state of law enforcement, maritime agencies have undertaken a series of measures aimed at improving surveillance and crisis response capabilities in the littoral seas. The enterprise includes the installation of a three-tier security arrangement (with the Indian Navy (IN), the Coast Guard (ICG) and the marine police, jointly safeguarding India's maritime zone), the creation of coastal police stations and surveillance infrastructure under a Coastal Security Scheme (CSS), the commissioning of radar stations along the coastline, and the installation of Automatic Identification Systems and Joint Operation Centres (JOCs). Each undertaking is aided by intelligence networks to ensure effective monitoring of maritime activity in the near-seas.¹

The bi-annual Sagar Kavach exercises— involving the Indian Navy, ICG and the coastal police —illustrate a spirit of teamwork in the littoral domain, indicating a willingness to jointly tackle maritime threats. Indeed, the gamut of threats that need to be addressed in the near littorals range from “unauthorised access of vessels through sea using commandeered fishing boats, capture of high value targets, infiltration through creeks, attack on offshore installations, port security, hostage crisis, threat to industries, etc.”² An official statement issued on the eve of the exercises off the coast of Gujarat in October 2017 mentioned the drills helped in the validation of standard operating procedures for protection of vulnerable areas, putting to test the efficacy of men and material to prevent infiltrations by non-state actors into our coastal areas.³

Ships and aircraft of the IN and ICG, UAVs of the Indian Navy and Indian Air Force, personnel from police commandos and patrol boats of BSF, marine police and Indian Customs now participate in joint exercises, resulting in dynamic multi-agency collaboration.

Yet there are concerns that the overall state of India's coastal security remains suboptimal. As recent developments show, there have been far too many “misses” in the near-seas, and security agencies have struggled to give a coherent response. This report is an attempt to document the continuing vulnerabilities in India's coastal security set-up. It identifies reasons why the union and state governments' coastal security measures do not add up to a system of efficient littoral management. It recognises “critical gaps” in the security architecture that continue to hamper India's littoral initiatives.

Since April 2017, when a Russian couple on a sailing boat drifted close to the Mumbai harbour only to be noticed by fishermen, India's maritime agencies have been concerned about the security of India's coasts.⁴ That a small boat on a sailing expedition managed to breach supposedly multiple layers of protection, raises serious questions about the competence of maritime agencies in sanitising the littoral spaces. Similar fears were raised in August when a foreign ship hit a fishing boat off the coast of Thiruvananthapuram and easily fled authorities.⁵ The accident seemed eerily similar to another hit-and-run case off the coast of Kochi two months earlier, when two fishermen had been killed, except that on this occasion the offending vessel escaped undetected.⁶

Far from being isolated, these incidents appear to be the result of systemic flaws in the country's maritime security system. In April 2017, the Public Accounts Committee (PAC) of the Maharashtra legislature criticised the state government for its tardy pace in upgrading coastal security. The PAC noted that of the 19 new coastal police stations that were supposed to be set up along the 720-km long coastline, work was yet to begin at seven locations.⁷ Months earlier, a Comptroller and Auditor General (CAG) audit report on the General and Social Sector of the government of Odisha, had observed glaring loopholes in the state's coastal security set-up.⁸ The report pointed out that the littoral waters suffer from systemic debilities, ranging from underutilisation of patrol boats, to delays in the creation of shore-based infrastructure, manpower shortages and unspent funds.

The report also suggested that the state of near-seas security in Odisha is merely representative of what appears to be a larger problem with all of India's coastal states. Indeed, the CAG's findings — based on a test check of records of concerned offices and physical inspection of assets—appeared valid for other littoral provinces as well. Its under-mentioned findings seem highly relevant:

- A cumulative shortfall (over 90 percent) in the patrolling efforts, especially at night.
- A decline in physical checks on fishing vessels by the Coastal Police.
- Acute shortage of manpower; “persons in position” in police stations, (only 25 percent of the sanction)
- Inadequate training for marine police.
- Delays in land acquisition and support infrastructure, such as barracks and staff quarters, were yet to be constructed at several locations.
- Jetties under the Coastal Security Scheme were yet to be constructed. Use of fisheries' piers by coastal police at extended distances from Coastal Police Stations (CSS).
- Inadequate utilisation of funds received under CSS Phase II, for establishing basic infrastructure.

- Low infrastructure creation (only 31 percent).
- Below par state-level monitoring mechanisms.

A CONTRADICTIONARY NARRATIVE

Beyond outward appearances, maritime observers say, the narrative of coastal security has been largely uneven, in that the priorities of maritime agencies have tended to vary significantly, as also their understanding of what constitutes progress. With an inherently expansive vision of maritime security, the Indian Navy tends to view big-ticket initiatives as the building blocks of the security architecture.⁹ From joint exercises in the Arabian Sea and Bay of Bengal, to the setting up of coastal radar chains, the National Command and Control Communications Intelligence Network (N3CIN), the Maritime Domain Awareness Plan and the Information Management and Analysis Centre (IMAC), the Navy considers high-profile undertakings as the real measure of success of the coastal security project. Consequently, naval operational commanders tend to see the coastal security glass as being “half full”.

In comparison, the ICG officers are more circumspect about the prevailing state of affairs, cautioning against an overestimation of progress. While acknowledging improvements in the security architecture —particularly inter-agency cooperation —ICG officers emphasise the structural nature of security challenges, which they insist cannot be addressed through high-technology initiatives alone. In their telling, coastal security remains unsatisfactory because of the failure of near-coastal patrols —particularly the inability of marine police to keep track of coastal fishing activity as also their unwillingness to integrate fully into the coastal security chain.

For some observers, the marine police's lack of enthusiasm for littoral patrolling is a symptom of the state governments' larger apathy towards coastal security. Indeed, barring Tamil Nadu (a state with some experience of fighting LTTE sea-tigers), state administrations have not responded suitably to the needs of littoral security. Even in states where things are beginning to improve, progress has been gradual. For instance, in the case of Andhra Pradesh -- a state with a vulnerable coastline -- seven years after nearly 21 coastal police stations had been established in 2009, only six had their own concrete buildings, with the rest operating out of rented premises. None of the coastal police stations had their own captive jetties despite seven of them, each worth INR 50 lakh, being sanctioned by the central government in 2010. The allotted interceptor boats to the Port City of Vishakhapatnam – a vital regional maritime hub – were mostly non-operational and anchored in the fishing harbour, where the marine police had a small station-like set-up.¹⁰ It is only now that things have taken a turn for the better, with the establishment of a coastal security panel, headed by the Chief Secretary.¹¹

**Figure 1: Details of implementation of the coastal security scheme
Operational assets along the coastline**

S. No	State	Coastal Police Station	Boats/Vessels	Four Wheelers	Two Wheelers	Jetties	Check-posts	Outposts	Barracks
1	Gujarat	22	30	32	125	0	25	46	—
2	Maharashtra	19	28	32	71	14	32	—	24
3	Goa	7	9	6	9	0	—	—	—
4	Karnataka	9	15	13	12	0	—	—	—
5	Kerala	8	24	26	44	0	—	—	—
6	Tamil Nadu	32	24	42	96	0	—	—	—
7	Andhra Pradesh	21	18	27	48	0	40	12	—
8	Odisha	18	15	23	41	0	—	—	—
9	West Bengal	14	18	20	28	0	—	—	6
10	Daman&Diu	2	4	5	9	2	—	—	—
11	Puducherry	4	3	5	9	1	—	—	—
12	Lakshadweep	7	6	11	14	0	—	—	—
13	Andaman & Nicobar Islands	20	10	38	40	6	—	—	—
Total		1183	204	280	546	23	97	58	30

To complicate matters further, there has been no decision by the central government on the formation of an apex maritime authority. Maritime observers say the involvement of a large number of maritime agencies (over 15) points to the need for a full-time coastal security manager.¹² Despite best efforts of the National Committee for Strengthening Maritime and Coastal Security (NCSMCS), the coordination of coastal security has seemed ad hoc. Unfortunately, the coastal security bill with a proposal to form a National Maritime Authority (NMA) has been caught in red tape since 2013.¹³

COORDINATION AND SURVEILLANCE

This is not to suggest the total absence of control in India's near-seas. With the implementation of the first phase of the Coastal Security Scheme, littoral surveillance and interagency collaboration has improved substantially. With 42 coastal radar stations in place, and the in-principle clearance of a proposal for 38 additional coastal radar stations by the Union Government, maritime agencies are

better positioned than earlier to effectively monitor the coastal seas.¹⁴ However, even as electronic surveillance capability has improved, coastal operations have tended to focus squarely on the threat of terrorist infiltration. Threats such as the smuggling of arms and narcotics, human trafficking, IUU fishing, climate-induced crises and maritime pollution have received less attention. As a corollary, human intelligence collection has lagged behind satellite surveillance.

In some key areas, disagreements have come to the fore. On e-surveillance and boat identification, for instance, security agencies have advocated the active tracking of individual fishing boats through on-board transponders. In contrast, state maritime board officials (for instance in Gujarat) have favoured satellite tracking systems.¹⁵ The latter appear motivated by factors that go beyond improving operational effectiveness.

PORT SECURITY

Port security has emerged as one of the most neglected areas in littoral security architecture. A recent IB audit noted that the vast majority of minor ports in India have little or no security cover, and many measures taken to secure the coastline have been quite ineffective. According to the audit report, few out of 227 minor ports in India had proper security cover. Apparently, as many as 187 minor ports had minimal security cover, while 75 had no security cover at all. Worryingly, six years after the home ministry cleared the setting up of radiation detection equipment in 16 of the major ports in 2011, two of these ports have yet to receive the equipment.¹⁶

By some accounts, the real problem is the flawed regulatory architecture that governs port operations. In the absence of a comprehensive commercial maritime security policy, maritime watchers say, port authorities have no plan for the protection of the commercial maritime infrastructure and supply chains. It is made worse by the absence of a legal obligation on the part of port operators to provide security at terminals. Despite the high rate of ISPS compliance at major ports, there is no law that specifies obligations and legal duties, making it hard for port authorities or operators to conform to minimum-security standards.

Predictably, the biggest vulnerability continues to be the unchecked movement of huge containers across the country's ports. While a majority of India's ports handling export-import (EXIM) cargo is international ship and port security (ISPS) compliant, not all have radiation detection equipment.¹⁷ Even where advanced technology scanners assist in the checking of huge 40-foot containers, the sheer volume of cargo moving in and out of port terminals renders the task impractical. Security watchers worry the containers could be used as a potentially potent weapon – either to smuggle weapons, explosive materials or terrorists themselves, or as a huge chemical, biological or “dirty” bomb spreading radioactive waste.

More disquieting, maritime managers say, is the possibility of ship sinking in the approach channel to a port, shutting down operations, thus creating a crisis no maritime agency is equipped to effectively deal with. An example of this contingency played out at Cochin Port Trust (CPT) in September, where a fishing boat sank on the navigation channel bringing port operations to a sudden halt for two weeks.¹⁸ Ruefully, the absence of clear demarcation of responsibilities in port operations complicates matters further. Not only are port operators —both domestic and international — dealing with trade volumes way above their stated handling capacity, they are also unwilling to undertake any security commitments at port terminals.¹⁹

India's security agencies must also contend with the reality that merchant ships are often registered in flags of convenience in countries with little or no enforcement machinery for security or financial accountability.²⁰ With fictitious ownership of ships as well as vessels with forged papers being common occurrences, the possibility of terrorist infiltration remains high. The threat is so grave that the CAG — in its September 2016 report — commented that in an era of heightened coastal security concerns, Indian Coast Guard (ICG) remains ill-equipped to meet the challenge posed by maritime terrorism.²¹

The most critical breakdown is the lack of adequate safeguards in protecting oil infrastructure. While most of India's crude oil imports are through certain identified ports and Single Point Moorings (SPMs), there is no integrated strategy for their protection. An extensive oil and gas mining infrastructure along the coastline, consisting of shore tank farms, LNG terminals, re-gasification plants, and petroleum product dumps, continues to operate without a functioning physical and cyber security architecture.

Instead, the ICG and the CISF continue to disagree over which agency must provide security to oil refineries situated along the coastline, oil import terminals, particularly the SPMs and related shore-based tank farms. Chapter III of the Coast Guard Act 1978 places the protection of artificial islands and offshore terminals within the ICG's functional ambit. However, Coast Guard authorities say this task must be performed by the CISF. With a vast majority of SPMs located over 15 nautical miles from the shoreline, however, the CISF bluntly admits to its inability to discharge the function, saying it has neither the specialised training nor assets to carry out the role.²²

POLLUTION CONTROL

The second big failing in the coastal security architecture is the sorry state of pollution control in Indian waters. In January this year, two vessels —the M.T. BW Maple and M.T. Dawn Kanchipuram, collided with each other outside Kamarajar harbour at Ennore, Chennai, leading to an oil spill that took authorities weeks to control.²³ It did not help that there was a deliberate attempt to underplay

the accident, seemingly intended at concealing the full extent of the damage. Authorities remained in denial about the incident, until the failure of the super-sucker skimmers made the true extent of the disaster amply clear.

The Chennai incident raised uncomfortable questions about the role of India's maritime agencies in controlling an oil spill. While the Coast Guard (CG), the Tamil Nadu Pollution Control Board, and Chennai Port authority had all joined the containment and clearing-up mission, none showed the initiative to play a leadership role. The failure of Kamarajar Port in mounting an effective first response was particularly distressing. With no specialised equipment, and a shortage of trained personnel, the port officials came to depend entirely on the CG for the containment and clean-up operation. Even so, port authorities did not share information with CG commanders, who remained in the dark about important details.²⁴

In the incident's aftermath, marine watchers called for a detailed review of the guidelines, and protocols that deal with oil spillages at sea — especially the roles and functions of agencies other than the Coast Guard. As per the National Oil Spill Disaster Contingency Plan (NOSDCP) of 1993, the Director General of the Coast Guard (DGCG) is the Central Coordinating Authority (CCA) for the clean-up effort necessitated by an oil spill at sea.²⁵ Yet, there is a presumption that in the event of an accident, it is only for the CG and other central agencies to take remedial action. The aversion of first responders to tackle emergencies at sea, combined with the ill-conceived notion that only some are “qualified” to take remedial measures, has clearly compromised the efficacy of efforts in recent years.

The failure of port authorities to follow prescribed guidelines may have caused the most damage. While the NOSDCP brings out the need for the oil companies to maintain tier-I facility at port locations to contain and clear an oil spill of up to 700 tonnes, it is almost never taken seriously by Indian port authorities. Not only are port officials insufficiently invested in the contingency planning process, they are even known to avoid attending NOSDCP review meetings aimed at revising and updating specific procedures. The apathy was in full view during the Chennai oil spill, where no agency took charge of the situation, and only short-term tactical measures were employed to arrest the slick.

A DEDICATED COASTAL POLICE FORCE

Earlier this year, against the backdrop of growing littoral threats, the Union Home Ministry announced the setting up of a dedicated agency to counter threats in the near-seas. The proposal for a Coastal Border Police Force (CBPF), first suggested by Maharashtra Chief Minister Devendra Fadnavis in 2016, seeks to create another ICG-like organisation to safeguard the national maritime frontiers.²⁶

The Union Government is keen for the new agency to be modelled after the Central Reserve Police Force (CRPF) — raised, funded, and administered from New

Delhi. In approving the proposal, however, deep-set structural problems seem to have been overlooked—in particular the absence of legal policing powers, which could render the new agency ineffective.²⁷ As a paramilitary force, the CBPF will not have the authority and mandate of the state police. It will have the powers to arrest and detain suspects, but not register offences or carry out investigation.

The proposal for the CBPF assumes that members of the coastal community would be willingly co-opted into coastal security, by assisting retired naval and Indian Coast Guard (ICG) personnel in patrolling operations. This is again a flawed premise, as it ignores the fact that many fishing communities continue to resist initiatives aimed at greater coastal surveillance and identification.²⁸ The lack of inclination of fishermen to become the “eyes and ears” of security agencies comes from the perception that joining the system invites greater scrutiny over fishing activities. Fisher-folk believe that forced communication with security agencies is an unneeded burden as it restricts forays into fish-rich waters across the International Maritime Boundary Line. The only reason they continue to share information with security agencies is fear of the local police.

Coast Guard officers say coastal communities do not feel obliged to cooperate with the ICG in the same way as the state police. State police personnel, they aver, are irreplaceable not least on account of their ability to network with fishermen and local groups.²⁹ Despite frequent interactions with the fishing community, ICG officials admit, their own expertise in collecting actionable human information is fairly limited.³⁰

Some fear that the setting up of a new coastal police force could well be a tactic to separate state police agencies from the national coastal security project. The objective could well be to substitute state-level marine police with a centrally-controlled agency. Yet, the plan may create an outfit with the same constraints and limitations as the agency it is intended to assist. Ironically, granting powers to the new coastal border police might create a problem of overlapping jurisdiction with the state police, muddling an already complex scenario. One way or the other, a centrally-funded police force will offer no solutions to India's coastal conundrum.

POLICY RECOMMENDATIONS

- (a) Improved surveillance and interagency coordination. For better domain awareness, India needs broader and more efficient surveillance coverage. Beyond expediting the installation of coastal radar chains and AIS stations for broader information access, the authorities must ensure mandatory fitment of AIS on power-driven vessels with a length more than 10 metres. For vessels longer than 20m, AIS systems should be installed irrespective of the weight. The effort must be to seamlessly employ security forces, in concert with civilian and independent agencies, and in a manner consistent with international law.

- (b) Stronger involvement of coastal police. Instead of setting up a coastal border security force with no legal powers, the authorities must move to strengthen and better integrate the coastal police into the littoral security architecture. State police agencies play an important role in the detection and capture of criminals at sea. More importantly, police agencies must be encouraged to leverage their unique access to fishermen and local communities, facilitating the flow of vital human intelligence.
- (c) Need for a legislative framework. Comprehensive legislations must be enacted to place systems and processes for the protection of India's maritime infrastructure, covering both the shipping and port sectors. Statutory duties of government departments, Port Trusts, State Maritime Boards, non-major ports and private terminal operators and other stakeholders must be clearly laid down, as also minimum standards of port security requiring statutory compliance. Provisions of the ISPS code must be strictly enforced in Indian ports engaged in international shipping.
- (d) Oil spill counter-measures. To effectively counter oil spills, port capabilities must be augmented in accordance with the stipulations of the Oil Spill Contingency Plan. First responders must have the capabilities to assess hazards and vulnerabilities of particular locations, properly gauge the risk posed by an oil spill, and ascertain best measures to control the spillage. Agencies must be equipped to mount an expeditious containment response to limit ecological damage. Equipment, resources and personnel must be stockpiled at one or more suitable locations as necessary to meet response requirements within the shortest period.
- (e) Strengthening of the Coast Guard. The CG must be strengthened to play a leadership role in coastal security. All ambiguities from the Coast Guard Act must be removed to ensure all security agencies are clear about the roles and responsibilities they are expected to perform. Whilst continuing to remain involved in the security of the near-seas, the Indian Navy must gradually divest control to the Coast Guard that is now ideally equipped to play a central role in coordinating and managing coastal waters.
- (f) National Commercial Maritime Security Policy Document. The government must promulgate a National Commercial Maritime Security Policy Document, to articulate its strategic vision for maritime security. It must also promulgate a national strategy for Commercial Maritime Security for efficient, coordinated, and effective action for protection of the port and shipping infrastructure. The suggested architecture must include all agencies involved in coastal security, including the Ministry of Shipping, Director General Shipping, Ministry of Home Affairs, Ministry of Fisheries, Intelligence Bureau, Ministry of Defence, Indian Navy, Indian Coast Guard, State Police, port authorities and civilian agencies.

CONCLUSION

Despite implementing a layered security architecture in the littoral seas, Indian security agencies are yet to develop the capability to fully monitor and control developments in the near-seas. Beyond inadequate resources, this is a problem of regulatory deficit extending across important areas, such as the security of ports and oil and gas infrastructure, maritime pollution and the prevention of crime and illegal fishing in coastal waters.

More importantly, India's maritime security agencies are yet to come to terms with the complex and long-drawn transformation of the littoral landscape. With a diversity of challenges and multiplicity of agencies involved, a "business as usual" model is unlikely to succeed. It is time maritime policymakers collectively acknowledged the deficiencies plaguing the system. For whatever the state of cooperation and coordination in the maritime commons, India's maritime agencies cannot succeed unless their priorities and visions fully align, and their combined operations achieve a unity of purpose. [ORF](#)

ABOUT THE AUTHOR

Abhijit Singh is Senior Fellow at Observer Research Foundation.

ENDNOTES

1. Initiatives to Strengthen Coastal Security, *The Indian Navy*, <https://www.indiannavy.nic.in/content/initiatives-strengthen-coastal-security>, [last accessed October 15, 2017]
2. Sagar Kavach Achieves Synergy For Coastal Security, October 7, 2017, *Times of India* at <https://timesofindia.indiatimes.com/city/rajkot/sagar-kavach-achieves-synergy-for-coastal-security/articleshow/60977584.cms> [last accessed October 02, 2017]
3. Ibid
4. Russian Couple On Sailing Trip Detained For Docking On Indian Land, Released Upon Verification, *India Today*, April 12, 2017 at <http://indiatoday.intoday.in/story/russia-couple-sailing-trip-yatch-mumbai-lighthouse/1/926805.html> [last accessed October 02, 2017]
5. Ship Hits Fishing Boat Off Kollam Coast, 6 rescued:, *Manorama Online*, August 26, 2017 at <http://english.manoramaonline.com/news/kerala/2017/08/26/ship-hit-fishing-boat-off-kollam-coat.html> [last accessed October 09, 2017]
6. 2 Fishermen Killed As Cargo Ship Hits Fishing Boat Off Kochi Coast, *The Hindu*, June 11, 2017 <http://www.thehindu.com/news/national/kerala/2-fishermen-killed-as-cargo-ship-hits-fishing-boat-off-kochi-coast/article18959787.ece>, [last accessed November 08, 2017]
7. PAC Highlights Slow Pace Of Upgradation of Coastal Security, *India Today*, April 14, at <http://indiatoday.intoday.in/story/pac-highlights-slow-pace-of-upgradation-of-coastal-security/1/929420.html>, [last accessed October 15, 2017]
8. Report of the Comptroller and Auditor General of India General (CAG) and Social Sector for the year ended March 2015, Government of Odisha, Report Number 3 of 2016, pp 68-75 ; Also see Draft CAG report on coastal security finds Odisha's marine police stations floundering, *The Indian Express*, October 20, 2015, at <http://indianexpress.com/article/india/india-news-india/draft-cag-report-on-coastal-security-finds-odishas-marine-police-stations-floundering/> [last accessed October 20, 2017]
9. Based on interviews with Indian naval and Coast Guard officers; also see Abhijit Singh, 8 Years After the 26/11 Mumbai Attacks: A Review of India's Coastal Security, *The Diplomat*, August 29, 2016 at <https://thediplomat.com/2016/11/8-years-after-the-2611-mumbai-attacks-a-review-of-indias-coastal-security/> [last accessed October 22, 2017]
10. Andhra Pradesh's marine police wing in choppy waters, *Times of India*, November 24, 2014, at <https://timesofindia.indiatimes.com/city/hyderabad/Andhra->

Pradesh-marine-police-wing-in-choppy-waters/articleshow/45289787.cms [last accessed November 20, 2017]

11. State sets up coastal security panels, *The Hindu*, December 1, 2017, at <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/state-sets-up-coastal-security-panels/article21238424.ece> [last accessed December 5, 2017]
12. Reviewing India's Coastal Security Architecture, *Takshashila Blue Paper*, September 26, 2016 at <http://takshashila.org.in/wp-content/uploads/2016/10/Takshashila-Blue-Paper-on-Indian-Coastal-Security-Architecture.pdf> [last accessed October 15, 2017]
13. Coastal Security Bill Caught In Red Tape, *The Deccan Herald*, May 25, 2017, at <http://www.deccanherald.com/content/479520/coastal-security-bill-caught-red.html> [last accessed November 12, 2017]
14. Government Approves 800 Crore for Coastal Security Surveillance, *The New Indian Express*, February 21, 2017, at <http://www.newindianexpress.com/nation/2017/feb/21/government-approves-800-crore-for-coastal-security-surveillance-1573168.html> [last accessed October 10, 2017]
15. Centre, GMB Differ Over Technology for Coastal Surveillance, *Hindu Business Line*, June 24, 2015, at <http://www.thehindubusinessline.com/news/national/centre-gmb-differ-over-technology-for-coastal-surveillance/article4846515.ece> [last accessed October 22, 2017]
16. India's Port and Coastal Security Still has Gaping Holes, *The Live Mint*, July 11, 2017, at <http://www.livemint.com/Politics/Ty68zWc5ukwu5nmksSIjdP/Indias-port-and-coastal-security-still-has-gaping-holes.html> [last accessed October 15, 2017]
17. Ibid
18. Wrecked Vessel Sinks Fortunes of Port Trust, *The New Indian Express*, September 23, 2017, at <http://www.newindianexpress.com/cities/kochi/2017/sep/23/wrecked-vessel-sinks-fortunes-of-port-trust-1661321.html> [last accessed October 10, 2017]
19. Terminal Operators Hurt Their Own Case by Handling Higher Volumes, *Live Mint*, April 9, 2015, at <http://www.livemint.com/Companies/LIENToL9p8Kym6qwuzHWrI/Terminal-operators-hurt-their-own-case-by-handling-higher-vo.html> [last accessed October 12, 2017]
20. Why So Many Ship-Owners Find Panama's Flag Convenient, *BBC*, August 5, 2015 at <http://www.bbc.com/news/world-latin-america-28558480> [last accessed October 20, 2017]

21. Report of the Comptroller and Auditor General of India General (CAG) and Social Sector for the year ended March 2015, Government of Odisha, Report Number 3 of 2016, pp 68-75
22. *The Indian Coast Guard Act, 1978* available at <http://www.indiancoastguard.gov.in/WriteReadData/userfiles/file/CG%20Act%20as%20per%20gazette.pdf> [last accessed October 22, 2017]
23. Chennai Oil Spill: A Disaster Still Unfolding, *The Hindu*, February 23, 2017 at <http://www.thehindu.com/opinion/op-ed/a-disaster-thats-still-unfolding/article17348719.ece>[last accessed October 15, 2017]
24. Somya Khandelwal, From Collision To Cover Up, *The Hindustan Times*, February 11, 2017 at <http://www.hindustantimes.com/interactives/chennai-oil-spill-collision-cover-up/>[last accessed October 22, 2017]
25. The National Oil Spill Disaster Contingency Plan, The Ministry of Defence, Government of India, at <https://www.indiancoastguard.gov.in/WriteReadData/bookpdf/201512281221565793127NOSDCPCGBR771.pdf> [last accessed October 30, 2017]
26. Coastal Security Meet: Home Minister Approves Central Marine Force, *The Indian Express*, June 17, 2017 at <http://indianexpress.com/article/india/india-news-india/to-strengthen-coastline-central-marine-police-force-will-be-set-up-rajnath-singh/>[last accessed October 30, 2017]
27. Pushpita Das, Why a Central Marine Police Force is Not Required for Coastal Security, IDSA Commentary, June 21, 2016 at [last accessed October 12, 2017]
28. Interview with Coast Guard officers in New Delhi
29. Ibid
30. Ibid